

Section 2

ARR and Tariff proposal submitted by the JSEB

The petition filed by the Board for approval of its Annual Revenue Requirement (ARR) and tariff for FY 2003-04 has been summarized in this section. The Commission holds that despite repeated requests and reminders, the Board did not provide significant basis and assumptions for the proposed ARR and tariff.

2.1 Demand forecast for the year 2003-04

2.1.1. The Board has proposed an increase of 27.5% in the sales for FY 2003-04. It has justified this proposed increase on account of the proposed investments for cent percent metering and augmentation of Transmission and Distribution (T&D) network under the centrally sponsored APDRP scheme. Through this, the Board is expecting a reduction in T&D losses and subsequently an increase in billed consumption. Besides, the Board in the petition has also mentioned that they are undertaking a program of electrifying 5000 villages through grants from the State Government and loans from the Power Finance Corporation.

2.1.2. The Board has a favorable sales mix due to high consumption of electricity by the industry (LT and HT) along with Railway Traction. As per the estimates of FY 2002-03, these categories have consumed 70% of the entire sales in the JSEB's system. The growth rate and sales mix for FY 2002-03 are tabulated below.

Table 2.1: Consumer category-wise sales (MU) for the FY 2002-03

Category	2001-2002	2002-2003	Growth rate (2002-03)	Sales mix(2002-03)
Domestic	494.67	544.14	10%	21%
Commercial	125.70	138.27	10%	5%
LT Industry	176.53	194.18	10%	8%
HT Industry	1153.57	1268.93	10%	50%
Public lighting	30.00	33.00	10%	1%
Railway Traction	305.17	335.68	10%	13%
Irrigation (Pvt.)	34.09	37.50	10%	1%
Irrigation (State)	7.84	8.63	10%	0.34%

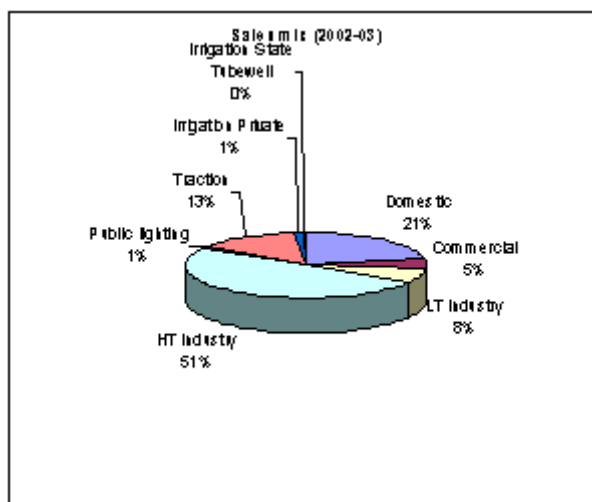


Fig.2.1: Sales mix for FY 2002-03

2.1.3. For FY2003-04, the Board has estimated to sell 3165 MUs and has proposed an increase of 27.5% in sales across all the categories. The Board has not provided any justifiable rationale for the proposed increase in the various categories. Especially, no rationale for unmetered domestic and commercial has been provided. The proposed category-wise sales for FY 2003-04 have been provided in table 2.2.

Table 2.2: Proposed category wise sales for FY 2003-04

Category	MU
Domestic	669
Commercial	172
LT Industry	188
HT Industry	1608
Public lighting	43
Railway Traction	429
Irrigation (Private)	43
Irrigation (State)	13
TOTAL	3164

2.2 Transmission & Distribution losses (T&D losses)

2.2.1. T&D loss of 47.66% has been estimated by the JSEB for FY 2002-03. According to the Board, such a high incidence of losses is due to supply at lower voltages to majority of the consumers resulting into very high level of technical losses. Besides, pilferage of power is rampant in the state adding to the distribution losses.

2.2.2. The Board has not undertaken any study to estimate the exact level of technical and non-technical losses, and the level proposed has been derived from the energy input and the energy sales. Further, the Board has set a target of about 10% reduction in these losses thereby estimating its energy input for the FY 2003-04 based on a T&D loss level of 38%. The Board did not provide any supportive plan or strategy to achieve this reduction, except that it is undertaking steps to meter the entire consumption of electricity in the state.

2.3 Generation and Fuel Cost

2.3.1. The Board has an installed capacity of 970 MW comprising of 840 MW of thermal - Patratu Thermal

Power Station (PTPS), and 130 MW of Hydel generation -Sikidiri Hydel Power Station (SHPS). The first unit of PTPS was commissioned in 1966 and presently the plant has ten units viz. four of 50MW each, two of 100 MW each, and four of 110 MW each. The Board has estimated de-rated capacity of the entire plant at 585 MW. Further, the average Plant Load Factor (PLF) of PTPS as estimated by the JSEB is approximately 26%, and auxiliary consumption 19% annually.

2.3.2. The Board has proposed a gross generation of 1338 MU for the FY 2003-04, which is inclusive of PTPS as well as SHPS generation. In the SHP station, the Board is expecting sufficient water level to generate at the level attained in the previous year. The net generation as proposed by the Board is 1100 MU.

2.3.3. The Board has proposed a fuel cost of Rs.1.42 per unit for the PTP station. The fuel cost has been projected on the basis of average cost incurred during the previous year, i.e., FY 2002-03. The following details have been submitted by the Board for FY 2002-03

Table 2.3: Details of fuel cost for FY 2002-03

Primary Fuel	Coal
Generation (MU)	1252
Consumption Rate (kg/unit)	0.955
Consumption - Quantity (Metric Tonne)	1201636
Average Fuel Price (Rs/kWh)	1.42
Fuel Cost (Rs. Crore)	143.53

2.4 Fuel and Power Purchase Cost Adjustment (FPPCA) formula

2.4.1. The Board has proposed that any variation in fuel price should be adjusted through a Fuel and Power Purchase Cost Adjustment (FPPCA) formula. The Board however has not submitted a formula in this regard and has maintained that it would calculate the actual rate on the basis of actual purchase and generation cost at the end of each year. The overall cost of generation has been projected to remain the same as was incurred during the previous year.

2.5 Power purchase

2.5.1. The Board has projected a growth of 10% in power purchase during the FY 2003-04. The increase of 10% has been based on the trend in power purchase witnessed during March-August 2003. Further, the trend over the last two years is given in the table 2.4 below.

Table 2.4: Trend in power purchase

Year	Power Purchase Quantity (MU)	Percentage Increase
2001-2002	3184	-
2002-2003	3631	14%
2003-2004	3994	10%

2.5.2. The cost associated with power purchase has been estimated taking into account the average cost

incurred during the previous year. Table 2.5 gives the data submitted by the Board for FY 2002-03.

Table 2.5: Power purchase cost for FY 2002-03

Source	Purchase (MU)	Average cost (Rs./kWh)	Total Cost (Rs Crore)
NTPC	634.45	2.00	126.71
NHPC	20.92	2.11	4.41
DVC	1774.02	2.64	467.61
PGCIL	26.53	2.21	5.88
TVNL	1153.59	1.87	215.76
Others	21.09	3.59	7.56
Total	3630.6	2.28	827.93

2.5.3. The total cost of power purchase for FY 2003-04 is expected to increase by 13% to Rs.938 Crore.

2.6 Employee Cost

2.6.1. Though the JSEB in the petition has proposed that the employee cost will increase by 23.5%, the component wise break up figures show an increase of 48%. The Board, however, did not provide sufficient reasons and justification for this hike.

2.6.2. Of the Rs.237 Crore proposed as an employee cost for FY 2003-04, a provision of Rs. 52 Crore has been made towards pay and pension revision arrear alone. It is to be noted that there had been provision made on this account during the previous year.

2.6.3. With regard to other components, contributions to the employee welfare fund and Leave Travel Assistance have shown a steep rise over FY 2002-03. The employee cost of the Board also includes cost of free supply of electricity. The year-to-year growth in this regard is tabulated as below:

Table 2.6: Details of employee cost (Rs. Crore)

Details of Employee cost (Rs.Crore)			
Cost Component	Provisional	Projected	Growth rate
	2002-03	2003-04	
Pay of officer	15.10	17.09	13%
Pay of workmen	57.65	61.11	6%
DA (Officers)	7.87	10.27	30%
DA (Workmen)	29.98	36.67	22%
Salary	72.75	78.02	7%
DA	37.85	47.81	26%
Interim Relief	0.10	0.11	12%
Compensatory Allowance	0.63	0.68	9%
Special Pay	0.06	0.06	7%
Medical Allowance (Fixed)	0.29	0.30	3%
House Rent Allowance	3.58	3.94	10%
Conveyance Allowance	0.33	0.36	8%
Emergency Allowance	0.14	0.16	9%
Free Electricity	0.52	0.59	14%
Cash Handling / Steno Typist Allowance	0.01	0.02	11%

Overtime	2.55	2.82	10%
Bonus	1.71	1.86	9%
Medical Reimbursement	0.81	1.11	36%
Leave Travel Assistance	0.30	0.44	46%
Leave Encashment	3.91	4.84	24%
Payment under workmen compensation / Group Insurance	0.91	1.24	37%
Social Welfare Expenses	0.10	0.11	8%
Univorm & Liveries	0.47	0.65	38%
Group Saving Scheme	1.31	1.77	35%
Contribution to Provident Fund	0.51	0.54	6%
Gratuity	8.41	10.88	29%
Pension	22.11	25.55	16%
Honararium / Ex. Gratia	0.04	0.06	33%
Funeral	0.01	0.02	21%
Provident Fund Compensation Charges	0.11	0.12	5%
Cont. to Officer Welfare Fund	0.18	0.30	65%
Other, if any (With Details)	0.30	0.36	16%
Group Insurance Premium	0.01	0.01	31%
Pay Revision Arrear	0.00	41.36	-
Pension Revision Arrear	0.00	11.17	-
Medical Expenses	0.08	0.08	9%
Total	160.11	237.31	48%

2.6 Repair and Maintenance expenses

2.6.1. The JSEB has estimated Rs. 48 Crore as Repair and Maintenance expenses for FY 2003-04. This represents an increase of approximately 12% as compared to FY 2002-03. The expenses with regard to each sub-component under this head have been revised upwardly with few of them increasing steeply. According to the Board, this level of expenditure is essential to ensure maintenance of quality of supply to the consumers.

2.7 Administration & General (A&G) expenses

2.7.1. The A&G expenses have been estimated at Rs. 36 Crore for FY 2003-04 as compared to Rs. 29 Crore in FY 2002-03, i.e., representing an increase of 23%. Of the total expenses proposed, the expenses on consultancy charges, and, Books & Periodicals have shown a sharp increase, with books and periodicals expenses increasing by approximately 191% over FY 2002-03.

2.8 Interest and finance charges

2.8.1. The Board has projected Rs. 152 Crores, as interest and finance charges for FY 2003-04. This represents an increase of 10% as compared to FY 2002-03. This level has been proposed considering the existing as well as the proposed borrowings. The Board also submitted that the liabilities in this regard might change in future depending upon the final bifurcation of loan portfolio between the Bihar State Electricity Board (BSEB) and the JSEB.

2.8.2. A brief summary of the issue regarding the pending settlement of accounts between these two Boards is as follows:

Division of assets and liabilities between the BSEB and the JSEB: the status quo

The JSEB came into existence on March 16, 2001 post bifurcation of the erstwhile state of Bihar. The process of identification and transfer of assets and liabilities from the BSEB is still in progress and has not been finalized yet. Meanwhile, the Ministry of Power, in pursuance of the provisions of Section 64(4) of the Bihar Re-organisation Act 2003, has issued a provisional order for allocation of assets, liabilities, etc. There has been no dispute regarding allocation of assets, of which, fixed assets situated in the respective State would be pass on to the respective SEBs as had been agreed between both the States. However, allocation of liabilities and employees on the basis of consumption of power in the ratio of 54:46 between the BSEB and the JSEB has not been accepted by the Government of Jharkhand and the JSEB. The disagreement in this regard has already been communicated to the Ministry of Power. The Government of Jharkhand has claimed for distribution of liabilities between the BSEB and the JSEB on population basis in the ratio of 75:25 as in other two new states. It is on this basis that the Board has worked out its liabilities and interest charges.

2.9 Depreciation

2.9.1. The JSEB estimated depreciation to the tune of Rs. 73 Crore for FY 2003-04 on the basis of straight-line method. The Board submitted that the liability in this regard might as well change depending upon the final settlement of accounts between the two Boards. This however, represents an increase of over 6% from the previous year's level.

2.10 Provision for Bad and Doubtful debts

2.10.1. The JSEB has provided for a sum of Rs.186 Crore towards Bad & doubtful debts in the ARR for 2003-04. This has been considered on the basis of 10% of the total dues net of Government sector dues.

2.11 Capital expenditure proposed by the Board

2.11.1. The Board has projected a total of Rs.1047 Crores as expenditure on capital works during FY 2003-04. This is to be funded by way of borrowings to the extent of Rs.631 Crores, Government grants of Rs.408 Crores and internal resources of Rs.13 Crores. The Board has submitted the following break up in this regard.

Table 2.7: Break up of capital expenditure

S.No.	Capital work	Amount (Rs.Crore)
1	Generation	152
2	Transmission	150
3	Distribution	358
4	APDRP	187
5	RE	129
6	Kutir Jyoti	3
7	PMGY	44
8	MNP	22
	Total	1045

2.11.2. The Board did not provide any details on the capitalization of works in progress.

2.12 Total revenue expenditure proposed by the Board

2.12.1 The break up of the total revenue expenditure proposed by the Board is tabulated as below:

Table 2.8: Total revenue expenditure (Proposed)

S.No.	Item of expenditure	Rs.Crore
1	Power Purchase	938.6
2	Generation Cost	162.21
3	Repairs & Maintenance	48.57
4	Employees Cost	237.31
5	Adm. Cost	36.67
6	Depreciation	72.98
7	Interest and Finance Charges	152.41
8	Bad Debts Provisions	186.08
	Total Expenditure	1834.83

2.13 Net Block of assets & Rate of Return

2.13.1 The Board has proposed a return of Rs. 13.82 Crores, which is based on the statutory Rate of Return of 3%, on a net block of Rs. 460 Crores.

2.14 Non Tariff Income

2.14.1 The Board has proposed Rs. 321.83 Crores as non-tariff income for FY 2003-04. This includes income from meter rent, transformer rent, delayed payment surcharge and miscellaneous income. Non-tariff income for FY 2002-03 as estimated by the Board is Rs. 301.36 Crore. The Board has thus proposed an increase of 7% in non-tariff income in FY 2003-04 as compared to FY 2002-03.

2.15 Aggregate Revenue Requirement & Revenue Gap

2.15.1 From the foregoing description, the net ARR of the Board is estimated at Rs.1526.81 Crore and average cost of supply at Rs.4.82 per Kwh.

Table 2.9: Aggregate Revenue Requirement & Revenue Gap

	Rs.Crore
Total Expenditure	1834.83
Statutory Return	13.82
Gross Revenue Required	1848.65
Less Miscellaneous Receipts	321.83
Annual Revenue Requirement	1526.82
Average Cost of Supply (Rs/Kwh)	4.82

2.15.2 The expected revenue from sale is estimated at Rs. 1219 Crores, thereby leading to a revenue gap of Rs. 307 Crores.

Table 2.10: Proposed revenue gap for FY 2003-04

Details	
Annual Revenue Requirement(Rs. Crore)	1526.82
Revenue from sale of power at Existing tariff (Rs. Crore)	1219.03

Revenue gap (Rs. Crore)	307.78
Increase projected over the existing tariff (%)	25

2.16 Existing and proposed tariff

2.16.1 A comparison of the existing and the proposed tariff structure of the JSEB, as per the JSEB's compilation, is given in the table below. The applicability is as per the proposed tariff schedule.

Table 2.11: Comparison of existing and proposed tariff

Category	Sub-Category	Applicability	Particulars	Tariff Rate		
				Existing	Proposed	
Domestic	D.S. - I	1 Phase 230 Volt for Kuteer Jyoti	Miscellaneous Charge	Rs. 27/Month/connection	Rs. 25/Month/connection	
			Energy Charges	Nil	Nil	
	D.S. - II	1 Phase 230 Volt for Rural Area upto 1 KW Load	Miscellaneous Charge	Rs. 27/Month	Rs. 100/Month	
			Energy Charges	Nil	Nil	
	D.S. - III	1 Phase 230 Volt for Non Rural Area upto 1 KW Load	Miscellaneous Charge	Rs. 8/Month	Rs. 27/Month	
			Energy Charges	0-200 Unit - 123P/Unit 200-300 Unit - 141P/Unit Above 300 Units- 160P/ Unit	0-200 Unit - 200P/Unit 200-400 Units - 225P/Unit Above 400 Units- 250P/ Unit	
			Minimum Monthly Charge	Rs 40/month for load upto 1 kw and Rs 25/kw for additional kw or part thereof	60 Units/Month	
			D.S.-IV	3 Phase 400 Volt above 4 KW Load upto 75KW	Miscellaneous Charge	Rs. 24/Month
	DSHT	3 Phase, 11 KV, Above 75 KW	Energy Charges	0-200 Unit-123P/Unit 200-300 Unit- 141P/Unit Above 300 Unir- 160/Unit	0-400 Unit- 250P/Unit Above 400 Units-285P/Unit	
			Minimum Monthly Charge	Rs 40/month for load upto 1 kw and Rs 25/kw for additional kw or part thereof	80 Units/Month	
			Demand Charges	NA	Rs. 90/KVA	
	Commercial/Non-Domestic	NDS-I	1 Phase 230 Volt for Rural Area up to 1 KW Load	Energy Charges	NA	Rs. 1.80/KW
				Minimum Charges	NA	80 Units/KVA
		NDS-II	1 Phase 230 Volt for Non Rural Area up to 4 KW Load	Miscellaneous Charge	Rs. 60/KW/Month	Rs. 150/KW/Month
Energy Charges				Nil	Nil	
Miscellaneous Charge				Rs. 100KW/Month	Rs. 150/KW/Month	
Energy Charges				0-150 Units- 376 P/Unit Above 150 units-404	0-150 Unit 410P/Unit Above 150 Units-440 P/Unit	

				P/Unit	
			Minimum monthly Charges	50 Unit/KW/Month	60 Unit/KW/Month
	NDS-III	3 Phase 400 Volt for Non Rural Area exceeding 4 KW upto 75 KW	Miscellaneous Charge	Rs.120KW/Month	Rs. 150/KW/Month
			Energy Charges 95	0-150 Unit- 376P/Unit Above 150 Units -404 P/Unit	0-400 Units- 420P/Unit Above 400 Units- 460P/Unit
			Minimum monthly Charges	50 Unit/KW/Month	100 Unit/KW/Month
Low Tension Industrial Services (LITS)	LTIS-I	1 Phase 230 Volt or 3 Phase 400 Volt upto 25 HP Load	Miscellaneous Charge	Rs. 60/HP/Month	Rs. 100/HP/Unit
			Energy Charge	355P/Unit	390P/Unit
			Minimum monthly Charge	70 Unit/HP/Month	70 Unit/HP/Month
	LTIS-II	3 Phase 400 Volt above 25 HP and upto 79 HP	Miscellaneous Charge	Rs. 80/HP/Unit	Rs. 120/HP/Month
			Energy Charge	374P/Unit	410P/Unit
			Minimum monthly Charge	70 Unit/HP/Month	120 Unit/HP/Month
	LTIS-III	3 Phase 400 Volt above 79 HP and upto 79 HP	Miscellaneous Charge	NA	Rs.180/HP/Month
			Energy Charge	NA	420P/Unit
			Minimum monthly Charge	NA	130 Unit/HP/Month
	LTIS-IV	3 Phase 400 Volt upto 107 HP for Public Water, Works & Sewerage of State Govt.	Miscellaneous Charge	NA	Rs.180/HP/Month
			Energy Charge	NA	420P/Unit
			Minimum monthly Charge	NA	120 Unit/HP/Month
Irrigation and Agriculture	IAS-I		Miscellaneous Charge	Nil	Nil
			Energy Charge	Rs.30/HP/Month	Rs.50/HP/Month upto 5 HP Rs.70/HP/Month above 5HP
	IAS-II		Miscellaneous Charge	Nil	Nil
			Energy Charge	Rs. 120/HP/Month	Rs.290/HP/Month
High Tension Service (HTS) Extra HTS	HTS-I	11 KV Above 100 KVA	Demand Charges	Rs. 125/KVA/Month	Rs. 200/KVA/Month
			Energy Charges	Rs.4.22/Unit	Rs.4.40/Unit
	HTS-II	33 KV FROM 1000 KVA and upto 10 MVA	Demand Charges	Rs. 115/KVA/Month	Rs. 200/KVA/Month
			Energy Charges	Rs. 4.16/Unit	Rs. 4.30/Unit
	HTS-III	132 KV Minimum Contract Demand of 7.5 MVA	Demand Charges	Rs. 110/KVA/Month	Rs. 200/KVA/Month
			Energy Charges	Rs.4.13/Unit	Rs.4.15/Unit
High Tension Special Services	HTSS	As per Clause of HTS-I HTS-II &	Demand Charges	Rs. 700/KVA/Month	Rs.750/KVA/Month
			Energy Charges	Rs. 1.20/Unit	Rs. 1.25/Unit

For Induction Furnace (HTS)		HTS-III	Minimum Monthly Charge	Rs. 1050/KVA/Month	Rs. 1075/KVA/Month
Railway Traction Service (RTS)	RTS-I	Single phase at 25 KV	Demand Charges	Rs. 140/KVA/Month	Rs. 200/KVA/Month
			Energy Charges	Rs.4.44/Unit	Rs.4.45/Unit
	RTS-II	Single phase at 132 KV	Demand Charges	Rs. 140/KVA/Month	Rs. 200/KVA/Month

2.17 Tariff setting by the Board

The Board has proposed to recover the revenue required through fixed charge, demand charge, energy charge and minimum charge. The major changes as proposed by the Board in the tariff structure are discussed below:

- 1) A sub-category of Kutir Jyoti has been created within the domestic category for consumers with very low consumption level.
- 2) H.T. Domestic Category has been proposed for housing complexes and Housing Colonies so that they can avail bulk power for domestic use at High Tension at rates below the normal Domestic Category.
- 3) The applicability of LT industrial category has been changed from a maximum load of 80 HP to 107 HP.
- 4) Two new sub categories have been created in the LT-Industry category. This includes a separate sub category for public water works, sewage treatment plants, and sewage pumping stations functioning under the State Government and Government undertaking; and a sub category for consumers with load greater than 79 HP and upto 107 HP.
- 5) For all H.T. Consumers an option has been provided to avail power supply at TOD (Time of the day) tariff under which they may avail power in off-peak periods at a rate 75% of the normal tariff and at 125% of normal rates during peak hours.
- 6) The Board has proposed that the revised tariff schedule be made applicable from 1st April 2003 to 31st March 2005.