

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

- 1. Shri Bhanu Bhushan, Member**
- 2. Shri R. Krishnamoorthy, Member**

Petition No. 72/2005

In the matter of

Approval of transmission charges for LILO of 400 kV S/C Singrauli-Kanpur transmission line-I, 400 kV sub-station at Allahabad and LILO of 400 kV S/C Singrauli-Kanpur transmission line-II including ICT-I & II at Allahabad with associated bays in Northern Region for the tariff period from 1.4.2004 to 31.3.2009 and for additional capitalization during 2001-04

And in the matter of

Power Grid Corporation of India Ltd., Gurgaon

.... Petitioner

Vs

1. Himachal Pradesh State Electricity Board, Shimla
2. Punjab State Electricity Board, Patiala
3. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
4. Power Development Department, Govt. of J&K, Jammu
5. Uttar Pradesh Power Corporation Ltd, Lucknow
6. Delhi Transco Ltd, New Delhi
7. Chandigarh Administration, Chandigarh
8. Uttaranchal Power Corporation Ltd, Dehradun
9. Rajasthan Power Procurement Centre, Jaipur
10. Ajmer Vidyut Vitaran Nigam Ltd, Ajmer
11. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
12. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
13. Northern Railway, Baroda House, New Delhi

.....Respondents

ORDER

In this petition, the petitioner, Power Grid Corporation of India Limited, had sought approval of transmission charges for LILO of 400 kV S/C Singrauli-Kanpur transmission line-I, 400 kV sub-station at Allahabad and LILO of 400 kV S/C Singrauli-Kanpur transmission line-II including ICT-I & II at Allahabad with associated bays in Northern Region for the tariff period from 1.4.2004 to 31.3.2009 and for additional

capitalization during 2001-04, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulation, 2004 (hereinafter referred to as “the 2004 regulations”).

2. In this case, assets were declared under commercial operation after 1.4.2001. While awarding tariff for the period 2004-09 vide order dated 9.5.2006, the Commission adopted capital cost, loan, equity, etc considered for determination of tariff for the period ending 31.3.2004 and FERV for the period up to 31.3.2004 was capitalized and apportioned between debt and equity in the same ratio as considered for the period 1.4.2001 to 31.3.2004.

3. The details of capital cost, equity considered at the time of award of tariff and the summary of the tariff awarded are given in Annexure `A' attached.

4. Tamil Nadu Electricity Board (TNEB) filed Appeal No. 135/2005 in the Appellate Tribunal for Electricity (hereinafter referred to as “the Appellate Tribunal”) against order dated 30.6.2006 of the Commission in Petition No 40/2002, wherein while fixing transmission tariff in respect of 400 kV D/C Kaiga-Sirsi transmission line along with associated bays for the period 1.4.2001 to 31.3.2004, the methodology similar to that adopted in respect of the various transmission assets was followed as regards apportionment of FERV into debt and equity. TNEB had, *inter alia*, questioned the methodology of bifurcation of FERV into debt and equity for the purpose of tariff determination. This appeal, along with some other linked appeals were disposed of by the Appellate Tribunal through a common judgment dated 4.10.2006. The Tribunal vide its judgment dated 4.10.2006 held as under:

“16. According to Explanation 1 to clause 4.4 (c), the premium raised by the Transmission Utility while issuing share capital and investment of internal resources

created out of free reserve of the existing utility, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing the return on equity subject to fulfillment of certain conditions. Explanation also makes no provision for increasing the equity beyond 50% of the book value of the transmission system. Once the fixed cost has been agreed to be financed in a certain ratio of debt and equity, the equity can be affected by FERV only if the equity is in foreign exchange. The provision of FERV as a pass through has been kept to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates (whether debt or equity) is passed on to the beneficiary. In case there is no FERV liability or gain, as the case may be, there will not be any FERV adjustment. In the instant case the additional liability arising on account of FERV shall have an impact only on the debt liability and not equity capital. In this view of the matter, we hold that FERV adjustment is to be made in respect of debt liability and not in respect of the equity. Accordingly, we hold that the CERC is only to make adjustment in respect of debt liability and not in respect of the equity.

17. In view of the aforesaid discussion, the appeal is partly allowed to the extent indicated above. The Central Electricity Regulatory Commission shall re-calculate the effect of FERV on the debt liability.”

5. In terms of the judgment dated 4.10.2006 of the Appellate Tribunal in Appeal No 135 of 2005 and other related appeals, addition of notional equity on account of FERV is not to be considered for computation of return on equity. As a consequence, the entire amount of FERV forms part of loan.

6. The above decision was reiterated by the Appellate Tribunal in its judgment dated 22.12.2006 in Appeal No 161 Of 2006 (M.P. State Electricity Board Vs. Power Grid Corporation of India and others) which related to the transmission tariff for Vindhyachal Stage -I Additional Transmission System in Western Region for the period 1.4.2001 to 31.3.2004.

7. The above rulings of the Appellate Tribunal on the question of apportionment of FERV have been considered to be judgments in *rem* and thereby have been applied in all cases of similar nature to re-calculate the transmission charges.

8. In the light of the foregoing discussion, the transmission charges for the transmission assets forming subject-matter of the present order for the period 2004-09

are also being revised, and the revised transmission charges are summarized in Annexure `B' attached. It is to be noted that there is no change in O & M components of the tariff because this was allowed on normative basis for per km line length and per bay. O & M charges already approved, therefore, hold good. Other components of tariff (except depreciation), including Advance Against Depreciation, wherever applicable, already allowed have been recalculated as given in Annexure `B':

9. The petitioner shall adjust the balance amount recoverable/refundable, as the case may be, against the future bills within six months, from the date of this order.

10. It is brought out that but for revision of debt and equity in line with the Appellate Tribunal's judgments dated 4.10.2006 and 22.12.2006 generally the methodology considered for re-computation of the transmission charges is the same as originally considered.

11. The revision of tariff allowed is subject to decision of the Hon`ble Supreme Court in the appeals filed by the petitioner against the Appellate Tribunal's judgment dated 4.10.2006.

Sd/-
(R. KRISHNAMOORTHY)
MEMBER
New Delhi dated the 30th April 2008

Sd/-
(BHANU BHUSHAN)
MEMBER

ANNEXURE `A`

ORIGINAL COMPUTATION OF TRANSMISSION CHARGES

(Rs. In lakh)

	LILO of 400 kV S/C Singrauli-Kanpur transmission line-I at Allahabad						LILO of 400 kV S/C Singrauli-Kanpur transmission line-II at Allahabad						ICT-I at Allahabad						ICT-II at Allahabad					
	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09
COMPUTATION OF CAPITAL COST																								
Capital cost as on 31.3.2004	803.01						3235.47						1666.11						1541.42					
Additional capital expenditure up to 31.3.2004	0.00						268.98						0.00						8.56					
FERV up to 31.3.2004	(-) 4.32						(-) 18.00						(-) 16.73						(-) 16.27					
Total	798.69	798.69	798.69	798.69	798.69	798.69	3486.45	3486.45	3486.45	3486.45	3486.45	3486.45	1649.38	1649.38	1649.38	1649.38	1649.38	1649.38	1533.71	1533.71	1533.71	1533.71	1533.71	1533.71
COMPUTATION OF EQUITY																								
Equity as on 31.3.2004	161.71						571.13						499.39						455.72					
Notional equity due to additional capitalization up to 31.3.2004	0.00						135.20						0.00						0.00					
Notional equity due to FERV up to 31.3.2004	(-)1.97						(-)9.05						(-)16.73						(-)16.27					
Total notional equity	159.74	159.74	159.74	159.74	159.74	159.74	697.29	697.29	697.29	697.29	697.29	697.29	482.67	482.67	482.67	482.67	482.67	482.67	439.45	439.45	439.45	439.45	439.45	439.45
ADVANCE AGAINST DEPRECIATION																								
1/10 th of Gross Loan		63.89	63.89	63.89	63.89	63.89		278.92	278.92	278.92	278.92	278.92		116.67	116.67	116.67	116.67	116.67		109.43	109.43	109.43	109.43	109.43
Repayment of loan		55.81	55.81	55.81	55.81	55.81		243.39	243.39	243.39	243.39	243.39		103.44	105.19	105.19	105.19	105.19		97.03	98.68	98.68	98.68	98.68
Minimum of above		55.81	55.81	55.81	55.81	55.81		243.39	243.39	243.39	243.39	243.39		103.44	105.19	105.19	105.19	105.19		97.03	98.68	98.68	98.68	98.68
Depreciation during the year		28.51	28.51	28.51	28.51	28.51		97.23	97.23	97.23	97.23	97.23		60.51	60.51	60.51	60.51	60.51		56.33	56.33	56.33	56.33	56.33
(A) Difference		27.30	27.30	27.30	27.30	27.30		146.17	146.17	146.17	146.17	146.17		42.92	44.68	44.68	44.68	44.68		40.70	42.34	42.34	42.34	42.34
Cumulative repayment of loan		79.96	135.77	191.58	247.39	303.20		347.48	590.87	834.26	1077.66	1321.05		186.24	291.43	396.62	501.81	607.00		174.67	273.35	372.03	470.70	569.38
Cumulative depreciation /AAD		64.26	108.47	164.28	220.09	275.90		219.66	444.70	688.10	931.49	1174.88		153.18	246.75	351.94	457.13	562.32		147.18	231.01	329.68	428.36	527.04
(B) Difference		15.70	27.30	27.30	27.30	27.30		127.82	146.17	146.17	146.17	146.17		33.06	44.68	44.68	44.68	44.68		27.49	42.34	42.34	42.34	42.34
Advance Against Depreciation		15.70	27.30	27.30	27.30	27.30		127.82	146.17	146.17	146.17	146.17		33.06	44.68	44.68	44.68	44.68		27.49	42.34	42.34	42.34	42.34
COMPUTATION OF INTEREST ON LOAN																								

Gross Loan	641.30						2664.34						1166.72						1085.70					
Addition due to Additional Capitalisation	0.00						133.78						0.00						8.56					
Addition due to FERV	(-) 2.35						(-) 8.95						0.00						0.00					
Gross Normative Loan	638.95	638.95	638.95	638.95	638.95	638.95	2789.16	2789.16	2789.16	2789.16	2789.16	2789.16	1166.72	1166.72	1166.72	1166.72	1166.72	1166.72	1094.26	1094.26	1094.26	1094.26	1094.26	1094.26
Cumulative Repayment up to Previous Year		24.15	79.96	135.77	191.58	247.39		104.08	347.48	590.87	834.26	1077.66		82.80	186.24	291.43	396.62	501.81		77.64	174.69	273.35	372.03	470.70
Net Loan-Opening		614.80	58.99	503.18	447.37	391.56		2685.08	2441.69	2198.29	1954.90	1711.50		1083.91	980.48	875.29	770.10	664.91		1016.62	919.59	820.92	722.24	623.56
Repayment during the year		55.81	55.81	55.81	55.81	55.81		243.39	243.39	243.39	243.39	243.39		103.44	105.19	105.19	105.19	105.19		97.03	98.68	98.68	98.68	98.68
Net Loan-Closing		558.99	503.18	447.37	391.56	335.75		2441.69	2198.29	1954.90	1711.50	1468.11		980.48	875.29	770.10	664.91	559.72		919.59	820.92	722.24	623.56	524.88
Average Loan		586.90	531.09	475.28	419.46	363.65		2563.38	2319.99	2076.59	1833.20	1589.81		1032.20	927.88	822.69	717.51	612.32		968.11	870.25	771.58	672.90	574.22
Weighted Average Rate of Interest on Loan		10.7085 %	10.4365 %	10.3214 %	10.2684 %	10.1992 %		10.7014 %	10.4325 %	10.3185 %	10.2657 %	10.1968 %		10.0319 %	9.4729%	9.2129%	9.0640%	9.8639%		10.0349 %	9.4759%	9.2159%	9.0672%	8.8673%
Interest		62.85	55.43	49.06	43.07	37.09		274.32	242.03	214.27	188.19	162.11		103.55	87.90	75.79	65.03	54.28		97.15	82.46	71.11	61.01	50.92
SUMMARY OF THE TRANSMISSION CHARGES AWARDED																								
Depreciation		28.51	28.51	28.51	28.51	28.51		97.23	97.23	97.23	97.23	97.23		60.51	60.51	60.51	60.51	60.51		56.33	56.33	56.33	56.33	56.33
Interest on loan		62.85	55.43	49.06	43.07	37.09		274.32	242.03	214.27	188.19	162.11		103.55	87.90	75.79	65.03	54.28		97.15	82.46	71.11	61.01	50.92
Return on Equity		22.36	22.36	22.36	22.36	22.36		97.62	97.62	97.62	97.62	97.62		67.57	67.57	67.57	67.57	67.57		61.52	61.52	61.52	61.52	61.52
Advance against Depreciation		15.70	27.30	27.30	27.30	27.30		127.82	146.17	146.17	146.17	146.17		33.06	44.68	44.68	44.68	44.68		27.49	42.34	42.34	42.34	42.34
Interest on Working Capital		4.63	4.82	4.82	4.84	4.87		15.49	15.52	15.33	15.19	15.06		7.93	8.03	8.00	8.00	8.01		7.41	7.58	7.55	7.55	7.57
O&M Expenses		56.76	59.04	61.40	63.84	66.40		56.86	59.14	61.51	63.95	66.52		56.24	58.50	60.84	63.25	65.80		56.24	58.50	60.84	63.26	65.80
Total		190.81	197.46	193.45	189.93	186.54		669.33	657.71	632.13	608.34	584.70		328.87	327.19	317.39	309.05	300.85		306.14	308.74	299.70	292.03	284.49

ANNEXURE `B`

REVISED COMPUTATION OF TRANSMISSION CHARGES

(Rs. in lakh)

	LILO of 400 kV S/C Singrauli-Kanpur transmission line-I at Allahabad						LILO of 400 kV S/C Singrauli-Kanpur transmission line-II at Allahabad						ICT-I at Allahabad						ICT-II at Allahabad					
	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	Up to 31.3.200 4	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09
EQUITY AND RETURN ON EQUITY																								
Equity	161.71						571.13						499.39						455.72					
Addition due to additional capitalization up to 31.3.2004	0.00						135.20						0.00						0.00					
Addition due to FERV up to 31.3.2004	0.00						0.00						0.00						0.00					
Total equity	161.71	161.71	161.71	161.71	161.71	161.71	706.34	706.34	706.34	706.34	706.34	706.34	499.39	499.39	499.39	499.39	499.39	499.39	455.72	455.72	455.72	455.72		455.72
Return on equity @ 14%		22.64	22.64	22.64	22.64	22.64		98.89	98.89	98.89	98.89	98.89		69.91	69.91	69.91	69.91	69.91		63.80	63.80	63.80	63.80	63.80
INTEREST ON LOAN																								
Gross Loan	641.30						2664.34						1166.72						1085.70					
Addition due to Additional Capitalisation	0.00						133.78						0.00						8.56					
Addition due to FERV	(-) 4.32						(-) 18.00						(-) 16.73						(-) 16.27					
Gross Normative Loan	636.98	636.98	636.98	636.98	636.98	636.98	2780.11	2780.11	2780.11	2780.11	2780.11	2780.11	1149.99	1149.99	1149.99	1149.99	1149.99	1149.99	1077.99	1077.99	1077.99	1077.99	1077.99	1077.99
Cumulative Repayment up to Previous Year		24.07	79.71	135.35	190.99	246.63		103.75	346.35	588.96	831.56	1074.16		81.62	183.57	287.25	390.93	494.61		76.48	172.07	269.28	366.49	463.70
Net Loan- Opening		612.91	557.27	501.63	445.99	390.35		2676.37	2433.76	2191.16	1948.55	1705.95		1068.38	966.42	862.74	759.06	655.38		1001.51	905.92	808.71	711.50	614.29
Repayment during the year		55.64	55.64	55.64	55.64	55.64		242.60	242.60	243.39	243.39	243.39		101.95	103.68	103.68	103.68	103.68		95.59	97.21	97.21	97.21	97.21
Net Loan- Closing		557.27	501.63	445.99	390.35	334.71		2433.76	2191.16	1948.55	1705.95	1483.35		966.42	862.74	759.06	655.38	651.70		905.92	808.71	711.50	614.29	517.08
Average Loan		585.09	529.45	473.81	418.17	362.53		2555.06	2312.46	2069.86	1827.25	1584.65		1017.40	914.58	610.90	707.22	603.54		953.71	857.31	760.10	662.89	565.68
Weighted Average Rate of Interest on Loan		10.7085 %	10.4365 %	10.3214 %	10.2684 %	10.1992 %		10.7014 %	10.4325 %	10.3185 %	10.2657 %	10.1968 %		10.0319 %	9.4729%	9.2129%	9.0640%	9.8639%		10.0349 %	9.4759%	9.2159%	9.0672%	8.8673%
Interest		62.65	55.26	48.90	42.94	36.98		273.43	241.25	213.58	187.58	161.58		102.06	86.64	74.71	64.10	53.50		95.70	81.24	70.05	60.11	50.16
ADVANCE AGAINST DEPRECIATION																								

1/10 th of Gross Loan		63.70	63.70	63.70	63.70	63.70		278.01	278.01	278.01	278.01	278.01		115.00	115.00	115.00	115.00	115.00		107.80	107.80	107.80	107.80	107.80
Repayment of loan		55.64	55.64	55.64	55.64	55.64		242.60	242.60	242.60	242.60	242.60		101.95	103.68	103.68	103.68	103.68		95.59	97.21	97.21	97.21	97.21
Minimum of above		55.64	55.64	55.64	55.64	55.64		242.60	242.60	242.60	242.60	242.60		101.95	103.68	103.68	103.68	103.68		95.59	97.21	97.21	97.21	97.21
Depreciation during the year		28.51	28.51	28.51	28.51	28.51		97.23	97.23	97.23	97.23	97.23		60.51	60.51	60.51	60.51	60.51		56.33	56.33	56.33	56.33	56.33
(A) Difference		27.13	27.13	27.13	27.13	27.13		145.38	145.38	145.38	145.38	145.38		41.44	43.17	43.17	43.17	43.17		39.25	40.88	40.88	40.88	40.88
Cumulative repayment of loan		79.71	135.35	190.99	246.63	302.27		346.35	588.96	831.56	1074.16	1316.77		183.57	287.25	390.93	494.61	598.29		172.07	269.28	366.49	463.70	560.91
Cumulative depreciation /AAD		64.26	108.22	163.86	219.50	275.14		219.66	443.58	686.18	928.79	1171.39		153.18	244.08	347.76	451.45	555.13		147.8	226.41	325.62	422.83	520.04
(B) Difference		15.46	27.13	27.13	27.13	27.13		126.70	145.38	145.38	145.38	145.38		30.39	43.17	43.17	43.17	43.17		24.89	40.88	40.88	40.88	40.88
Advance against Depreciation.		15.46	27.13	27.13	27.13	27.13		126.70	145.38	145.38	145.38	145.38		30.39	43.17	43.17	43.17	43.17		24.89	40.88	40.88	40.88	40.88
INTEREST ON WORKING CAPITAL																								
Maintenance spares		8.64	9.16	9.71	10.29	10.91		34.81	36.90	39.11	41.46	43.95		17.84	18.91	20.04	21.24	22.52		16.58	17.58	18.63	19.75	20.94
O&M expenses		4.73	4.92	5.12	5.32	5.53		4.74	4.93	5.13	5.33	5.54		4.69	4.68	5.07	5.27	5.48		4.69	4.88	5.07	5.27	5.48
Receivables		31.77	32.90	32.23	31.65	31.09		111.43	109.57	105.32	101.37	97.44		54.50	54.46	52.86	51.49	50.15		50.72	51.39	49.91	48.65	47.42
Total		45.14	46.98	47.06	47.26	47.53		150.98	151.39	149.56	148.16	146.93		77.03	78.24	77.97	78.01	78.15		72.00	73.84	73.61	73.68	73.84
Interest		4.63	4.82	4.82	4.84	4.87		15.48	15.62	15.33	15.19	15.06		7.90	8.02	7.98	8.00	8.01		7.38	7.57	7.55	7.55	7.57
ANNUAL TRANSMISSION CHARGES																								
Depreciation		28.51	28.51	28.51	28.51	28.51		97.23	97.23	97.23	97.23	97.23		60.51	60.51	60.51	60.51	60.51		56.33	56.33	56.33	56.33	56.33
Interest on loan		62.65	55.26	48.90	42.94	36.98		273.43	241.25	213.58	187.58	161.50		102.06	86.64	74.71	64.10	53.50		95.70	81.24	70.05	60.11	50.16
Return on Equity		22.64	22.64	22.64	22.64	22.64		98.89	98.89	98.89	98.89	98.89		69.91	69.91	69.91	69.91	69.91		63.80	63.80	63.80	63.80	63.80
Advance against Depreciation		15.46	27.13	27.13	27.13	27.13		126.70	145.38	145.38	145.38	145.38		30.39	43.17	43.17	43.17	43.17		24.89	40.88	40.88	40.88	40.88
Interest on Working Capital		4.63	4.82	4.82	4.84	4.87		15.48	15.52	15.33	15.19	15.06		7.90	8.02	7.98	8.00	8.01		7.38	7.57	7.55	7.55	7.57
O&M Expenses		56.76	59.04	61.40	63.84	66.40		56.86	59.14	61.51	63.95	66.52		56.24	58.50	60.84	63.26	65.80		56.24	58.50	60.84	63.26	65.80
Total		190.65	197.39	193.41	189.90	186.53		668.57	657.40	631.91	608.21	584.66		327.02	326.75	317.14	308.95	300.90		304.35	308.32	299.45	291.93	284.54