

SECTION 2: SUMMARY OF PETITION

The petition filed by the JSEB for approval of its Annual Revenue Requirement (ARR) and determination of Tariff for FY 2006-07 has been summarized in this chapter.

2.1 Demand forecast for FY 2006-07

The Board proposed 3821 MU of energy sales for FY 2006-07, which represents an increase of 11.76% over the previous year on the basis of CAGR (Compounded Annual Growth Rate) for FY 2003-04 to FY 2005-06. The consumer category-wise sale from FY 2001-02 to FY 2006-07 is given in Table 2.1.

Table 2.1: Consumer category-wise sales (MU)

Category	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Actual*	Actual*	Actual*	Actual*	Actual*	Projected
Domestic	422	548	639	777	989	1206
Commercial	123	130	133	140	159	170
LT Industry	102	104	111	113	116	119
HT Industry	1192	1141	1190	1318	1485	1621
Railway Traction	305	335	309	383	530	556
Agriculture-I-UM	28	38	40	—	—	—
Agriculture-II-UM	6	7	5	—	—	—
Sub-Total Agriculture	34	45	45	56	59	64
Public lighting	30	38	42	75	80	84
Total Sales	2208	2340	2470	2862	3418	3821

* As per the Tariff petition for FY 2006-07

2.1.1 The Board submitted that it enjoys a favorable sales mix due to high consumption of electricity by HT and Railway Traction consumers. As per the projected figures for FY 2006-07, HT consumers and Railway Traction are expected to contribute 42% and 15% to the total sales respectively.

2.1.2 The existing and projected category-wise sales mix of the Board for FY 2005-06 and FY 2006-07 is shown in Figure 2.1 and Figure 2.2 respectively.

Figure 2.1: Sales mix for FY 2005-06 (Actual)

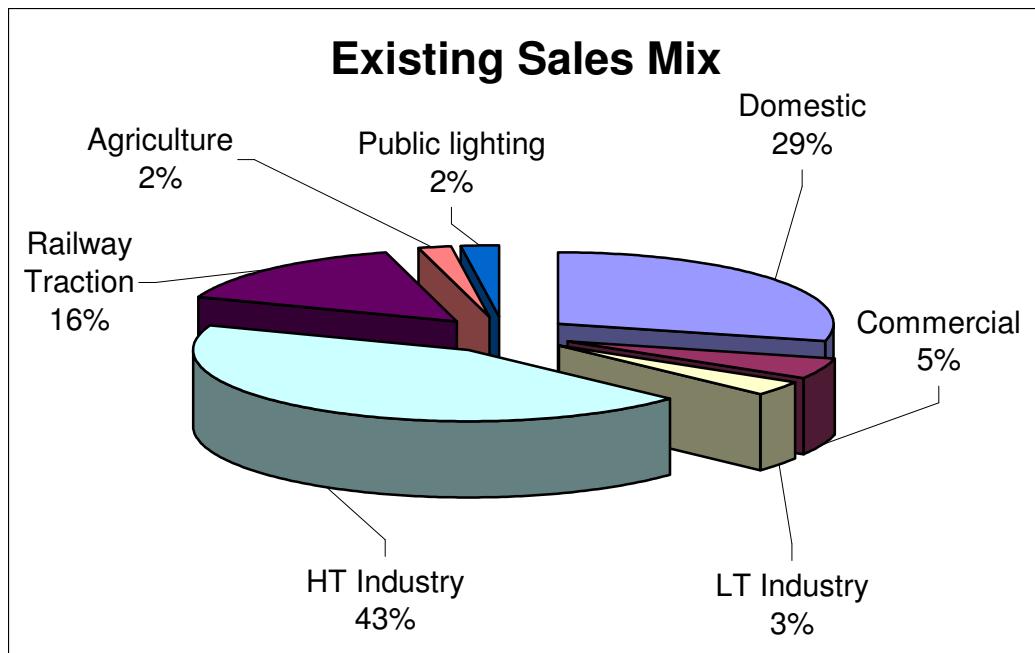
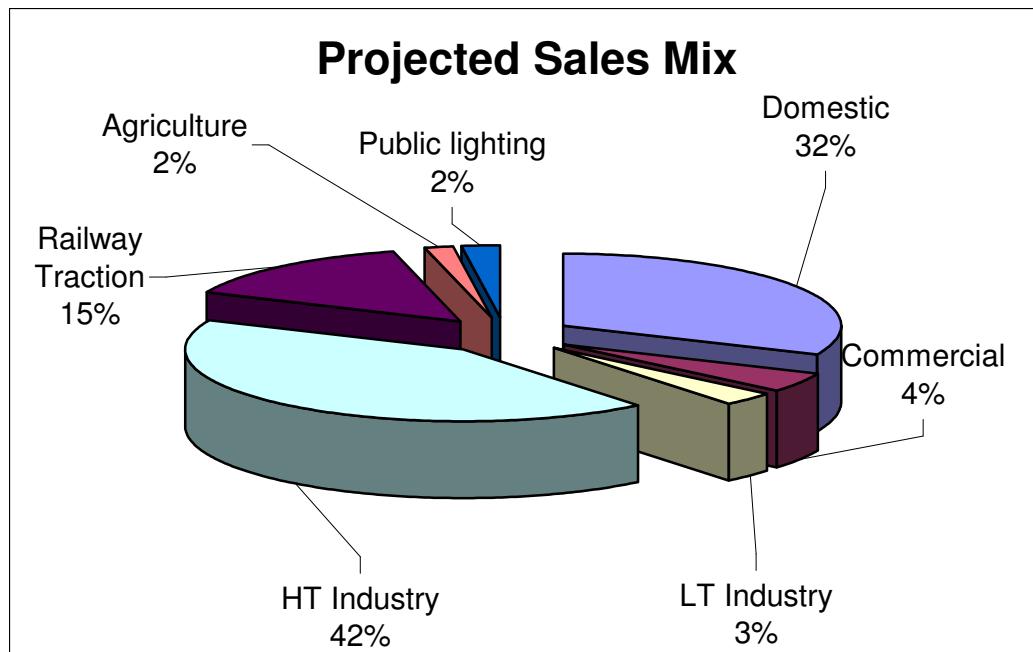


Figure 2.1: Sales mix for FY 2006-07 (Proposed)



2.2 Transmission and distribution losses (T&D losses)

2.2.1 The Board has proposed an overall T&D loss of 42.50% in FY 2006-07, which included 6.10% transmission loss and 40.23% Sub-transmission & distribution

loss. The proposed T&D loss level represents a reduction of 4.26% over FY 2005-06. The Board did not provide any basis for the estimation of T&D losses.

2.2.2 Further, the Board submitted that it has undertaken several initiatives for identifying the loss making areas. These initiatives include undertaking energy audit at 11kV feeders and at distribution transformer (DT) levels for localizing the distribution losses. It submitted that it has also taken corrective actions for reducing high T&D losses. Initiatives for strengthening of transmission and distribution network through capital investment have also been planned to reduce overloading and technical losses. The T&D losses for FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 are given in Table 2.2

Table 2.2: T&D losses

T&D Losses (%)	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07	Reduction
	Actual	Actual	Actual	Proposed	
Transmission Losses	–	–	44.69%	40.23%	4.46%
Sub-T&D Losses	–	–	6.17%	6.10%	0.07%
T&D loss	51.58%	50.73%	46.76%	42.50%	4.26%

2.3 Generation and fuel costs

2.3.1 The Board submitted that it has a total installed capacity of 970 MW: Patratu Thermal Power Station (PTPS- 840 MW), and Sikidiri Hydel Power Station (SHPS- 130 MW). PTPS has 10 Units in total, viz., Unit 1-4 of 50MW each totaling 200MW, Unit 5 and 6 of 100MW each totaling 200MW and Unit 7-10 of 110 MW each totaling 440 MW. The first Unit of PTPS was commissioned in 1966; with Units 1-6 being 33-40 years old (installed during 1966-71), these Units have run beyond their normal economic life. Units 7-10 which were installed during 1977-86 are also quite old.

2.3.2 The Board has estimated de-rated capacity of the PTPS at 770MW, with Units 1-4 being de-rated to 40 MW each totaling 160 MW, Units 5&6 being de-rated to 90 MW each totaling 180 MW, Unit 7&8 being de-rated to 105 MW each totaling 210MW and Units 9&10 being kept same to 110 MW each.

2.3.3 The Board maintains that Unit 3,4,5,7 and 8, with a total de-rated capacity of 380 MW, have been shut down completely as these Units require R&M before generation can be started from them. Unit 1, 7, 9 and 10 are under restoration currently. The Remaining Life Assessment (RLA) studies for Unit 7 have been completed.

2.3.4 The Board maintains that capital overhauling of Unit 6 TG set, with a de-rated capacity of 90MW, has not been done since 1992. The last stage blades of the turbine are cut due to which only 70 MW will be effectively available for generation. Only 340 MW of plant capacity was available for generation in FY 2006-07 till fire broke out in Unit 9 &10 in August damaging switchgear, cable gallery & control room, breakers, power & control cables, control room equipments, instruments, FSSS panel, protection and interlock release, SADC panel and DAVR panel. The Board has proposed 120MW of capacity available for generation viz. Unit 1&2 of 40 MW each and Unit 6 with 1 boiler of 40 MW.

2.3.5 The Board maintains that SHPS has been designed for continuous operation at the reservoir level of 1925 ft. However, it has been observed that the reservoir level is above the level of 1925 ft. for only 3-4 months in a year. It has also submitted that the quantity of water in the reservoir is lower than the reported level due to heavy silting.

2.3.6 Considering the above factors, the Board has estimated a total gross generation of 853.25 MU in FY 2006-07, out of this 83% will be from PTPS and remaining from SHPS. The details of energy generated from owned plants in FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 is summarized in Table 2.3.

Table 2.3: Own generation (MU)

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Actual	Actual	Rev. Estimate	Proposed
PTPS				
Gross Generation	1067	743	846	708
Auxiliary Consumption	174	147	140	113

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Actual	Actual	Rev. Estimate	Proposed
Net Generation	893	596	706	595
SHPS				
Gross Generation	129	142	51	145
Auxiliary Consumption	0.22	0.24	0.24	0.24
Net Hydel Generation	129	141	50	145
Total				
Gross Generation	1196	885	897	853
Auxiliary Consumption	174	147	140	114
Net Generation	1022	738	757	740

2.3.7 The Board has submitted that it expects an improvement in the PTPS performance from FY 2007-08 due to revival of Unit 9&10 and due to the fact that many Units which are currently undergoing major overhauling are also expected to be back to generation soon. The performance of the PTPS as proposed by the Board is given Table 2.4.

Table 2.4: Performance parameters: PTPS

Performance Parameters	Units	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
		Provisional	Provisional	Rev. Estimate	Proposed
Installed Capacity	MW	840	840	840	840
Derated Capacity (Usable)	MW	770	770	770	770
Plant Load Factor	%	15.81%	11.0%	12.5%	10.5%
Auxiliary Consumption	%	16.3%	19.8%	16.6%	16.0%
Station Heat Rate	kCal/kWh	4306	4315	4230	4230
S. Oil Consumption	mL/kWh	38.68	37	26	25
Calorific Value of Coal	kCal/kg	4100	4100	4165	4165
Calorific Value of Oil	kCal/L	10500	10500	10500	10500
Coal Transit Loss	%	5.50%	5.02%	4.00%	4.00%
Price of Coal-Landed (Inc. Transit Loss)	Rs/tonne	784.49	849	965	965
Price of Oil	Rs/kL	15382	17270	22919	24065

Performance Parameters	Units	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
		Provisional	Provisional	Rev. Estimate	Proposed
Specific Coal Consumption	kg/kWh	0.95	0.96	0.96	0.96
Gross Generation	MU	1067	743	846	708
Auxiliary Consumption	MU	174	147	140	113
Net Generation	MU	893	596	706	595
Coal Consumption	tonne	1014629	710967	811904	680698
Oil Consumption	kL	41258	27867	21846	17706
Coal Cost	Rs Crore	80	60	78	66
Oil Cost	Rs Crore	63	48	50	43
Total Fuel Cost	Rs Crore	143	109	129	108
Other expenses related to Gen.	Rs Crore	6	6	6	6
Total Cost of Fuel	Rs Crore	149	115	134	114
Per Unit Fuel Cost (on Gross Gen.)	Rs/kWh	1.4	1.54	1.59	1.61
Per Unit Fuel Cost (on Net Gen.)	Rs/kWh	1.67	1.92	1.90	1.92

2.4 Power purchase

2.4.1 The Board proposed an energy requirement of 6646 MU out of which 740 MU shall be through own generation from PTPS & SHPS. The remaining 5906 MU is to be met through power purchase from other sources, considering an external transmission loss of 3.5% (excluding DVC and TVNL as these are intrastate source). Hence, the proposed power purchase requirement from other sources is 5971 MU for FY 2006-07, representing an increase of 4.3% over FY 2005-06. The Board submitted that it will continue to procure power from Tenughat Vidhyut Nigam Limited (TVNL) to the maximum extent possible, subject to constraints posed by the prevailing power evacuation capacity. The Board has clarified that it is in the process of strengthening the power evacuation capacity from TVNL to maximize power procurement from TVNL.

2.4.2 The Board estimated external transmission loss on power purchase for FY 2006-07 at 3.5% of gross power purchase (inter state power purchase). An external transmission loss on power purchase has not been considered on the power purchased from TVNL and Damodar Valley Corporation (DVC), as these involve intra state transfer of power.

2.4.3 The Board estimated energy availability from NTPC, NHPC and DVC stations in FY 2006-07 to be at the same level as in the previous year. The details of source-wise power purchase are given in Table 2.5.

Table 2.5 Power purchase (MU)

Source	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Actual	Actual	Actual	Proposed
D.V.C	1876	2323	2511	2511
Farakka	231	376	704	704
Kahalgaon	155	332	533	533
Talcher	250	315	397	397
Sub Total NTPC	636	1023	1634	1634
PGCIL-Chukka	14	53	158	158
Rangit	2	20	43	43
Kuruchi	0	0	0	0
Sub Total NHPC	16	73	201	201
PGCIL	0	0	0	0
ERLDC	0	0	0	0
TVNL	1132	1093	1309	1607
WBSEB	27	29	34	18
PTC & NVVN	36	152	0	0
UI	394	439	43	0
Total	4117	5131	5730	5971
External Losses*	—	3.5%	3.5%	3.5%
Net Purchase	—	5071	5663	5906

* Not applicable on DVC and TVNL

2.4.4 The Board has proposed an additional 400 MU of power purchase from TVNL during FY 2006-07 as UI sales and receivables. The detail of additional power purchase (MU) from TVNL during FY 2006-07 is summarized in Table 2.6.

Table 2.6 Additional power purchases from TVNL in FY 2006-07

Power Purchase from TVNL	MU
—	400

Power Purchase for Intra-state sale	1607
UI sales	400
Total	2007

2.4.5 The Board has proposed a total power purchase cost of Rs 1335.29 Crore for FY 2006-07. The average power purchase cost from various sources in FY 2006-07 has remained unchanged (except for TVNL) over the previous year.

2.4.6 The Board has submitted that the Central Electricity Regulatory Commission (CERC) has revised the tariff for Rangit in FY 2004-05. This revision has resulted in the increase of power purchase cost for FY 2004-05. The details of source-wise power purchase cost are summarized in Table 2.7.

Table 2.7 Power purchase costs (Rs Crore)

Source	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
D.V.C	486.21	599.06	710.47	710.47
Farakka	43.74	65.8	116.08	116.08
Kahalgaon	35.52	66.4	91.64	91.64
Talcher	35.35	39.47	48.98	48.98
Sub Total NTPC	114.61	171.67	256.70	256.70
PGCIL-Chukka	1.76	7.81	24.02	24.02
Rangit	0.71	7	12.54	12.54
Sub Total NHPC	2.47	14.81	36.56	36.56
PGCIL	13.71	15.87	16.96	16.96
ERLDC	0.28	0.38	0.52	0.52
PGCIL-ERLDC Charges	13.99	16.25	17.48	17.48
TVNL	189.1	193.82	240.97	306.06
WBSEB	11.21	12.18	13.73	8.01
PTC & NVVN	7.95	31.9	0.00	0.00
UI	82.55	110.16	5.28	0.00
Total Purchase	908.07	1149.85	1281.20	1335.29

2.4.7 As shown in Table 2.8, the average power purchase cost per unit for FY 2006-07 has been kept same as in the previous year. Further, the Board submitted that it expects the average power purchase cost per unit to go down further as the tariff of DVC is under CERC review. The details of source-wise average cost of power purchase (Rs/unit) are given in Table 2.8.

Table 2.8 Average cost of power purchase (Rs/Unit)

Source	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
D.V.C	2.59	2.58	2.83	2.83
Farakka	1.9	1.82	1.71	1.71
Kahalgaon	2.29	2.07	1.78	1.78
Talcher	1.41	1.3	1.28	1.28
Sub Total NTPC	1.8	1.74	1.63	1.63
PGCIL-Chukka	1.29	1.53	1.58	1.58
Rangit	3.11	3.6	3.01	3.01
Sub Total NHPC	1.55	2.1	1.89	1.89
PGCIL	0.00	0.00	0.00	0.00
ERLDC	0.00	0.00	0.00	0.00
TVNL	1.67	1.77	1.84	1.9
WBSEB	4.08	4.28	4.23	4.61
PTC & NVVN	2.2	2.17	0.00	0.00
UI	2.1	2.6	1.29	0.00
Total	2.21	2.27	2.26	2.26

2.5 Energy requirement and availability

2.5.1 The Board has proposed an increase of 11.8% in energy sale during FY 2006-07 over the FY 2005-06. Further, the Board has estimated an increase of 3.5% in energy availability during the same period, due to T&D loss reduction of 4.26%. The detail of energy requirement and availability for FY 2004-05, FY 2005-06, and FY 2006-07 is summarized in Table 2.9.

Table 2.9 Energy balance

Description	FY 2004-05	FY 2005-06	FY 2006-07	Growth in FY 06-07 over FY 05-06
	Actual	Actual	Proposed	
Net Thermal Generation (MU)	596	706	595	-15.8%
Net Hydel Generation (MU)	141	50	145	187.4%
Net Power Purchase (MU)	5071	5663	5906	4.3%
Total Net Energy Availability	5809	6420	6646	3.5%
Less: Energy from DVC		2511	2511	
Energy Input into Transmission System		3909	4135	
Total Transmission Losses (%)		6.17%	6.10%	-1.1%
Total Transmission Losses (MU)		241	252	
Energy Input into Sub-Transmission System/Distribution System		3668	3883	
Add: Energy Input from DVC		2511	2511	
Net Energy Input into Sub-Transmission system/Distribution system		6179	6394	
Distribution Losses (%)		44.69%	40.23%	
Distribution Losses (MU)		2761	2572	-6.8%
Energy Available for Retail Sale (Retail Sales)/ Total Energy Requirement	2862	3418	3821	11.8%
Overall T&D Loss (MU)	2947	3002	2824	-5.9%
Overall T&D Loss (%)	50.73%	46.77%	42.50%	

2.6 Capital Expenditure

2.6.1 The Board has proposed Rs 1020.83 Crore as capital expenditure for FY 2006-07.

The Board submitted that this massive scaling-up has been planned to strengthen and expand the system in order to improve the quality of supply, meet the increasing demand in the state, improve system efficiency including reduction in technical and commercial losses and increase the level of rural electrification and

power supply. However, details of the capex plan have not been provided. Neither has the Board submitted any capex plan to the Commission for approval.

2.6.2 Further, the Board submitted that it has initiated the process of tying up funds from financial institutions for financing these capital projects. It is also seeking government support for the proposed capital expenditure.

2.6.3 The Board upholds that an interest charge on such finances has not been considered while determining the aggregate revenue requirement for FY 2006-07. The same will be submitted to the Commission once it has been finalized. Further, the Board proposes to undertake additional capital work depending upon the availability of additional funds and the Commissions approval. The details of capital expenditure for the FY 2006-07 are given in Table 2.10.

Table 2.10 Capital investment plan (Rs Crore)

Description	FY 2006-07
Generation Function	183.00
Transmission Function	298.97
Distribution Function	106.00
Rural Electrification	150.00
APDRP	282.86
Total Distribution	538.86
Total	1020.83

2.7 Employee costs

2.7.1 The Board proposed an increase of 32% in gross employee costs from Rs 219.55 Crore in FY 2005-06 to Rs 290.78 Crore in FY 2006-07. This increase in proposed employee costs is due to the creation of Rs 60 Crore pension corpus fund. The Board considers this necessary as according to it no funds were transferred to the Board at the time of its creation for payment of outstanding liabilities like pension, GPF, gratuity and other terminal benefits.

2.7.2 The gross employee costs excluding provision for pension corpus in FY 2006-07 has been estimated to increase by 5.07% over the previous year, primarily due to an increase in DA and increments.

2.7.3 The Board maintains that against the approved employee cost of Rs 166.84 Crore for FY 2003-04, it has incurred only Rs 155.55 Crore. The Board also submitted that it has paid Rs 27.48 Crore against pay revision arrears in FY 2004-05. The detail of employee costs is summarized in Table 2.11.

Table 2.11 Employee costs (Rs Crore)

Cost component	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
Salary	71.91	78.01	71.69	76.73
DA	42.12	55.51	57.42	62.91
Overtime	2.80	1.67	4.51	4.79
Bonus	0.09	—	—	—
Other Allowance	0.19	5.58	6.39	7.90
Sub Total	117.11	140.77	140.01	152.33
Medical Reimbursement	0.53	1.45	2.83	2.58
Leave Travel Assistance	0.00	0.00	0.34	0.03
Leave Encashment	3.11	5.68	6.55	7.43
Payment-workmen compensation	0.07	0.97	0.95	0.99
Total Other staff Cost	3.71	8.10	10.67	11.03
Terminal Benefits	22.86	42.65	54.12	57.04
Pension Corpus	—	0.00	0.00	60.00
Staff Welfare Expenses	—	0.21	0.14	0.23
House Rent Allowance	2.97	5.21	5.83	6.30
Pay Revision Arrear	0.00	27.48	8.78	3.85
Recreation Expenses	0.01	—	—	—
Interim Relief	0.07	—	—	—
Compensatory Allowance	0.41	—	—	—
Special Pay	0.17	—	—	—
Medical Allowance (Fixed)	0.29	—	—	—
Conveyance Allowance	0.29	—	—	—
Emergency Allowance	0.17	—	—	—

Cost component	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
Social Welfare Expenses	0.02	—	—	—
Uniform & Liveries	0.01	—	—	—
Group Saving Scheme	0.68	—	—	—
Contribution to Provident Fund	1.06	—	—	—
Gratuity	5.42	—	—	—
Honorarium / Ex. Gratia	0.08	—	—	—
Other, if any (With Details)	0.18	—	—	—
Medical Expenses	0.03	—	—	—
Gross Employee cost	155.55	224.41	219.55	290.78
<i>Less: Employee cost capitalized</i>	(15.15)	(16.00)	(16.80)	(17.80)
Net Employee cost	140.40	208.41	202.75	272.98

2.8 Repair & maintenance costs

2.8.1 The Board proposed an increase of 8.45% in Repair and Maintenance (R&M) costs, from Rs 50.84 Crore in FY 2005-06 to Rs 55.14 Crore in FY 2006-07.

2.8.2 The Board submitted that R&M cost as a percentage of gross fixed assets for the previous years have been well below the generally accepted benchmark of 3%. This has been low considering the fact that assets are at their book value at the time they were procured. The details of R&M costs for FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 are given in Table 2.12.

Table 2.12 Repair & maintenance costs (Rs Crore)

Cost Components	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Est.	Proposed
Plant & Machinery	13.32	20.15	28.40	31.24
Buildings	1.84	2.65	2.94	3.48
Civil Works	1.15	2.13	1.71	1.87
Hydraulic	0.27	0.40	0.59	0.67

Lines, Cable, Network	12.73	10.85	16.08	16.67
Vehicles	0.23	0.67	0.90	0.99
Furniture & Fixture	0.07	0.06	0.06	0.06
Office Equipments	0.05	0.08	0.16	0.16
Technical Fees	0.00	0.03	0.00	0.00
Total	29.66	37.02	50.84	55.14
R&M cost as % of GFA	–	2.31%	2.86%	2.53%

2.9 Administration & General costs

2.9.1 The Board has proposed Administration & General (A&G) cost of Rs 45.03 Crore for FY 2006-07, which represents an increase of 4.03% over the previous year. The Board submitted that this rise has been due to inflationary effect and increase in business requirements.

2.9.2 Further, the Board has submitted that the A&G costs of Rs 23.81 Crore for FY 2003-04 has been much below the approved A&G costs of Rs 30.27 Crore for FY 2003-04. However, during FY 2005-06 A&G costs has steeply increased by 56% from Rs 29.2 Crore in FY 2004-05 to Rs 45.70 Crore in FY 2005-06. The details of Administration and General (A&G) costs for FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 are provided in Table 2.13.

Table 2.13 Administration & General costs (Rs. Crore)

Cost Component	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev Estimate	Proposed
Rent	1.37	1.29	3.94	3.92
Insurance	0.29	1.06	1.09	0.59
Postage/Telegram, Phone & telex	0.79	1.13	1.39	1.55
Legal Charges	0.59	1.00	1.53	1.76
Audit Charges	1.00	0.50	1.85	1.10
Consultancy charge/Tech fees	0.13	2.09	2.11	2.26
Conveyance & Travel	2.58	1.70	2.10	2.4
Vehicle (Light) Petrol	0.00	1.55	1.52	1.73
Vehicle (Heavy) Diesel & Petrol	–	0.90	1.13	1.22
Vehicle License & Registration	0.00	0.17	0.20	0.21
Fees and Subscription	0.01	0.11	0.35	0.42

Cost Component	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev Estimate	Proposed
Books & Periodicals	0.07	0.07	0.19	0.18
Printing & Stationary	0.70	1.64	1.70	1.73
Advertisement	0.54	1.52	0.90	0.52
Electricity & Water Charges	3.03	3.52	3.52	3.75
Entertainment Charges	0.09	0.42	0.49	0.48
Miscellaneous Expenses	11.34	0.85	1.08	1.27
Stores Handling	0.00	0.07	0.11	0.13
Pvt. Security/Home Guard	–	2.12	11.28	12.83
Computer Agency	–	4.45	5.26	5.38
Freight & Other purchase	1.28	0.97	0.99	1.08
Bank Commission	–	0.06	0.17	0.16
Bill Distribution Expenses	–	0.26	0.3	0.32
Training	–	0.22	0.22	0.24
Pollution	–	0.19	0.20	0.23
Vehicle Hire Expenses	–	1.27	1.91	1.92
Rates & Taxes	–	0.06	0.18	0.18
Gross A&G Cost	23.81	29.20	45.70	47.54
<i>Less: Expenses capitalized</i>	(2.02)	(2.17)	(2.34)	(2.51)
Net A&G Cost	21.79	27.03	43.36	45.03

2.10 Interest charges

2.10.1 The Board proposed Rs. 570.21 Crore as interest charge for FY 2006-07 on account of interest cost of Rs 202.94 Crore on 25% of loans due to bifurcation of BSEB and Rs 12.93 Crore towards interest on working capital.

2.10.2 The interest costs include interest on 33% of the BSEB loans to be transferred to the Board, as part of the state bifurcation as per Ministry of Power, Government of India Notification amounting to Rs 267.88 Crore (on 33% of Loan). However, the Board has submitted that Government of Jharkhand/JSEB has appealed against the MoP notification to the Supreme Court regarding the ratio of bifurcation of loans and has appealed for limiting the bifurcation of loans to 25% (corresponding interest amount is Rs 202.94 Crore). The case is pending before the Court. The

Board has been using letter of credit and overdraft facilities for making power purchase payments. However, the Board has not given details of its monthly collection and the need for overdraft for making power purchase. The details of interest costs are given in Table 2.14.

Table 2.14 Interest charges (Rs. Crore)

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Provisional	Proposed
Generation Loans	3.10	3.10	4.52	16.51
Transmission Loans	14.29	15.66	24.75	28.53
Distribution Loans	45.4	137.8	205.71	211
Building Loans	0.31	0.31	0.31	0.31
APDRP	0.78	3.38	6.74	11.89
MNP	4.42	8.32	16.37	18.87
Power Purchase	18.75	34.57	44.14	46.64
Loan from PFC (APDRP)	0.00	3.76	5.81	5.81
CPA	14.77	14.77	14.77	14.77
State Government Loan (erstwhile BSEB)	202.94	202.94	202.94	202.94
Interest of Working Capital	0.00	0.00	0.00	12.93
Gross Interest	304.76	424.61	526.06	570.21
<i>Less: Interest capitalized</i>	(4.28)	(4.75)	(5.13)	(5.67)
Net Interest & Financing Cost	300.48	419.86	520.93	564.54

2.11 Depreciation charge

2.11.1 The Board proposed an increase of 14.5% in depreciation charges for FY 2006-07 over the previous year. The depreciation charge has been calculated at a rate of 5.52% on the opening GFA for FY 2006-07. The details of depreciation rate and the depreciation charges for FY 2004-05, FY 2005-06, and FY 2006-07 are given in Table 2.15.

Table 2.15 Depreciation charge (Rs Crore)

Description	FY 2004-05	FY 2005-06	FY 2006-07

	Provisional	Rev. Estimate	Proposed
GFA-Opening Balance	1439.77	1602.08	1775.07
Asset additions during the year	162.315	172.98	408.28
GFA-Closing Balance	1602.08	1775.06	2183.35
Depreciation Rate	5.11%	5.34%	5.52%
Depreciation	73.57	85.55	97.98

2.12 Provision for bad and doubtful debt

2.12.1 The Board proposed Bad and Doubtful debt at 2.5% of the revenue from sale of power during FY 2006-07 which amounts to Rs 32.46 Crore. The details of provision for ad and Doubtful debt are given in Table 2.16.

Table 2.16 Provision for Bad and Doubtful debt (Rs. Crore)

Description	FY 2006-07
	Proposed
Revenue from sale of power	1298.48
Provision for B&D debts as % of revenue	2.5%
Provision for Bad & Doubtful debt	32.46

2.13 Statutory return

2.13.1 The Board proposed a statutory return of Rs 16.75 Crore for FY 2006-07. It has submitted that this has been based at 3% of the opening balance of Net Fixed Assets less consumer contribution, as per Section 59 of the Electricity (Supply) Act, 1948.

2.13.2 The Board upholds estimating the reasonable return based on the equity, post transfer scheme notification by the Government of Jharkhand. Further, it espouses that in an event of transfer scheme notification by the Government of Jharkhand during the process of tariff order finalization, the Commission should consider the same for the purpose of reasonable return calculation. The details of reasonable return are provided in Table 2.17.

Table 2.17 Statutory return (Rs. Crore)

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
Gross Block/Fixed Asset		1439.77	1602.08	1775.07
<i>Less: Accumulated Depreciation</i>		953.15	1038.69	1136.62
<i>Less: Consumer Contribution</i>		74.36	77.16	79.96
Net Block/Fixed Asset		412.26	486.23	558.49
Return	11.63	12.37	14.59	16.75

2.14 Non-Tariff income

2.14.1 The Board proposed non-tariff income of Rs 63.73 Crore for FY 2006-07, which represents an increase of 15.95% in the non-tariff income over FY 2005-06.

2.14.2 The Board estimated Rs 402 Crore as Delayed Payment Surcharge (DPS) for FY 2006-07. However, it has submitted that DPS cannot be fully recovered from the consumers as it already faces difficulties in recovering 100% of principal bill dues. In addition, the past experience of the Board reflects a history of poor realization of DPS, which has been less than 10% of the total amount for the past years.

2.14.3 In view of the above, the Board has proposed a 10% recovery of DPS during the year. It has submitted that the balance 90% of DPS would be carried over to the next financial year as receivables.

2.14.4 In addition, the Board has submitted that the amount realized from DPS for the previous years would be trued up while submitting the annual revenue requirement and tariff revision petition for next financial year. The details of non-tariff income are summarized in Table 2.18.

Table 2.18 Non-tariff income (Rs. Crore)

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Projected
Delayed Payment Surcharge (DPS)	338.70	426.46	376.00	402.00

Realizable Delayed Payment Surcharge @ 10% of DPS	33.87	42.65	37.60	40.20
Total DPS from Consumer	33.87	42.65	37.60	40.20
Sale of Water	2.03	2.56	2.81	3.09
Meter Rent	2.56	2.62	2.79	3.02
Sale of Tender Paper	0.35	0.44	0.51	0.54
Other	4.76	6.00	6.25	6.88
Mis. Receipt (Incl sale of scrap)	7.89	7.77	5.00	10.00
Net Non-Tariff Income	51.46	62.03	54.96	63.73

2.15 Aggregate Revenue Requirement

2.15.1 The Board proposed an Aggregate Revenue Requirement (ARR) of Rs. 2470.62 crore in FY 2006-07, which represents an increase of 8.4% over FY 2005-06. The details of ARR proposed by the Board are given in Table 2.19.

Table 2.19 Aggregate revenue requirement (Rs. Crore)

Cost Components	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
Power Purchase	908.09	1149.85	1281.19	1335.28
Generation Cost	148.84	114.51	134.45	114.32
R&M Cost	29.66	37.02	50.84	55.14
Employees Cost	140.40	208.41	202.75	272.98
A & G Cost.	21.79	27.03	43.36	45.03
Depreciation	68.57	73.57	85.55	97.98
Prior Period Expenses	0.00	0.00	0.00	0.00
Bad Debts Provision	0.00	0.00	0.00	32.46
Interest and Finance Charges	300.48	419.86	520.93	551.60
Interest on working capital	0.00	0.00	0.00	12.93
Total Expenditure	1617.82	2030.31	2319.06	2517.60
Statutory Return	11.63	12.37	14.59	16.75
Gross Revenue requirement	1629.45	2042.68	2333.65	2534.35
Less: Other Income	51.46	62.04	54.96	63.73
Net Revenue required	1577.98	1980.64	2278.68	2470.62

2.16 Disaggregated ARR filing for FY 2006-07

2.16.1 The energy generated from the Board's own generating stations and power purchased from other sources like the Central Generating Stations (NTPC & NHPC), DVC, WBSEB, TVNL etc. is evacuated through the transmission lines owned by the Board. This transmission network facilitates in supplying power to its consumers on the distribution network.

2.16.2 The Board has dis-aggregated the ARR on a functional basis. The Board has submitted that this dis-aggregation is on functional lines (Generation Function, Transmission Function and Distribution Function).

2.16.3 The Board submitted that the cost related to the individual functions like the cost of generation, etc. could be identified and allocated to the functions directly. However, the cost elements like employee costs, administration and general expenses, etc are not easily identifiable. This cost has been allocated to the

individual functions on the basis of certain assumptions, which are outlined as below in Table 2.20.

Table 2.20 Key assumptions for functional disaggregation of cost elements

S. No	Item	Assumption
1.	Employee Cost	Based on number of employees
2.	A&G Cost	Based on number of employees
3.	R&M Cost	Functionally separated
4.	Interest Cost	Functionally separated. Interest on BSEB loan has been treated as “Regulatory Asset”
5.	Depreciation	Depreciation for the FY 2006-07 has been calculated based on the minimum of depreciation % for the segregated entities for the FY 2003 and FY 2004
6.	Provision for Bad & Doubtful Debt	Allocated to Distribution
7.	Reasonable Return	3% on the NFA has been considered
8.	Income Tax	Income tax, if any, for the FY 2006-07 shall be trued up in the subsequent ARR and Tariff petition
9.	Non-Tariff Income	Non-Tariff income has been appropriately allocated to G-T-D. For example: DPS has been allocated to Distribution entity, sale of water to Generation entity, etc.

2.17 Disaggregated employee costs

2.17.1 The details of the trifurcation of employee costs for Generation, Transmission and Distribution functions have been summarized in Table 2.21.

Table 2.21 Disaggregated employee costs (Rs Crore)

Cost Components	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Salary	26.09	7.82	42.82	76.73
DA	21.43	6.42	35.06	62.91
Overtime	1.63	0.49	2.67	4.79
Other Allowance	2.69	0.81	4.40	7.90
Sub Total	51.84	15.54	84.95	152.33
Medical Reimbursement	0.88	0.26	1.44	2.58
Leave Travel Assistance	0.01	0.00	0.02	0.03
Leave Encashment	2.53	0.76	4.14	7.43
Workmen's compensation	0.34	0.10	0.55	0.99
Total Other staff Cost	3.76	1.12	6.15	11.03
Terminal Benefits	19.43	5.82	31.79	57.04
Pension Corpus	20.44	6.12	33.44	60.00
Staff Welfare Expenses	0.08	0.02	0.13	0.23
House Rent Allowance	2.15	0.64	3.51	6.30
Pay Revision Arrear	1.31	0.39	2.15	3.85
Gross Employee cost	99.01	29.65	162.12	290.78
<i>Less: Employee cost capitalized</i>	(6.06)	(1.82)	(9.92)	(17.80)
Net Employee cost	92.95	27.83	152.20	272.98

2.18 Disaggregated repair & maintenance costs

2.18.1 The details of the trifurcation of the R&M costs for Generation, Transmission and Distribution functions have been summarized in Table 2.22.

Table 2.22 Disaggregated repair & maintenance costs (Rs Crore)

Cost Components	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Plant & Machinery	24.79	1.50	4.95	31.24
Buildings	1.50	0.61	1.37	3.48
Civil Works	0.57	0.44	0.86	1.87
Hydraulic	0.67	0.00	0.00	0.67
Lines, Cable, Network	1.35	3.41	11.91	16.67
Vehicles	0.79	0.04	0.16	0.99
Furniture & Fixture	0.02	0.01	0.03	0.06
Office Equipments	0.04	0.02	0.10	0.16
Technical Fees	0.00	0.00	0.00	0.00
Total R&M	29.73	6.03	19.38	55.14
R&M Costs as % of GFA	3.75%	2.02%	1.78%	2.53%

2.19 Disaggregated Administration & General costs

2.19.1 The details of the trifurcation of the A&G costs for the Generation, Transmission and Distribution functions have been summarized in Table 2.23.

Table 2.23 Disaggregated administration & general costs (Rs Crore)

Cost Components	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Rent (Including Lease Rental)	1.34	0.40	2.19	3.93
Insurance	0.20	0.06	0.33	0.59
Telephone, Postage & telex charges	0.53	0.16	0.87	1.56
Legal Charges	0.60	0.18	0.98	1.76
Audit Charges	0.37	0.11	0.61	1.09
Total consultancy chare/Tech fees	0.77	0.23	1.26	2.26
Conveyance & Travel	0.82	0.24	1.33	2.39
Vehicle Running (Light)-Petrol	0.59	0.18	0.97	1.74
Vehicle Running (Heavy)-Diesel	0.41	0.12	0.68	1.21
Vehicle License & Registration	0.07	0.02	0.12	0.21
Other Expenses				
Fees and Subscription	0.14	0.04	0.24	0.42
Books & Periodicals	0.06	0.02	0.10	0.18
Printing & Stationary	0.59	0.18	0.96	1.73
Advertisement	0.18	0.05	0.29	0.52
Electricity & Water Charges	1.28	0.38	2.09	3.75
Entertainment Charges	0.17	0.05	0.27	0.49
Miscellaneous Expenses	0.43	0.13	0.71	1.27
Total other expenses	2.85	0.85	4.66	8.36
Stores Handling	0.04	0.01	0.07	0.12
Pvt. Security Guards / Home Guard	4.37	1.31	7.15	12.83
Computer Agency	1.83	0.55	3.00	5.38
Freight & Other purchase Expenses	0.37	0.11	0.60	1.08
Bank Commission	0.05	0.02	0.09	0.16
Bill Distribution Expenses	0.11	0.03	0.18	0.32
Training	0.08	0.02	0.13	0.23
Pollution	0.08	0.02	0.13	0.23
Vehicle Hire Expenses	0.66	0.20	1.07	1.93
Rates & Taxes	0.06	0.02	0.10	0.18
Gross A&G Costs	16.20	4.84	26.52	47.56

Cost Components	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
<i>Less: A&G Expenses capitalized</i>	(0.86)	(0.26)	(1.40)	(2.52)
Net A&G Costs	15.34	4.58	25.12	45.04

2.20 Disaggregated interest charges allocation

2.20.1 The Board proposed that the interest on composite BSEB loans would be allocated to the distribution function, which will be treated as “Regulatory Asset”.

The Board submitted that the matter of composite loan allocation and other outstanding issues with BSEB is currently under a judiciary review with the Supreme Court. Once the verdict is awarded, the said loans and the corresponding interest will be disaggregated on a functional basis, which will be submitted to the Commission for truing-up.

2.20.2 The details of the trifurcation of the interest charges for the Generation, Transmission and Distribution functions have been summarized in Table 2.24.

Table 2.24 Disaggregated interests cost (Rs Crore)

Description	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Generation Loans	16.51	0.00	0.00	16.51
Transmission Loans	0.00	28.53	0.00	28.53
Distribution Loans	0.00	0.00	211	211
Building Loans	0.00	0.00	0.31	0.31
APDRP	0.00	0.00	11.89	11.89
MNP	0.00	0.00	18.87	18.87
Power Purchase	0.00	0.00	46.64	46.64
Loan from PFC (APDRP)	0.00	0.00	5.81	5.81
CPA	0.91	0.00	13.86	14.77
Interest on Working Capital Loan	8.13	2.30	2.50	12.93
Interest on Commercial Loans-Total	25.55	30.83	310.88	367.27
State Govt. (erstwhile BSEB)	0.00	0.00	202.945	202.945
Gross Interest	25.55	30.83	513.83	570.21
<i>Less: Interest capitalized</i>	(0.39)	(0.48)	(4.80)	(5.67)
<i>Less: Finance charges</i>	0.00	0.00	0.00	0.00

Net Interest & Financing Costs	25.15	30.35	509.03	564.54
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2.21 Disaggregated depreciation expenses

2.21.1 The details of the trifurcation of the depreciation expense for the Generation, Transmission and Distribution functions have been summarized in Table 2.25.

Table 2.25 Disaggregated depreciation expense (Rs Crore)

Description	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
GFA- Opening Balance	752.66	193.99	829.42	1775.08
Asset addition during the year	41.87	104.69	261.72	408.28
GFA Closing Balance	793.54	298.68	1091.14	2183.36
Depreciation Rate	2.88%	7.50%	7.44%	5.52%
Depreciation	21.63	14.56	61.75	97.93

2.22 Disaggregated provision for bad & doubtful debts

2.22.1 The Board proposed allocating the provision for Bad & Doubtful debts completely to the distribution function. The details of provision for Bad & Doubtful debts are given in Table 2.26.

Table 2.26 Provision for Bad & Doubtful debts (Rs Crore)

Description	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Revenue from sale of power	0.00	0.00	1298.48	1298.48
Provision for B&D debts as % of Revenue	0.00	0.00	2.5%	2.5%
Bad Debts Provision	0.00	0.00	32.46	32.46

2.23 Disaggregated statutory return

2.23.1 The details of the trifurcation of the statutory return for the Generation, Transmission and Distribution functions have been summarized in Table 2.27.

Table 2.27 Disaggregated statutory return (Rs Crore)

Description	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Gross Fixed Assets	751.66	193.99	829.42	1775.07
Less: Accumulated Depreciation	569.53	113.67	453.42	1136.62
Net Fixed Assets	182.13	80.32	376.00	638.45
Less: Consumer Contribution	0.00	0.00	79.96	79.96
Net Fixed Asset (Exc. Consumer Cont.)	182.13	80.32	296.04	558.49
Return	5.46	2.41	8.88	16.75

2.24 Disaggregated Non-tariff Income

2.24.1 The details of the trifurcation of the Non-Tariff income for the Generation, Transmission and Distribution functions have been summarized in Table 2.28.

Table 2.28 Disaggregated non-tariff income (Rs Crore)

Description	FY 2006-07 (Proposed)			
	Generation	Transmission	Distribution	Total
Delayed Payment Surcharge (DPS)	0.00	0.00	402	402
Realizable DPS @ 10% of DPS	0.00	0.00	40.20	40.20
Sale of Water	3.09	0.00	0.00	3.09
Meter Rent	0	0.15	2.87	3.02
Sale of Tender Paper	0.22	0.05	0.27	0.54
Other	0.69	0.69	5.5	6.88
Miscellaneous Receipt (Incl. sale of scrap)	8.00	1.00	1.00	10.00
Total	11.99	1.89	49.84	63.73

2.25 Generation cost (Fuel cost)

2.25.1 Table 2.29 summarizes the generation cost proposed by the Board.

Table 2.29 Generation cost (fuel cost) (Rs Crore)

Performance Parameters	Units	FY 2004-05	FY 2005-06	FY 2006-07
		Provisional	Rev. Estimate	Proposed
Installed Capacity	MW	840	840	840
Derated Capacity (Usable)	MW	770	770	770
Plant Load Factor	%	11.00%	12.50%	10.50%
Auxiliary Consumption	%	19.80%	16.60%	16.00%
Station Heat Rate	kCal/kWh	4315	4230	4230
Specific Oil Consumption	ml/kWh	37	26	25
Calorific Value of Coal	kCal/kg	4100	4165	4165
Calorific Value of Oil	kCal/L	10500	10500	10500
Coal Transit Loss	%	5.02%	4.00%	4.00%
Price of Coal-Landed (Inc. Transit Loss)	Rs/tonne	849.00	965.00	965.00
Price of Oil	Rs/kL	17270.00	22919.00	24065.00
Specific Coal Consumption	kg/kWh	0.96	0.96	0.96
Gross Generation	MU	743.31	846.32	708.25
Auxiliary Consumption	MU	146.87	140.16	113.32
Net Generation	MU	596.45	706.17	594.93
Coal Consumption	tonne	710967	811904	680698
Oil Consumption	kL	27867	21846	17706
Coal Cost	Rs Crore	60.38	78.38	65.71
Oil Cost	Rs Crore	48.13	50.07	42.61
Total Fuel Cost	Rs Crore	108.51	128.45	108.33
Other expenses related to Gen.	Rs Crore	6.00	6.00	6.00
Total Cost of Fuel	Rs Crore	114.51	134.45	114.32
Per Unit Fuel Cost (on Gross Gen.)	Rs/kWh	1.54	1.59	1.61
Per Unit Fuel Cost (on Net Gen.)	Rs/kWh	1.92	1.90	1.92

2.26 Power purchase cost from other sources

2.26.1 The Board has been purchasing power from external sources like DVC, NTPC, NHPC, TVNL, WBSEB, etc to meet the consumer demands. The Board submitted that its Distribution function would be responsible for purchasing the power from the external sources. The power purchase cost proposed by the JSEB is summarized in Table 2.30.

Table 2.30 Power purchase cost (Rs Crore)

Source	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Rev. Estimate	Proposed
D.V.C	599.06	710.47	710.47
Farakka	65.80	116.08	116.08
Kahalgaon	66.40	91.64	91.64
Talcher	39.47	48.98	48.98
Sub Total NTPC	171.67	256.70	256.70
PGCIL-Chukka	7.81	24.02	24.02
Rangit	7.00	12.54	12.54
Sub Total NHPC	14.81	36.56	36.56
PGCIL	15.87	16.96	16.96
ERLDC	0.38	0.52	0.52
PGCIL-ERLDC Charges	16.25	17.48	17.48
TVNL	193.82	240.97	306.06
WBSEB	12.18	13.73	8.01
PTC & NVVN	31.90	0.00	0.00
UI	110.16	5.28	0.00
Total Purchase	1149.85	1281.20	1335.29

2.27 Net revenue recoverable for generation function

2.27.1 The Board proposed Rs 292.60 Crore as the Net Revenue Recoverable for the generation function for FY 2006-07. The Board further submitted that its generation entity is solely responsible for generation of power and supplying it to the distribution function. The entire cost related to generation of power has to be recovered from the distribution function. The net revenue recoverable for generation function for FY 2006-07 is summarized in Table 2.31.

Table 2.31 Generation function ARR for FY 2006-07 (Rs Crore)

Cost Components	Proposed
Generation Cost	114.32
Power Purchase	0.00
Repairs & Maintenance	29.73
Employees Cost	92.96
A & G Expenses.	15.34
Depreciation Charges	21.63
Interest and Finance Charges	25.15
Bad Debts Provision	0.00
Total Expenditure	299.13
Statutory Return	5.46
Gross revenue requirement	304.59
Less: Other Income	11.99
Net Revenue required	292.60

2.27.2 The Board submitted that its overall generation tariff based on the pooling of power from own generation is Rs 3.96/kWh at the generation bus bar. The break-up of the Net Revenue Recoverable for the generation function between the fixed cost and the variable cost has been provided in Table 2.32.

Table 2.32 Break-up of generation cost into fixed & variable cost (Rs Crore)

Description	FY 2006-07
	Proposed
Energy Charges	114.33
Annual Fixed charges	184.81
Gross Revenue recoverable	299.14
Add: Reasonable return	5.46
Less: Non-Tariff Income	11.99
Net Revenue Recoverable	292.60
Generation Tariff (Pooled Rate)-Rs/kWh	3.96

2.28 Net revenue recoverable for transmission function

2.28.1 The Board proposed Rs 83.91 Crore as the Net Revenue recoverable for the transmission function for FY 2006-07, which includes State Load Dispatch Center (SLDC) fee and charges. The State Transmission Utility (STU) or the transmission function of the Board has been catering to the requirement of transmitting power and feeding it into the distribution network. The Board has submitted a Loss level of 6.10% and maintains that the entire cost related to the transmission of power has to be recovered from the distribution function.

2.28.2 Further, the Board submitted that the transmission function expenses are of a fixed nature and the tariff determined is typically a single part tariff in the form of capacity charges. The details of net revenue recoverable for transmission function for FY 2006-07 is summarized in Table 2.33.

Table 2.33 Transmission function ARR for FY 2006-07 (Rs Crore)

Cost Components	FY 2006-07
	Proposed
Power Purchase & UI charges	0.00
Fuel Cost	0.00
Employees Cost	27.85
Repairs & Maintenance	6.04
A & G Expenses	4.60
Interest and Finance Charges	30.35
Depreciation Charges	14.56
Bad Debts Provision	0.00
Total Expenditure	83.39
Statutory Return	2.41
Gross Revenue requirement	85.80
Less: Other Income	1.89
Net Revenue required	83.91

2.28.3 The Board submitted that no power has been tied through transmission supply agreements. Even the records of exact allocation of capacity to the distribution function are unavailable. Under the prevailing conditions the tariff chargeable to

the distribution function has been determined on the basis of total energy transmitted/handled by the transmission network. The proposed transmission tariff (Rs/kWh) for FY 2006-07 has been summarized in Table2.34.

Table 2.34 Transmission function ARR for FY 2006-07 (Rs Crore)

Description	FY 2006-07
	Proposed
Total Revenue Recoverable (Rs Crore)	83.91
Total Energy handled by Transmission system (MU)	4135
Transmission Charges (Rs/kWh)	0.2029

2.29 Net revenue recoverable for distribution function

2.29.1 The distribution function of the Board has been responsible for supply of power to the retail consumers. The distribution function sources the power from the generation stations of the Board and from external sources. The aggregate revenue requirement has to be recovered from the consumers. The details of aggregate revenue requirement for distribution function are given in Table 2.35.

Table 2.35 Distribution function ARR for FY 2006-07 (Rs Crore)

Cost Components	FY 2006-07
	Proposed
Power Purchase & UI charges	1335.29
Power Purchase–Own Generation	292.60
Transmission charges	83.91
Employee Cost	152.07
Repairs & Maintenance	19.37
A. & G Expense	25.10
Interest and Finance Charges	509.03
Depreciation charges	61.75
Bad Debts Provision	32.46
Total Expenditure	2511.58
Statutory Return	8.88
Gross Revenue requirement	2520.46
Less: Other Income	49.84
Net Revenue required	2470.62

2.30 UI receivables

2.30.1 The Board estimated sales of 400 MUs through UI at the rate of Rs. 2.87/Unit for FY 2006-07. The rate per unit has been estimated on the basis of the figures for the period April 2006 to July 2006. The Board has proposed an additional power purchase requirement for sales under UI will be met from TVNL. This energy requirement is over and above the energy sale to the consumers.

2.30.2 The Board has treated this UI receivable as a revenue component for FY 2006-07. The detail of net UI receivable for FY 2006-07 is summarized in Table 2.36.

Table 2.36 UI receivable in FY 2006-07

Description	Unit	FY 2006-07 Proposed
Units Sold	MU	400
Charge per Unit	Rs/kWh	2.87
Gross UI receivables	Rs Crore	114.85
Power purchase cost (From TVNL)	Rs/kWh	1.90
Power purchase cost (From TVNL)	Rs Crore	76.16
Net UI receivables	Rs Crore	38.69

2.31 Revenue from sale of power at existing tariff

2.31.1 The Board estimated Rs 1259.79 Crore as total revenue from sale of power (existing) for FY 2006-07. This has been estimated on the basis of proposed sales and category wise tariff approved by the Commission in the Tariff Order FY 2003-04. The details of revenue from sale of power at existing tariff for FY 2004-05, FY 2005-06 and FY 2006-07 are given in Table 2.37.

Table 2.37 Sale of power revenue at existing tariff (Rs Crore)

Category	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Rev. Estimate	Proposed
Domestic	93.65	123.22	149.73
Commercial	58.15	58.31	62.84
LT Industry	48.19	70.50	75.92
HT Industry	599.06	597.21	679.73

Railway Traction	194.15	247.25	276.07
Agriculture	2.35	6.70	7.62
Public street lighting	3.75	7.68	7.86
Total	999.3	1110.87	1259.79

2.32 Revenue gap

2.32.1 The Board estimated Rs 660.57 Crore, Rs 981.35 Crore, Rs 774.33 Crore and Rs 1162.14 Crore as the revenue gap for FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 respectively. The Board submitted that it has not received any subsidy from the government as has been considered by the Commission in the tariff order for FY 2003-04.

2.32.2 Further, the Board proposed to cover the revenue gap of Rs 1162.14 Crore for FY 2006-07 through additional revenue of Rs 220.47 Crore from the proposed tariff revision and by the creation of a Regulatory Asset of Rs 202.94 Crore. Regulatory asset formation is subject to the extent of interest on loan inherited from BSEB as part of the state bifurcation and will be recovered in future years.

2.32.3 After considering the above, the Board estimated an uncovered revenue gap of Rs 457.63 Crore, Rs 778.41 Crore, Rs 571.39 Crore and Rs 738.73 Crore for FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 respectively. The Board submitted to the Commission to consider an additional tariff increase or additional subsidy from State Government or any other mechanism, so that it could fully recover this uncovered revenue gap. The details of the revenue gap are given in Table 2.38.

Table 2.38 Revenue gap (Rs Crore)

Description	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07
	Provisional	Provisional	Rev. Estimate	Proposed
ARR	1577.98	1980.64	2278.68	2470.62
Revenue at existing Tariff	917.41	999.29	1110.88	1259.79
UI Receivable	0.00	0.00	0.00	38.69
GOJ Grant/Resource gap	0.00	0.00	393.48	10.00

funding				
Total Revenue	917.41	999.29	1504.352	1308.48
Revenue Gap/(Surplus) at existing Tariff	660.57	981.35	774.33	1162.14
Addl. Revenue at proposed Tariff	0.00	0.00	0.00	220.47
Creation of Regulatory Asset*	202.94	202.94	202.94	202.94
Uncovered Revenue Gap	457.63	778.41	571.39	738.73

*Interest on loan bifurcation from BSEB

2.33 Truing up of costs

2.33.1 The Board proposed Rs 627 Crore, Rs 737.27 Crore and Rs 590.47 Crore as the truing-up costs for FY 2003-04, FY 2004-05 and FY 2005-06 respectively. It has submitted that the truing-up of costs is based on the comparison of the costs for the previous years, as per the tariff petition for FY 2006-07 with the Commission approved costs for FY 2003-04. The details of the truing-up costs for the previous years are given in Table 2.39 and Table 2.40.

Table 2.39 Cost element (Rs Crore)

Description	FY 2003-04	FY 2003-04	FY 2004-05	FY 2005-06
	Approved	Actual	Provisional	Rev. Estimate
Power Purchase	758.48	908.07	1149.85	1281.20
Fuel	126.06	148.84	114.51	134.45
Employee	166.84	140.40	208.41	202.74
Interest and Finance charges	33.98	300.48	419.86	520.92
Total Cost	1085.36	1497.79	1892.63	2139.31
Add: Temporary Contingency	110.00	0.00	0.00	0.00
Less: Non-Tariff Income	336.04	51.47	62.03	54.90
Gross Total	859.32	1446.32	1830.6	2084.41
Government Subsidy	40.00	0.00	0.00	393.48

Table 2.40 Truing-up of costs (Rs Crore)

Description	Difference between FY 03-04 (Approved) & FY 03-04 (Actual)	Difference between FY 03-04 (Approved) & FY 04-05 (Provisional)	Difference between FY 03-04 (Approved) & FY 05-06 (Rev. Estimate)
Power Purchase	149.59	391.37	522.72
Fuel	22.78	(11.55)	8.39
Employee cost	(26.44)	41.57	35.90
Interest and Finance charges	266.50	385.88	486.94
Total Cost	412.43	807.27	1053.95
Add: Temporary Contingency	(110.00)	(110.00)	(110.00)
Less: Non-Tariff Income	(284.57)	0.00	0.00
Gross Total	587.00	697.27	943.95
Government Subsidy	40.00	40.00	(353.48)
True-Up of Costs	627.00	737.27	590.47

2.33.2 The Board proposed recovering true-up costs arising due to the difference in the interest charges for the previous years by converting increase in interest charge into Regulatory Asset. Regulatory assets will incur an interest of 12% p.a., which will be applicable till the time this amount is recovered either from consumers or from Government or through efficiency improvement in future years.

2.33.3 Further, the Board submitted that the increase in other costs including power purchase cost, employee cost etc, should be recovered from customers through an increase in tariffs or from the Government as subsidy or through an alternative mechanism. The Board has prayed to the Commission for issuance of suitable directives for recovering subsidy of Rs 40 Crore.

2.34 Tariff revision proposal for FY 2006-07

2.34.1 The Board proposed an average overall tariff hike of 17%. It proposed a reduction in the voltage rebate at 33kV level and 132 kV level from 5% and 7.5% to 3% and 5% respectively. The Board has also submitted a revision in the load factor rebate

on energy charges. The details of load factor rebate revision are given in Table 2.41.

Table 2.41 Load factor rebates for HTS, EHTS and HTSS consumers

Consumer Load Factor (On Contract Demand)	Load Factor rebate*
Up to 50%	Nil
Above 50%	For every 1% increase in LF, rebate shall be 0.5% on Energy Charges on Units consumed above Load Factor of 50%

* Load Factor to be rounded up to 2 decimal places for calculation i.e.; 59.96% Load Factor to be treated as 60% and 60.49% Load Factor to be treated as 60%.

2.34.2 In addition, the Board proposed to revise the Time of Day tariff structure for HT consumers. The details of Time of Day tariff revision are given in Table 2.42.

Table 2.42 Time of day tariff revision

Description	Revised Time of Day Tariff
Peak Hours (6-10 hours, 18-22 hours)	125% of Normal Tariff
Off-Peak hours (22hours-6hours)	75% of Normal Tariff

2.34.3 The Board proposed a new tariff slab for DS metered consumers, for consumption between 101-200 Units. For DS HT consumers, it proposed a minimum load of 45 kVA at the transformer capacity of 63kVA.

2.34.4 The Board proposed creation of 'Mixed Load–Non–Industrial' HT category as a new category consisting of mixed load from domestic and commercial premises.

2.34.5 The Board has also proposed an increase in the minimum charges in Public Street lighting category from Rs 100/100 Watt to Rs 120/100 Watt. In addition Rs 60 will be charged for each additional 50 watt.

2.34.6 In order to sort out the difficulties and to encourage authorized connection to all consumers the Board has proposed 'Tatkal Seva Scheme'. Under this scheme the Board will grant new electric connections within 7 days of application for new connection. The Board submitted that this scheme will be made applicable to new electric connections where no extension of LT line is required.

2.34.7 The details of the proposal of the Board with regards to tariff schedule and miscellaneous charges are given in Table 2.43 and Table 2.44 respectively.

Table 2.43 Existing and proposed tariff structure

Consumer Categories	Fixed/Demand Charges			Energy Charges		Minimum Charges		
	Unit	Existing	Proposed	Existing	Proposed	Unit	Existing	Proposed
				(Rs/kWh)				
NDS-I-Rural (< = 1kW) (Un-metered)(Under existing category- NDS-I – Rural (< = 2kW) (Un-metered))	Rs/kW	110.00	150.00					
NDS-I-Rural (< = 1kW) (Metered) (Under existing category- NDS-I – Rural (< = 2kW) (Metered))	Rs/Month	-	50.00	1.25	2.50			
NDS-II- (< = 4 KW) Urban (Under existing category- NDS-II-Urban (up to 75 KW) (Metered))	Rs/kW	100.00	150.00	3.60	4.25			
NDS-III (> 4 KW to 75 KW) (Under existing category- NDS-II (up to 75 kW))	Rs/kW	100.00	150.00	3.60	4.25			
Mixed Load-Non-Industrial HT (For Load >= 75 KVA)	Rs/ KVA		200.00		3.00			
Domestic								
Agriculture - IAS 1 (Un-Metered)	Rs/HP	50.00	60.00					
Agriculture - IAS 2 (Un-Metered)	Rs/HP	200.00	250.00					
Agriculture - IAS 1 (Metered)	Rs/HP	0.00	0.00	0.50	0.60			
Agriculture - IAS 2 (Metered)	Rs/HP	0.00	0.00	0.75	1.00			
LT Industry								
LTIS	Rs/HP	60.00	100.00	3.50	4.00			

Consumer Categories	Fixed/Demand Charges			Energy Charges		Minimum Charges		
	Unit	Existing	Proposed	Existing	Proposed	Unit	Existing	Proposed
				(Rs/kWh)				
HT Industry								
HTS – I	Rs/kVA	140.00	200.00	4.00	4.00	Rs/kVA	250.00	400.00
HTS – II	Rs/kVA	140.00	200.00	4.00	4.00	Rs/kVA	250.00	810.00
EHTS	Rs/kVA	140.00	200.00	4.00	4.00	Rs/kVA	400.00	810.00
HTSS (Induction Furnace)	Rs/kVA	300.00	350.00	2.50	2.50	Rs/kVA	400.00	960.00
Railway Traction								
RTS -1	Rs/kVA	140.00	200.00	4.30	4.50			
RTS –2	Rs/kVA	140.00	200.00	4.30	4.50			
Public Street Lighting								
Public Street Lighting -1 (Metered)	Rs/Conn	20.00	40.00	3.50	4.00			
Public Street Lighting -2 (Un-Metered)	Rs/100 watt	100.00	120.00	0.00	0.00			
Bulk Supply								
Rural Electric Co-op (Bulk Supply)	Rs/kVA	0.00	0.00	0.70	1.25			
Military Engg Services (Bulk Supply)	Rs/kVA	150.00	180.00	2.50	3.50			

Table 2.44 Schedule of Miscellaneous charges

S. No.	Purpose	Scale of charges	
		Existing	Proposed
1	Application fee		Rs per application
	Agriculture	10	15
	Street light	Not specified	15
	Domestic	15	20
	Commercial	15	25
	Other LT categories	20	200
	HTS	50	1000
	HTSS, EHTS, RTS	50	2000
2	Revision of estimate when a consumer intimates changes in his requirement subsequent to the preparation of service connection estimate based on his original application		Rs per application
	Agriculture	10	25
	Domestic	20	50
	Commercial	20	50
	Other LT categories	25	100
	HT Supply	70	300
3	Testing of consumers installation		
		(i) First test and inspection free of charge but should any further test and inspection be necessitated by faults in the installation or by non compliance with the conditions of supply for each extra test or inspection Rs 100	First test and inspection fee Rs 100 but should any further test and inspection be necessitated by faults in the installation or by non compliance with the conditions of supply for each extra test or inspection Rs 100
		(ii) Periodic inspection and testing per installation under Rule 46 of Indian Electricity Rules, 1956 in respect of:-	

S. No.	Purpose	Scale of charges	
		(a) Medium pressure agricultural pumps upto and including 5 kW – Rs 10	
		(b) Exceeding 5 kW but not exceeding 10 kW – Rs 50	
		(c) Exceeding 20 kW but not exceeding 50 kW – Rs 60	
		(iii) Low pressure installation up to 1 kW Rs 10 plus for every additional kW Rs 50	
		(iv) Any testing at consumer request per test Rs 40	
4	Meter test when accuracy disputed by consumer	Rs per testing	
	Single phase	30	200
	Three phase	75	500
	Trivector of special type meter	300	2000
5	Removing/ Refixing of meter	Rs. per removal/re fixation	
		Actual cost plus 15% subject to a minimum of:	
	Single phase	15	100
	Three phase	30	200
	Trivector of special type meter	150	1000
6	Changing of meter /meter equipment/fixing of sub meter on the request of the consumer/fixing of sub meter	Rs per change of meter/meter equipment/fixation of sub meter	
		Actual cost plus 15% subject to a minimum of:	
	Single phase	15	100
	Three phase	30	500
	Trivector of special type meter	150	2000

S. No.	Purpose	Scale of charges	
7	Researching of meter when seals are found broken	Rs per researching of meter	
	Single phase	15	Not specified
	Three phase	30	
	Trivector of special type meter	60	
		Rs per card	
8	Replacement of meter card, if lost or damaged by consumer	5	Not specified
9	Fuse call - Replacement	Rs	
	Board fuse due to fault of consumer	15	Rs 50 per call for Single phase and Rs 100 per call for three phase
	Consumer fuse	10	
10	Disconnection/Reconnection		
		(1) Cut outs: (a) Single phase- Rs 15 (b) Three phase – Rs 30 (2) Overhead mains: (a) Single phase- Rs 15 (b) Three phase – Rs 30 (3) Underground mains: (a) Single phase- Rs 30 (b) Three phase – Rs 60	DS Single Phase-Rs 50 Three phase- Rs 100 NDS Single Phase-Rs 200 Three phase- Rs 400 SS Single Phase or Three phase- Rs 500 IAS Single Phase-Rs 50 LTIS Single Phase-Rs 500 Three phase- Rs 1,000 HT/EHT Three phase- Rs 5,000 HTSS phase- Rs 10,000

2.35 Revenue from sale of power at existing tariff

2.35.1 The Board projected Rs 1480.25 Crore as revenue from sale of power at proposed tariff for FY 2006-07. This was estimated on the basis of sales estimated by the Board and as per the category wise tariff approved by the Commission in the Tariff Order FY 2003-04. The details of revenue from sale of power at proposed tariff for FY 2006-07 are given in Table 2.45.

Table 2.45 Revenue from sale of power at proposed tariff (Rs Crore)

Category	FY 2006-07
	Projected
Domestic	229.70
Commercial	84.22
LT Industry	109.22
HT Industry	742.69
Railway Traction	295.61
Agriculture	9.38
Public street lighting	9.43
Total	1480.25

2.36 Cost recovery: Fixed and Energy

2.36.1 The Board submitted that a major part of the total power cost (both power purchase from other sources and own generation) is variable in nature and is linked to energy generated/purchased. The other cost elements are relatively fixed in nature. The Board's fixed cost constitutes 64% of the total cost, while variable costs constitute the balance 36% of total costs. The details of cost distribution (fixed and variable cost) for FY 2006-07 are summarized in Table 2.46.

Table 2.46 Cost distribution: fixed and variable for FY 2006-2007 (Rs Crore)

Description	Fixed	Variable	Total
Fuel	—	114.33	114.33
Power Purchase	493.31	841.97	1335.28
Employee	272.88	—	272.88
R&M	55.14	—	55.14
A&G	45.03	—	45.03
Interest	564.54	—	564.54
Depreciation	97.93	—	97.93
Bad & Doubtful debts	32.46	—	32.46
Reasonable return	16.75	—	16.75
Less: Non-Tariff Income	—	63.73	63.73
ARR	1578.04	892.57	2470.62
ARR (% Composition)	63.87%	36.13%	100%

2.36.2 The Board proposed that 34% of revenue recovery would be from fixed charge collection for FY 2006-07, while remaining 66% will be through energy charges. The details of cost and revenue recovery for FY 2006-07 are summarized in Table 2.47.

Table 2.47 Cost and revenue recovery: fixed and variable (Rs Crore)

Description	Fixed	Variable	Total
Overall costs	64%	36%	100%
Overall Revenue	34%	66%	100%
Domestic	36%	64%	100%
Commercial	27%	73%	100%
LT Industry	56%	44%	100%
HT Industry	30%	70%	100%
Agriculture	100%	0%	100%
Railway Traction	27%	73%	100%

