

Tariff order for Tata Steel for FY 2005-06

Jharkhand State Electricity Regulatory Commission (JSERC)

SECTION 4: ANALYSIS OF AGGREGATE REVENUE REQUIREMENT

4.1 Energy accounting by the petitioner

- 4.1.1 There are two sources from where the petitioner procures power - Damodar Valley Corporation (DVC) and Tata Power Corporation Ltd. (TPCL). The petitioner has entered into power purchase agreements with both these power producers. It has contracted 85 MVA of capacity from DVC with minimum guaranteed charges payable at demand charge applicable to 75% of the contract demand. With TPCL, it has entered into a power purchase agreement of up to 500 MW capacity, of which 240 MW is fully operational. Besides 240 MW, TPCL also owns and maintains a 67.5 MW unit, which supplies directly to the Steel Works of Tata Steel. In other words, the petitioner purchases/ pools power from 240 MW of TPCL and 85 MVA of DVC. It maintains that the 67.5 MW unit of TPCL is a third-party captive plant, which has no effect on the pooled power. Its response in this regard is as follows:

“With the growth of electric demand in steel works, 67.5 MW captive power plant was conceived inside the steel works premises. The permission was granted for the same and subsequently the location of the power plant was changed to Jojobera through permission from the Government of Bihar, copy already submitted to the Commission. The plant was constructed and commissioned by Tata Steel as a SPV Jamshedpur Power Company Limited. It was then transferred to M/s TPCL, against a consideration of Rs 300 crores and was amalgamated into TPCL. However the equity part of Rs 100 crores (considering the debt-equity ratio of 67:33) was retained by Tata Steel. The same has been shown in the published accounts of Tata Steel. It may be noted that entire charges and all the usage is being done by Tata Steel works only. It may please be noted that Third Party Captive Stations was also allowed. The other two units of 2X120 MW were permitted and commissioned as IPP’s and is being used for supplying power to other consumers. Another factor which may be

considered is that being smaller unit the efficiencies of 67.5 MW unit are lower. If we consider the present norms, Rs 100 crores equity is more than 26% of the total equity of the Jojobera unit of M/s TPCL.”.

- 4.1.2 The power pooled from 240 MW of TPCL and 85 MVA of DVC caters to the additional demand of Steel works and to the township, which includes industrial, commercial and domestic consumers; and other utility services such as street lights. The entire pooled power is routed through Golmuri sub-station, which supplies power to the Steel works at 132 kV while to the township at different voltage levels including 33 kV and 6.6 kV. In the proposed revenue requirement for FY 2005-06, the petitioner has excluded the cost of power purchase for the Steel works and has projected the revenue requirement only for the township consumption. The petitioner maintains that the distribution system in Jamshedpur has evolved in a manner where the township grew along the Steel plant, and currently 350 to 400 MU are being wheeled through 17 feeders coming out of Steel works. However, no consideration is being paid to the Steel works for wheeling and handling this power. Besides, the petitioner leverages upon other functions such as human resources, purchase, and stores etc. of the Steel works to manage its distribution business efficiently; and is allocating the costs on pro-rata basis on the distribution supply business. Notwithstanding, the petitioner has proposed to develop a roadmap for de-linking the distribution system from the Steel works to the extent it is economically viable.

The Commission takes cognizance of the existing distribution supply mechanism in Jamshedpur, and maintains that Steel works has to be treated like any other industrial consumer category, and its tariff has to be determined in line with the prevailing regulations as long as it continues to draw power from distribution licensee. Even the petitioner has acceded to treat Steel works as a separate consumer.^[1] In this context, the Commission brings to the notice of the petitioner Section 51^[2] of the Act that provides for other businesses of distribution licensees. As per provisions under this section, a distribution licensee has to maintain separate accounts for each business so as to ensure that the power supply business does not subsidises or burdens its distribution assets to support other business activities of the licensee. However, in the absence of complete information and of separate audited accounts of Power Business Division, the Commission is constrained to review the nature of transaction between the PBD and the Steel works business of the petitioner and hence, to treat Steel Works as a consumer for FY 2005-06. The audited annual accounts of Tata Steel for FY 2004-05 reveal an aggregate cost of power purchase.

^[1] Quote - With the enactment of Electricity Act, 2003 we agree that Steel works will have to be considered as a consumer for its electricity needs over and above captive sources – Unquote vide letter no. PBD/461/59/05 dated September 6, 2005.

^[2] Section 51 of the Electricity Act, 2003 – “Other businesses of distribution licensees – A distribution licensee may, with prior intimation to the Appropriate Commission, engage in any other business for optimum utilisation of its assets:

Provided that a proportion of the revenues derived from such business shall, as may be specified by the concerned State Commission, be utilised for reducing its charges for wheeling:

Provided further that the distribution licensee shall maintain separate accounts for each such business undertaking to ensure that distribution business neither subsidises in any way such business undertaking nor encumbers its distribution assets in any way to support such business.

Provided also that nothing contained in this section shall apply to a local authority engaged, before the commencement of this Act, in the business of distribution of electricity.”

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without demarcating the power purchased from the petitioner. Though the petitioner maintains that relevant costs are being apportioned to the Steel works appropriately and no undue costs are being imposed on the township consumption, it has not been able to provide any substantiated data on the same. As this is the first tariff petition filed by the utility, the Commission has reviewed the same considering the proposed arrangement of distribution system, which is providing a reliable quality of supply and service, and the Commission would not like to disrupt it in the absence of complete information. **However, the Commission directs the petitioner to separate the accounts of its Power Business Division from any other Business including Steel Works within six months from the date of issue of this order. This shall take note of the energy supplied to Steel works as well. Also, the petitioner shall undertake proper assessment of the Steel works’ resources being utilised for supplying power to the township, especially the distribution network for determination of appropriate wheeling charges. The petitioner shall also make appropriate arrangements to treat Steel Works as a consumer and propose a corresponding tariff for the same within six months of the issue of this order. All the above-mentioned information shall be submitted to the Commission for its consideration.**

4.2 Energy sales

4.2.1 The petitioner has estimated energy sales for FY 2005-06 at two levels:

- (i) Consumption by Steel works
- (ii) Jamshedpur township consumption

4.2.2 The petitioner has proposed an increase of 46% in consumption by Steel works from 479 MU in FY2004-05 to 700 MU in FY 2005-06. This is on account of the one million tonne capacity planned to be added by the Steel works. As regards township consumption, based on continuous growth witnessed in electricity consumption in the last few years, the petitioner has proposed an overall increase of 7.55% with over 10% increase proposed in domestic and industrial customers. The petitioner has prepared a short-term demand

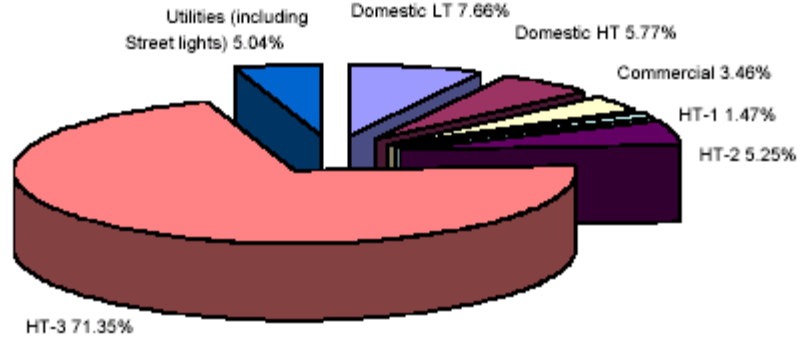
forecast for the Jamshedpur township consumption, which shows a compounded annual growth rate (CAGR) of 6.22% during FY 2004-05 to FY 2008-09. For FY 2005-06, the petitioner has proposed an increase of 7.55% with category wise growth projected, as depicted in Table 4.1.

Table 4.1: Sales projections by the petitioner for FY 2005-06

S.No.	Consumer category	FY 2004-05	FY 2005-06	Growth rate
		(MU)	(MU)	(%)
1	Domestic LT	66.00	73.00	10.61%
2	Domestic HT	50.60	55.00	8.70%
3	Street Light	5.00	6.00	20.00%
4	Commercial	31.50	33.00	4.76%
5	HT-Industry			
(i)	HT-1	12.00	14.00	16.67%
(ii)	HT-2	45.00	50.00	11.11%
(iii)	HT-3	636.00	680.00	6.92%
6	Utilities	40.00	42.00	5.00%
	Total	886.10	953.00	7.55%

4.2.3 The Commission had asked for past data on township consumption in order to undertake the trend analysis in electricity demand. However, this was not available, as the petitioner had started maintaining data sets pertaining to the township consumption only recently. The Commission has discussed the approach followed for the foregoing sales projections with the petitioner, and has also reviewed the consumption levels actually recorded till November' 2005. The trend in category wise actual levels till November' 2005 is similar to the consumption mix proposed by the petitioner with month-wise actual consumption varying marginally to the month-wise projections stated in the petition.

4.2.4 In order to estimate sales for the entire FY 2005-06, the Commission has calculated the ratio of total sales between April-November of FY 2004-05 to that between December-March of FY 2004-05, and has applied this ratio on the actual consumption during April-November of FY 2005-06 to determine sales for the remaining period i.e. December-March FY 2005-06. The total consumption so estimated for FY 2005-06 has further been broken in accordance with the consumption mix proposed for FY 2005-06, which is shown in Figure 4.1.



4.2.5 Against the foregoing approach, the category wise consumption, as estimated by the Commission for FY 2005-06 is shown in Table 4.2.

Table 4.2: Category-wise consumption approved for FY 2005-06

S.No.	Consumer category	Approved (MU)
		FY 2005-06
1	Domestic LT	72.47
2	Domestic HT	54.60
3	Commercial	32.76
4	HT-Industry	
(i)	HT-1	13.90
(ii)	HT-2	49.63
(iii)	HT-3	675.02
5	Utilities (including street lights)	47.65
	Total	946.03

4.2.6 The Commission has considered 700 MU of pooled energy to be consumed by the Steel works during FY 2005-06, as proposed by the petitioner.

4.3 Transmission and Distribution losses (T&D losses)

- 4.3.1 The petitioner has estimated Transmission and Distribution losses (T&D losses) of 11.7% for the FY 2004-05. The petitioner had purchased a total of 1490 MU during FY 2004-05, of which it incurred a transmission loss of 13 MU till Golmuri sub-station from where the power is distributed to the Steel works and the township consumers. This transmission loss has been segregated into Steel works and township consumption on pro-rata basis considering their consumption levels. Excluding the consumption and the allocated transmission loss of Steel works, the energy input for township consumption comes out to be 1006 MU for FY 2004-05. The total amount of billed energy being 888 MU, the T&D loss estimated for township consumption is 11.71% for FY 2004-05. The T&D loss, as per the approach followed by the petitioner for its estimation is shown in Table 4.3.

Table 4.3: T&D loss estimated by the petitioner for FY 2004-05

S.No.	Description	Unit	FY 2004-05
1	Energy input	MU	1490.00
2	Transmission loss	MU	13.00
3	Energy input for distribution	MU	1477.00
4	Consumption by Steel works	MU	479.00
5	Township consumption	MU	888.00
6	Energy input (township consumption)	MU	1005.75
7	Distribution loss (township consumption)	MU	110.00
8	T&D loss (township consumption)	MU	117.75
9	T&D loss (township consumption)	%	11.71%

- 4.3.2 Further, the petitioner has proposed a reduction of 0.30% during the FY 2005-06 to bring down the total energy losses at 11.41%. Taking into account this loss level and the estimated sales of 953 MU, the energy requirement proposed by the petitioner for meeting the township consumption is 1075.8 MU for FY 2005-06. The T&D loss for FY 2005-06, as proposed by the petitioner is given in Table 4.4.

Table 4.4: T&D loss proposed by the petitioner for FY 2005-06

S.No.	Description	Unit	FY 2005-06
1	Energy input	MU	1783.00
2	Transmission loss	MU	14.00
3	Energy input for distribution	MU	1769.00
4	Consumption by Steel works	MU	700.00
5	Township consumption	MU	953.00

6	Energy input (township consumption)	MU	1076.48
7	Distribution loss (township consumption)	MU	115.32
8	T&D loss (township consumption)	MU	122.80
9	T&D loss (township consumption)	%	11.41%

4.3.3 The petitioner maintains that the non-technical losses are restricted to LT domestic and commercial categories, and the industrial segment is free from this problem. Further, the petitioner is keeping a strict vigil on pilferage, and is undertaking several measures to eliminate these losses including replacement of electro-mechanical meters with modern electronic meters.

4.3.4 Though the month-wise T&D losses proposed by the petitioner for FY 2005-06 vary between 11.39 – 11.65%, the actual losses during April-November for the same period range between 10.64 – 11.43%, indicating lower level of losses than the proposed ones. The comparison between the proposed and actual levels is shown in Table 4.5.

Table 4.5: Comparison between the proposed and actual T&D losses for FY 2005-06

	Proposed in the petition	Actual level	Deviation from the proposed level
FY 2005-06	(%)	(%)	(%)
April	11.65	11.20	0.45
May	11.58	11.07	0.51
June	11.65	10.65	1.00
July	11.57	11.12	0.45
August	11.57	11.43	0.14
September	11.62	11.23	0.39
October	11.57	11.31	0.26
November	11.59	10.64	0.95
December	11.54	-	-
January	11.46	-	-
February	11.60	-	-
March	11.39	-	-

4.3.5 It is clear from the foregoing table that on an average, there has been a reduction of 0.52% from the proposed level during April-November FY 2005-06 indicating better performance on part of the petitioner.

The Commission assumes that the petitioner would pursue its loss reduction strategies in future as well, and would be able to overachieve its proposed reduction target of 0.30%. Accordingly, the Commission has considered an extra reduction of 0.52% in the proposed level of losses for subsequent months (December-March FY 2005-06). The trajectory so considered by the Commission for FY 2005-06 is shown in Table 4.6.

Table 4.6: T&D losses considered by the Commission for FY 2005-06

	Proposed in the petition	Actual/ Commission's estimate
FY 2005-06	(%)	(%)
April	11.65	11.20
May	11.58	11.07
June	11.65	10.65
July	11.57	11.12
August	11.57	11.43
September	11.62	11.23
October	11.57	11.31
November	11.59	10.64
December	11.54	11.02
January	11.46	10.94
February	11.60	11.08
March	11.39	10.88

4.3.6 For estimating the energy requirement, the Commission has considered the average of month-wise losses, as per its approved levels in the above table. The T&D losses thus estimated for FY 2005-06 are 11.05%.

4.4 Energy Requirement

4.4.1 The petitioner has proposed a total energy requirement of 1783 MU for FY 2005-06. The total amount of transmission loss assumed by the petitioner is 14 MU, which has been divided between the township consumption and the Steel works' consumption on pro-rata basis. The T&D loss level proposed for township consumption, as aforementioned, is 11.41%. The estimates in this regard, as proposed by the petitioner are shown in Table 4.7.

Table 4.7: Petitioner's estimate of energy requirement for FY 2005-06

Description	Unit	FY 2005-06

Township consumption	MU	953.00
Steel works consumption	MU	700.00
T&D loss	%	11.41%
Total Energy requirement	MU	1783.00

4.4.2 Considering sales of 946.03 MU and T&D loss level of 11.05%, the energy requirement estimated by the Commission for township consumption during FY 2005-06 is 1063.52 MU. The energy requirement for Steel works is estimated at 705.86 MU considering sales of 700 MU and transmission loss of 0.83%. Accordingly, the total energy requirement combining township and Steel works is estimated at 1769.38 MU. This is also shown in Table 4.8.

Table 4.8: Commission's estimate of energy requirement for FY 2005-06

Description	Unit	FY 2005-06
Township consumption	MU	946.03
T&D loss	%	11.05%
Energy requirement for township	MU	1063.52
Steel works consumption	MU	700.00
Transmission loss	%	0.83
Energy requirement for Steel works	MU	705.86
Total Energy requirement	MU	1769.38

4.5 Power Purchase Cost (PPC)

4.5.1 As mentioned before, there are two sources of power purchase for the petitioner: TPCL and DVC. The average cost of power purchase proposed by the petitioner for FY 2005-06 is Rs.2.52/kWh with cost of purchase from TPCL and DVC estimated at Rs.2.38/kWh and Rs.3/kWh respectively. The petitioner maintains that this estimate is based on prevailing fuel prices and any change in them should be passed through after netting it for losses. Particularly, DVC has filed its tariff petition with the Central Electricity Regulatory Commission (CERC), and the CERC's order would have an impact on the petitioner's cost of procurement from DVC, which would be passed through after having it approved from the Commission. Besides power purchase cost, a transmission charge of Rs.0.03/kWh has also been proposed by the petitioner. In total, the petitioner has estimated Rs.274.15 crores, as cost of purchasing 1076 MU of energy including transmission charges of Rs. 3.25 crores for meeting the township consumption during FY 2005-06.

- 4.5.2 Besides reviewing the power purchase agreements with TPCL and DVC, the Commission has reviewed the month-wise power purchase bills paid by the petitioner during FY 2004-05. On an average, the petitioner had incurred Rs. 2.32/kWh and Rs.3.38/kWh for purchase of power from TPCL and DVC respectively. The per unit fixed charge and energy charge paid out by the petitioner during FY 2004-05 is given in Table 4.90.

Table 4.9: Comparison between PPC of TPCL & DVC for FY 2004-05

Source	Fixed charge	Energy charge	Other charges including fuel cost adjustment
	Rs./kWh	Rs./kWh	Rs./kWh
TPCL	1.23	1.09	0.00
DVC	1.32	1.55	0.49

- 4.5.3 The Commission has reviewed the Annual Performance Test Report and Annual Budget Schedule of TPCL for FY 2005-06, which shows that TPCL could generate up to a plant load factor (PLF) of 85% resulting into 1787 MU of gross generation and 1608 MU of net generation considering auxiliary consumption of approximately 10%. The variable cost has been estimated at Rs.0.89/kWh, which is lower than the variable cost of DVC that is Rs. 1.63/kWh in addition to the fuel cost adjustment charges. Given the significant difference between the variable costs of the existing power purchase sources, **the Commission directs the petitioner that energy scheduled from different sources shall strictly adhere to the principle of merit order based on variable cost.**
- 4.5.4 Pending revision of the generation tariff of DVC by CERC, the variable cost of procurement from TPCL being lower than DVC, the petitioner shall maximize its purchase from TPCL. The purchase from DVC shall be made only to cover the gap between demand and TPCL's supply, especially when TPCL's units are shut down for annual maintenance and washout. Further, the revision that may occur in the cost of power purchase from DVC due to CERC's order shall duly be factored in while applying the merit order.
- 4.5.5 Accordingly, the Commission estimates 1608 MU of power purchase from TPCL with remaining energy requirement to be met from DVC during FY 2005-06. The quantum of power purchase thus considered by the Commission from these sources is shown in Table 4.10.

Table 4.10: Power purchase from TPCL and DVC during FY 2005-06

Description	Unit	FY 2005-06
Total Energy requirement	MU	1769.38
Power purchase from TPCL	MU	1608.00
Power purchase from DVC	MU	161.38

- 4.5.6 The Commission has estimated the fixed charges and energy charges separately for TPCL and DVC. As per the Annual Budget Schedule of TPCL for FY 2005-06, the petitioner would incur Rs. 217.55 crores, as cost towards fixed charges at PLF of 85%. As regards DVC, it was found during discussions with the petitioner that power availability from TPCL gets reduced to half when one unit goes for the necessary washout, which takes close to one month and during this time period the resultant gap is met from DVC. As there are two units, it is assumed that for two months in a year, only 120 MW of power would be available from TPCL and during these months, the petitioner avails the entire contract demand of 85 MVA from DVC. Accordingly, for two months, the demand charges would be payable to DVC at the rate of Rs.365/kVA/month for 85 MVA of power while for the remaining 10 months at 75% of Rs.365/kVA/month for 85 MVA of power, which is as per the 'Minimum Guaranteed Charges' clause of the agreement with DVC.
- 4.5.7 The energy charge for TPCL has been considered at Rs. 0.89/kWh, as per the Annual Budget Schedule of TPCL for FY 2005-06. For DVC, the base energy charge has been considered at Rs.1.63/kWh, as per the power purchase agreement while the fuel cost adjustment charge has been considered at Rs.0.52/kWh, as proposed by the petitioner.
- 4.5.8 The total cost of power purchase from TPCL and DVC is shown in Table 4.11 and Table 4.12 respectively

Table 4.11: Cost of power purchase from TPCL during FY 2005-06

Description	FY 2005-06	
Energy availability (PLF-85%)	MU	1608.00
Fixed charges	Rs.crores	217.55
Energy charges	Rs.crores	142.96
Total charges	Rs.crores	360.51
Fixed charges	Rs./kWh	1.35
Energy charges	Rs./kWh	0.89
Average cost of power purchase	Rs./kWh	2.24

Table 4.12: Cost of power purchase from DVC during FY 2005-06

Description	FY 2005-06	
Energy purchase	MU	161.38
Fixed charges	Rs.crores	29.47
Energy charges (including fuel cost adjustment charge)	Rs.crores	34.70
Total charges	Rs.crores	64.17
Fixed charges	Rs./kWh	1.83

Energy charges (including fuel cost adjustment charge)	Rs./kWh	2.15
Average cost of power purchase	Rs./kWh	3.98

4.5.9 The petitioner has proposed a transmission charge of Rs.0.03/kWh, which has been calculated taking into account the operating expenditure incurred to maintain the transfer of power from four lines at Golmuri substation and the units handled by these transmission lines. The Commission has considered this rate for calculating the total transmission charges, which have been estimated at Rs. 5.31 crores taking into account energy requirement of 1769.38 MU. The total power purchase cost including the transmission charges has been estimated at Rs. 429.99 crores. The calculation is shown in Table 4.13.

Table 4.13: Power purchase cost including transmission charges for FY 2005-06

Description	FY 2005-06	
Power purchase cost	Rs.crores	424.68
Transmission charges	Rs.crores	5.31
Total power purchase cost including transmission charges	Rs.crores	429.99

4.5.10 The total cost of Rs. 429.99 crores has further been apportioned between the Steel Works and the township consumption as per their energy requirement of 705.86 MU and 1063.52 MU respectively. The calculation is shown in Table 4.14

Table 4.14: Power purchase cost allocated to Steel works and township for FY 2005-06

Description	FY 2005-06
	Rs Crores
Total power purchase cost including transmission charges	429.99
Power purchase cost apportioned to Steel works	171.54
Power purchase cost apportioned to Township consumption	258.45

4.5.11 Accordingly, the total power purchase cost approved by the Commission for FY 2005-06 has been estimated at Rs. 258.45 crores.

4.6 Employee cost

- 4.6.1 The petitioner has proposed Rs. 10.96 crores, as employee cost for the Power Business Division for FY 2005-06, a growth rate of 10% over the previous year. As submitted by the petitioner, the 10% growth rate is assumed taking into account a reasonable mark up over the inflation rate. The mark up is towards the yearly increments that are provided to the staff.
- 4.6.2 In line with the regulations for distribution tariff^[1], the Commission has benchmarked the petitioner's performance with respect to employee cost per unit of sales and the employee cost as a percentage of ARR across various private utilities in the country. The estimates found in this regard are given in Figure 2.

^[1] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

Figure 4.2: Employee cost per unit of sale and as a percentage of ARR for other utilities

All figures correspond to the approved estimates of the Commission

Source: Tariff order for Ahmedabad Electricity Company (AEC) - Gujarat 2002-03

Tariff order for Surat Electricity Company (SEC) - Gujarat 2001-02

Tariff order for Reliance Energy Limited (Mumbai) for 2004-05

Tariff order for North Delhi Power Limited (NDPL) – Delhi for 2005-06

Tariff order for Calcutta Electricity Supply Company (CESC) – West Bengal for 2004-05

- 4.6.3 It is clear from the foregoing discussion that the petitioner's performance is satisfactory on both these parameters as compared to other private utilities with the exception of Surat Electricity Company. At Rs.10.96 crores, the proposed amount translates into an employee cost per unit sale of 11.50 paise, an increase of 0.27 paise over the previous year.

- 4.6.4 Besides benchmarking, the Commission has attempted to review various components of the employee cost and the trend witnessed in the same over time; however the review was constrained by the absence of separate audited annual accounts of the Power Business Division, which is responsible for power supply in the township. Accordingly, the Commission has considered employee cost per unit of sales during FY 2004-05, as the base for estimation of employee cost for FY 2005-06. Furthermore, the bonus incentive estimated by the Commission is in accordance with the Memorandum of Settlement dated 20th August 2002 between the Tata Iron and Steel Company Limited and the Tata Workers Union that allows a bonus of 20% of salary (Basic and Dearness Allowance).
- 4.6.5 Against the foregoing, the total employee cost approved for FY 2005-06 works out to be Rs. 10.62 crores. Table 4.15 indicates the component wise increase in the employee cost approved by the Commission for FY 2005-06.

Table 4.15: Employee cost for FY 2004-05 (actual), FY 2005-06 (proposed) & FY 2005-06 (approved)

Description	FY 2004-05	FY 2005-06	FY 2005-06
	Actual	Proposed	Approved
	(Rs crores)	(Rs crores)	(Rs crores)
I Salaries & Allowances			
Salaries	4.30	4.73	4.59
Overtimes	0.04	0.04	0.04
Dearness Allowance	1.35	1.49	1.44
Other Allowance	0.60	0.66	0.64
Bonus Incentive	1.13	1.24	1.21
<i>Other Staff Costs:</i>			
Medical Expenses Reimbursement	0.00	0.00	0.00
Leave Travel Assistance	0.30	0.33	0.32
Other costs	0.00	0.00	0.00
Staff Welfare Expenses	0.00	0.00	0.00
Arrear on a/c. of revision of pay/pension			
Sub total salaries			
Less employee cost capitalized			
Net salaries cost	7.72	8.49	8.23
II Terminal benefits			

	Board PF contribution	0.68	0.75	0.72
	Board FP contribution	0.11	0.12	0.12
	Superannuation	0.15	0.17	0.16
	Gratuity	0.85	0.93	0.90
	Pensionary charges	0.00	0.00	0.00
	Other terminal benefits	0.00	0.00	0.00
	Sub total terminal benefits	1.79	1.97	1.91
III	Earned Leave encashment	0.45	0.50	0.48
	Total Employee cost (I+II+III)	9.96	10.96	10.62

4.7 Repair and maintenance (R&M) expenses

4.7.1 The petitioner has proposed Rs. 14.65 crores, as the Repair and Maintenance expenses for FY 2005-06 assuming a growth rate of 22.08% over FY 2004-05.

4.7.2 The Commission has benchmarked the actual R&M expenditure as a percentage of Gross Fixed Assets (GFA) for FY 2004-05 with other private utilities in the country. The findings emanating in this regard are shown in Table 4.16.

Table 4.16: R&M expenses as a percentage of GFA

Description		CESC	NDPL	SEC	AEC	Petitioner
		2004-05	2005-06	2001-02	2002-03	2004-05 (Actuals)
R&M expenditure	Rs. crores	131.71	55.83	21.18	55.00	12.00
Gross Block	Rs. crores	4845.33	2068.40	390.61	1776.60	125.63
R&M expenditure as a percentage of GFA	%	2.72%	2.70%	5.42%	3.10%	9.55%

All figures correspond to the approved estimates of the Commission

Source: Tariff order for Calcutta Electricity Supply Company (CESC) – West Bengal for 2004-05

Tariff order for North Delhi Power Limited (NDPL) – Delhi for 2005-06

Tariff order for Surat Electricity Company (SEC) - Gujarat 2001-02

Tariff order for Ahmedabad Electricity Company (AEC) - Gujarat 2002-03

4.7.3 It is observed that the petitioner's performance in this regard is unsatisfactory, as the R&M expenditure as a

percentage of GFA is highest in the case of petitioner. The Commission however has not considered 2-5% range, as applied to GFA of utilities mentioned in the foregoing table, in the case of petitioner. The main reason for the same being absence of separate audited accounts to verify the pro-rata estimates submitted by the petitioner.

4.7.4 The Commission has reviewed various components of the R&M expenses proposed by the petitioner, and has enquired about the high increase proposed by the petitioner for the FY 2005-06. It was submitted by the petitioner that of the total amount proposed for R&M expenses, Rs. 2 crores is a one-time expenditure for undertaking energy audit and GIS mapping. As energy audit and GIS mapping would help in better planning and monitoring of the system on day to day basis, the amount proposed has been approved by the Commission. This shall however form a part of the Administration and General expenses; and not R&M expense, as proposed by the petitioner.

4.7.5 Excluding the expense towards energy audit and GIS mapping, R&M expenses proposed by the petitioner are in line with the inflationary trends, and thereby have been approved by the Commission. The Commission has estimated an amount of Rs. 12.65 crores towards R&M expenses for FY 2005-06. Table 4.17 indicates the component wise R&M expenses approved by the Commission for FY 2005-06.

Table 4.17: R&M expenses (Actual for FY 2004-05, Proposed for FY 2005-06 & Approved for FY 2005-06)

S. No.	Description	FY 2004-05	FY 2005-06	FY 2005-06
		Actual	Proposed	Approved
		(Rs crores)	(Rs crores)	(Rs crores)
1	Plant & Machinery	5.05	7.15	5.15
2	Building	0.30	0.33	0.33
3	Hydraulic works & other civil works	0.65	0.70	0.70
4	Line cable & Network	4.00	4.30	4.30
5	Vehicles	0.05	0.06	0.06
6	Furniture & Fixtures	0.10	0.10	0.10
7	Office Equipments	0.05	0.06	0.06
8	Operating Expenses	1.80	1.95	1.95
	Total	12.00	14.65	12.65

4.8 Administration and general (A&G) expenses

4.8.1 The petitioner has proposed Rs. 3 crores as Administration and General (A&G) expenses for FY 2005-06 assuming an increase of 1.7% over FY 2004-05.

- 4.8.2 The Commission has benchmarked A&G expenditure per unit of sale and A&G expenditure as a percentage of ARR with other private utilities in the country. The estimates arrived at in this regard are shown in Figure 4.3.

Figure 4.3: A&G expenses per unit of sale and A&G expenses as a percentage of ARR

All figures correspond to the approved estimates of the Commission

Source: Tariff order for Ahmedabad Electricity Company (AEC) - Gujarat 2002-03

Tariff order for Surat Electricity Company (SEC) - Gujarat 2001-02

Tariff order for Reliance Energy Limited (Mumbai) for 2004-05

Tariff order for North Delhi Power Limited (NDPL) – Delhi for 2005-06

Tariff order for Calcutta Electricity Supply Company (CESC) – West Bengal for 2004-05

- 4.8.3 As observed, A&G cost per unit of sales and as a percentage of ARR is the lowest in the case of petitioner. The Commission appreciates the effort of the petitioner in keeping the A&G expenses within reasonable levels, and presumes that the petitioner would continue to maintain the same trend in future. The A&G expenses proposed for FY 2005-06 being in line with inflationary trends have been considered by the Commission without any change.
- 4.8.4 It has been submitted by the petitioner that orders for undertaking the GIS mapping has been placed with M/s Rolta India Limited, and expenditure on this account would incur in the FY 2005-06 only. The total expenditure estimated is Rs. 1.3 crores, which includes procurement of the software and hardware; and consumer indexing in the supply area. Besides GIS mapping, expenditure on energy audit is estimated at Rs. 0.70 crores. The Commission views that proper planning and monitoring is essential for ensuring a reliable quality of supply; and accurate assessment of loss level is important for realistic estimation of power

purchase cost and hence determination of tariff. It therefore, approves one-time expenditure proposed by the petitioner for undertaking GIS mapping and energy audit as part of A&G expenses. **Further, the Commission directs the petitioner to submit the status report every quarter starting April-June 2006.**

4.8.5 The A&G expenses thus approved by the Commission are Rs. 5 crores for FY 2005-06. Table 4.18 indicates the component wise A&G expenses approved by the Commission for FY 2005-06.

Table 4.18: Administration and general expenses (Actual for FY 2004-05, proposed for FY 2005-06 & Approved for FY 2005-06)

S. No.	Description	FY 2004-05	FY 2005-06	FY 2005-06
		Actual	Proposed	Approved
		(Rs crores)	(Rs crores)	(Rs crores)
1	Rent, Rate & Taxes	0.30	0.30	0.30
2	Insurance	0.25	0.25	0.25
3	Telephone postage & Telegrams	0.15	0.17	0.17
4	Consultancy fees	0.25	0.25	0.25
5	Technical fees	0.25	0.25	0.25
6	Other Professional charges	0.50	0.50	0.50
7	Conveyance & traveling	0.20	0.22	0.22
8	Other expenses	1.00	1.00	1.00
9	Electricity & water charges	0.05	0.06	0.06
10	Energy audit & GIS mapping			2.00
	Total	2.95	3.00	5.00

4.9 Asset base for FY 2005-06

4.9.1 Net fixed assets (NFA) for FY 2004-05

4.9.1.1 The petitioner has proposed gross block of Rs. 114.29 crores, as closing value for FY 2004-05. This excludes accumulated consumer contribution of Rs. 9.64 crores. Thus, the closing gross block for FY 2004-05 inclusive of the consumer contribution works out to be Rs. 123.93 crores. At accumulated depreciation of Rs. 41.47 crores, the amount of net fixed assets proposed by the petitioner is Rs. 82.46 crores as on March

31, 2005.

4.9.1.2 The Commission has undertaken a detailed review of the gross block proposed by the petitioner. The analysis was however, constrained by the absence of separate audited annual accounts of the Power Business Division, which is managing the power supply in the township of Jamshedpur. Notwithstanding, in order to validate the gross block proposed by the petitioner, the Commission has considered the assets allocated to the Power Business Division, as per the centralised database in the SAP software maintained by Tata Steel. Based on this, the closing gross block for FY 2004-05 works out to be Rs. 125.93 crores including a consumer contribution of Rs. 9.64 crores. Considering accumulated depreciation of Rs. 41.35 crores, the closing value of the net fixed assets works out to be Rs. 84.58 crores for FY 2004-05. Table 4.19 highlights the computations of the closing value of the net fixed assets for FY 2004-05.

Table 4.19: Net fixed assets for FY 2004-05

	Description	Proposed (Rs. crores)	Approved (Rs. crores)
	Original cost of fixed assets (as on 31/03/05) including consumer contribution	123.93	125.93
Less	Accumulated depreciation (as on 31/03/05)	41.47	41.35
	Net fixed assets (as on 31/03/05)	82.46	84.58

4.9.2 Capital expenditure for FY 2005-06

4.9.2.1 The petitioner has proposed a total capital expenditure of Rs. 80.1 crores towards augmentation of power supply system in eastern part of town, strengthening of HT feeders, conversion of overhead HT feeders to underground feeders etc. This capital expenditure is to be phased out in 3 years starting FY 2005-06. The capital expenditure proposed for FY 2005-06 is Rs. 15.15 crores.

4.9.2.2 It is proposed by the petitioner that the investments aim to augment the existing distribution infrastructure and improve the reliability of supply except for Rs. 5.5 crores, which would go into the take over of fringe areas at Uliyan, Chota Govindpur and Manifit from JSEB.

4.9.2.3 The Commission views that as the areas mentioned by the petitioner already form part of its licensed area of supply, any capital expenditure proposed regarding these fringe areas would mean extending/ augmenting the existing distribution system in Jamshedpur without any actual takeover. Further, during discussions held with the petitioner, it emerged that no progress has been made by the petitioner so far in this regard. Accordingly, the Commission has not allowed any expenditure on this account.

4.8.2.4 The Commission has estimated a total **capital expenditure of Rs. 6.0 crores for FY 2005-06**. Table 4.20

indicates the capital expenditure proposed by the petitioner over a period of three years and the amount approved by the Commission for FY 2005-06.

Table 4.20: Capital expenditure for FY 2005-06

S. No.	Description	Total Rs. crores	Proposed (Petitioner)			Approved FY 2005-06
			FY 2005-06	FY 2006-07	FY 2007-08	
1	To augment power supply system in the eastern part of town by installation of 15 MVA transformer at Tinplate Area substation with 33 kV feeder and associated 6.6 kV feeder	10.0	3.0	4.0	3.0	3.0
2	Strengthening of HT feeders and conversion of overhead HT feeders into underground feeders in the town	7.0	1.0	3.0	3.0	1.0
3	Installation of 2nd and 15 MVA transformer at 'L' town yard	7.1	2.9	2.9	1.3	0.0
4	Extending the distribution system to Uliyan	7.0	2.0	3.0	2.0	0.0
5	Extending the distribution system to Uliyan Chota Govindpur	6.0	2.0	1.0	3.0	0.0
6	Extending the distribution system to Uliyan Manifit	15.0	1.5	4.0	9.5	0.0
7	Augmentation of power supply	3.0	0.8	0.8	1.5	0.0
8	132 kV transmission line from Jojobera to Sonari	25.0	2.0	8.0	15.0	2.0
	Grand Total	80.1	15.15	26.65	38.30	6.0

The plan for capital expenditure mentioned at sl.no. 3 and 7 has not yet been prepared. As such no capital expenditure has been approved against these items. All future capital expenditure are subject to approval by the

Commission.

4.9.3 Asset capitalization during FY 2005-06

4.9.3.1 It was submitted by the petitioner that it would be able to capitalize Rs.4 crores of the total capital expenditure proposed for FY 2005-06 in addition to the opening capital works-in-progress (CWIP) of Rs. 6.77 crores (as on March 31, 2005). Accordingly, the total amount of assets that would be capitalized during FY 2005-06 is Rs. 10.77 crores. Table 4.21 gives the details of asset capitalization during FY 2005-06.

Table 4.21: Assets capitalized during FY 2005-06

	Description	Approved (Rs. crores)
	Capital works in progress (CWIP) as on 31/03/05	6.77
	Amount of planned capital expenditure to be capitalized during FY 2005-06	4.00
	Assets to be capitalized during FY 2005-06	10.77

4.9.4 Gross fixed assets (GFA) for FY 2005-06

4.9.4.1 Based on the capitalized amount of Rs. 10.77 crores, the GFA estimated for FY 2005-06 is Rs. 136.70 crores. Table 4.22 gives the details of GFA approved by the Commission for FY 2005-06.

Table 4.22: Gross Fixed Assets for FY 2005-06

	Description	Approved(Rs. crores)
	Opening value of the GFA for FY 2005-06	125.93
	Assets to be capitalized in FY 2005-06	10.77
	GFA for FY 2005-06	136.70

4.9.5 Annual Depreciation

4.9.5.1 The petitioner follows a straight-line methodology for calculation of depreciation allowance and has estimated Rs. 7.51 crores towards this expense for the FY 2005-06. The different rates followed for different assets are in accordance with the notification issued by the Ministry of Power (MoP) in 1994.

4.9.5.2 The Commission has undertaken a detailed review of the depreciation charge and the corresponding acquisition cost of the asset, as per information obtained from SAP software. The weighted average rate of

depreciation estimated is 6.41%, which has been applied on the GFA to estimate the annual depreciation charge.

The depreciation rate computed is in accordance with the MoP notification of 1994.

4.9.5.3 The depreciation charge for FY 2005-06 consists of two elements, viz., depreciation on the opening value of GFA and depreciation on the assets capitalized during FY 2005-06. For the purpose of computing the former, depreciation rate of 6.41% has been used on GFA of Rs. 125.93 crores. It is to be noted that acquisition cost of land has been excluded for this computation, as land is a non-depreciable asset. As regards depreciation charge on assets capitalized during FY 2005-06, it is assumed that the assets would be capitalized in the middle of the year, which leads to Rs. 0.35 crores on this account.

4.9.5.4 In total, the depreciation charge approved by Commission is Rs. 8.40 crores for FY 2005-06. Table 4.23 gives the details of depreciation charge approved by the Commission for FY 2005-06.

Table 4.23: Depreciation charge for FY 2005-06

Description	Approved
OCFA as on 01/04/05 (Rs. crores)	125.93
Depreciation rate (%)	6.41%
Depreciation on OCFA as on 01/04/05 (Rs. crores)	8.05
Depreciation on assets capitalized during FY 2005-06 (Rs. crores)	0.35
Depreciation charge for FY 2005-06 (Rs. crores)	8.40

4.9.6 Rate Base for FY 2005-06

4.9.6.1 Net fixed assets (NFA) for FY 2005-06

4.9.6.1.1 Based on the opening NFA, assets capitalised and depreciation charge for FY 2005-06, the closing NFA for FY 2005-06 works out to be Rs. 86.95 crores. Table 4.24 gives the details of NFA approved by the Commission for FY 2005-06.

Table 4.24: Net fixed assets for FY 2005-06

	Description	Approved (Rs. crores)
	NFA (as on 01/04/05)	84.58
	Assets capitalized during FY 2005-06	10.77
Less	Depreciation charge for FY 2005-06	8.40
	NFA for FY 2005-06	86.95

4.9.6.2 Rate base approved by the Commission for FY 2005-06

4.9.6.2.1 Based on the above computations, the rate base of the petitioner i.e. the asset base on which the petitioner is entitled to earn a return works out to be Rs. 77.30 crores. Table 4.25 gives the details of the rate base approved by the Commission for FY 2005-06.

Table 4.25: Rate base for FY 2005-06

	Description	Rs. crores
	NFA for FY 2005-06	86.95
Less	Consumer contribution	9.65
	Rate base for FY 2005-06	77.30

4.9.6.3 Debt and equity components

4.9.6.3.1 The regulations for distribution tariff^[1] states that

“Debt Equity ratio for the purpose of determination of tariff shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Where actual equity employed is less than 30%, the actual equity shall be considered.”

4.9.6.3.2 As actual capital structure of the petitioner is not known, due to non-availability of separate audited accounts, the aforementioned norm of 70:30 for debt-equity has been adopted for estimation of reasonable return and interest charges. Table 4.26 indicates the debt and equity components of the rate base for FY 2005-06.

Table 4.26: Normative capital structure for FY 2005-06

Description	Rs. Crores
Equity (30% of the Rate base)	23.19
Debt (70% of the Rate base)	54.11

^[1] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

4.10 Reasonable return

4.10.1 In accordance with the regulations for distribution tariff^[1], the reasonable return has been computed at 14% on the equity component. The return estimated works out to be Rs. 3.25 crores for FY 2005-06.

4.11 Interest charges

4.11.1 The petitioner has proposed an amount of Rs. 9.93 crores for FY 2005-06. Table 4.27 illustrates the break up of the amount proposed by the petitioner, as interest charges.

Table 4.27: Interest charges proposed by the petitioner

S. No.	Description	Proposed (Rs. crores)
		FY 2005-06
1	Interest on normative loan @ 10.5%	5.14
2	Interest on security deposit	0.05
3	Interest during construction	1.15
4	Interest on working capital @ 11.5%	3.59
	Total	9.93

4.11.2 The Commission has undertaken a detailed review of the various components of the interest cost proposed by the petitioner including the high interest rate assumed on the normative loan. Each of the above components is discussed below.

Interest on normative loan

4.11.3 The petitioner has proposed Rs. 5.14 crores, as interest on normative loan @ 10.5% for FY 2005-06. As submitted by the petitioner, the rate is equivalent to the prime-lending rate (PLR) of Reserve Bank of India (RBI).

4.11.4 The Commission, however, for the purpose of computing the interest charges for FY 2005-06 has considered the actual cost of debt. This is in accordance with the regulations for distribution tariff^[2].

4.11.5 The actual cost of debt has been derived from the audited annual accounts of Tata Steel for FY 2004-05, which works out to be 8.32%. The same rate has been used for calculating the interest charges on normative loan for FY 2005-06. On debt component of Rs. 54.11 crores, the interest charges @8.32% turn out to be Rs. 4.50 crores.

Interest on security deposit

4.11.6 The petitioner has proposed Rs. 0.050 crores as interest on security deposit @ 6.17%. The Commission has used the average deposit rate of RBI i.e. 5.75% for the purpose of estimating the interest on consumer

deposit for FY 2005-06. This works out to be Rs. 0.047 crores.

Interest during construction

4.11.7 The petitioner has estimated Rs. 1.15 crores, as interest during construction @ 11.5% on the proposed capital expenditure for FY 2005-06.

4.11.8 The Commission has accounted for assets capitalised during the year in its calculation of the gross fixed assets and rate base for FY 2005-06, and has allowed annual depreciation, return on equity and interest charges on normative loan on the same. Accordingly, no amount has been considered on account of interest during construction.

Interest on working capital

4.11.9 The petitioner has proposed a working capital of Rs. 31.19 crores for FY 2005-06 consisting of receivables of 2 months sale (excluding the HT3 consumption), average bank balance towards power procurement less the security deposit. Further, it has proposed Rs. 3.59 crores, as interest on this amount for FY 2005-06.

4.11.10 The Commission has reviewed the various components of the proposed working capital requirement, which are discussed as below.

- *Receivables of 2 months sale (excluding HT 3 consumption)*

The petitioner has proposed an amount of Rs. 10 crores towards receivables of 2 months sale (excluding HT3 consumption). The actual data for FY 2004-05 and FY 2005-06 (8 months) indicates that the proposed amount is in line with the actual trend of receivables. Hence, the Commission approves the proposed amount of Rs. 10 crores towards receivables of 2 months sale.

- *Average bank balance to be maintained for power procurement*

The petitioner has proposed an amount of Rs. 22 crores towards average bank balance that it needs to maintain for payments to TPCL and DVC towards power procurement. It is evident from the payment mechanisms mentioned in PPAs with TPCL and DVC that the petitioner needs to provide for advance payments for purchase of power from these sources. As the amount proposed conforms the monthly liability that is likely to rise on account of power purchase, the Commission approves Rs. 22 crores towards average bank balance, as part of working capital.

- *Security deposit*

The petitioner has proposed security deposits of Rs. 0.81 crores, which has been considered by the

Commission for FY 2005-06.

4.11.11 Against the foregoing, the total working capital approved by the Commission works out to be Rs. 31.19 crores for FY 2005-06. Table 4.28 indicates the proposed and the approved working capital requirement for FY 2005-06.

Table 4.28: Working capital for FY 2005-06

	Description	Proposed (Rs. crores)	Approved (Rs. crores)
	Receivables for 2 months sale excluding HT3 consumption	10.00	10.00
	Average bank balance towards power procurement	22.00	22.00
Less	Security deposit	0.81	0.81
	Working capital for FY 2005-06	31.19	31.19

4.11.12 As regards the 11.5% interest rate proposed by the petitioner, the Commission has considered the prevailing sub-prime lending rate of State Bank of India, which is 10.5%, for estimating the interest on working capital in line with its regulations for distribution tariff. [3] The interest on working capital thereby estimated for FY 2005-06 is Rs. 3.27 crores.

4.11.13 Table 4.29 indicates the component wise interest charges approved by the Commission for FY 2005-06.

Table 4.29: Interest charges approved by the Commission for FY 2005-06

2005-06	Approved (Rs. Crores)		
	Amount	Rate	Interest
Normative loan (70% of Rate base)	54.11	8.32%	4.50
Security deposit	0.81	5.75%	0.05
Working capital	31.19	10.5%	3.27
Total Interest charges			7.82

[1] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

[2] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

^[3] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

4.12 Provision for bad debts

4.12.1 The petitioner has proposed Rs. 0.25 crores on account of bad debts to be included in its revenue requirement for FY 2005-06. The petitioner contends that this provision has been allowed by different State Electricity Regulatory Commissions (SERCs) while approving revenue requirements for utilities of their respective states.

4.12.2 The Commission maintains that allowing provision for bad and doubtful debts could lead to complacency on part of the licensee to collect its dues vigorously. Also, in accordance with the regulations for distribution tariff^[1], no provision on account of bad and doubtful debt would be considered as an admissible expense in the annual revenue requirement estimation. Accordingly, no amount has been allowed towards this provision for the year FY 2005-06.

^[1] JSERC (Terms and conditions for distribution tariff) Regulations, 2004

4.13 Cost of Tax

4.1.1 The petitioner has proposed a tax liability of Rs. 2.38 crores for the FY 2005-06, which has been considered by the Commission.

4.14 Aggregate Revenue Requirement (ARR)

4.14.1 The Aggregate Revenue Requirement (ARR) taking into account the foregoing cost components, as estimated by the Commission, is Rs. 308.58 crores. The component wise break-up of the revenue requirement with due comparison between the petitioner's and the Commission's estimate is shown in Table 4.30

Table 4.30: Aggregate Revenue Requirement approved by the Commission (FY 2005-06)

S.No.	Description	Proposed	Approved
		(Rs. crores)	(Rs. crores)
1	Power Purchase costs	274.15	258.45
2	Repair & Maintenance Expenses	14.65	12.65

3	Administration & General charges	3.00	5.00
4	Employee Cost	10.96	10.62
5	Interest charges	9.93	7.82
6	Depreciation	7.51	8.40
7	Provision for bad debts	0.25	0.00
8	Income tax	2.38	2.38
9	Reasonable return	6.24	3.25
	Aggregate Revenue Requirement	329.07	308.58

4.15 Non-Tariff Income

4.15.1 The petitioner has proposed a total of Rs. 1.60 crores, as income from non-tariff sources such as meter rent, delayed payment surcharge etc during FY 2005-06, which has been considered by the Commission.

4.15.2 Besides above, the Commission has considered the income being earned by the petitioner from trading of surplus power, as an item of non-tariff income. The Commission has reviewed the monthly power balance submitted by the petitioner that highlights the amount and the cost of power purchase during April-October FY 2005-06. The Commission recognises that the petitioner has traded about 35 MU during April and May of FY 2005-06, and has been able to generate a net profit of about Rs.4 crores from this activity, as submitted by the petitioner. This income has been taken into account by the Commission while estimating the revenue gap arising at existing tariffs.

4.15.3 The component-wise break up of non-tariff income is shown in Table 4.31

Table 4.31: Non-tariff income for FY 2005-06

S.No.	Source of Non-tariff income	Proposed	Approved
		(Rs.crores.)	(Rs.crores.)
1	Meter rent	0.42	0.42
2	Misc. Charges from Consumers	1.08	1.08
3	DPS	0.11	0.11
	Sub-total (1)	1.61	1.61
4	Income from trading	0.00	4.00
	Sub-total (2)	0.00	4.00
	Total (1+2)	1.61	5.61

4.16 Net Revenue Requirement

- 4.16.1 Considering the Aggregate Revenue Requirement of Rs. 308.58 crores and the non-tariff income of Rs. 5.61 crores, the net revenue requirement estimated by the Commission for FY 2005-06 is Rs. 302.97 crores. The corresponding estimates, as proposed by the petitioner are shown in Table 4.32

Table 4.32: Net Revenue Requirement for FY 2005-06

S.No.	Description	Proposed	Approved
		(Rs. crores)	(Rs. crores)
1	Aggregate Revenue Requirement	329.07	308.58
2	Non-tariff income	1.61	5.61
	Net Revenue Requirement	327.47	302.97

4.17 Cost of supply

- 4.17.1 The petitioner has proposed cost of supply for various consumer categories based on certain assumptions. Table 4.33 gives the cost of supply for various consumer categories as proposed by the petitioner for FY 2005-06.

Table 4.33: Cost of supply for various consumer categories (Proposed) for FY 2005-06

S. No.	Consumer category	Cost of supply (Rs. / unit)
1.	HT Consumers	3.33
2.	LT Supply (Domestic and street light)	4.03
3.	Commercial	4.14
4.	Domestic HT	3.48
	Average cost of supply	3.46

- 4.17.2 The Commission has reviewed the methodology adopted by the petitioner to arrive at the cost of supply for various consumer categories. It is of the view that the methodology adopted by the petitioner is non-scientific in nature. The actual methodology for determination of cost of supply involves allocation of total cost to various consumer categories based on the extent of each category's consumption during the designated

system peak, which is a detailed and data intensive study. **The Commission directs the petitioner to undertake cost of supply study and submit the progress in this regard to the Commission in 6 months from the date of issue of this order.**

4.17.3 In the absence of any such study carried out, the estimates based on the methodology adopted by the petitioner can be best termed as approximates. The Commission has adopted the proposed methodology to arrive at the cost of supply for various consumer categories. This is indicated in Table 4.34.

Consumer category	Estimated sales during FY 05-06	T&D losses	T&D losses	Energy requirement	Cost of Power Purchase	Other expenses including Reasonable Return	Non-Tariff Income	Total cost	Cost of Supply
	(MU)	(%)	(MU)	(MU)	(Rs. crores)	(Rs. crores)	(Rs. crores)	(Rs. crores)	(Rs./kWh)
HT - 1,2 & 3	738.55	7.82%	62.68	801.23	194.71	37.76	4.38	228.10	3.09
LT supply (Domestic & Utilities)	120.11	23.34%	36.57	156.68	38.08	7.38	0.71	44.74	3.73
Commercial	32.76	25.28%	11.08	43.84	10.65	2.07	0.19	12.53	3.82
HT-Domestic	54.60	11.61%	7.17	61.77	15.01	2.91	0.32	17.60	3.22
Total	946.03	11.05%	117.50	1063.52	258.45	50.13	5.61	302.97	3.20

Figure 4.1: Consumption-mix for FY

