SECTION 5: THE COMMISSION'S ANALYSIS ON ARR

5.1 The Commission has assessed the ARR for FY 2006-07 based on the information provided in tariff petition, additional information received from the Board and discussions held with the Board's officials on 26th February 2007, 26th March 2007, 3rd May 2007 and 4th May 2007. During the proceedings of tariff determination the Commission interacted orally as well as in writing with the Board.

5.2 At the outset, the Commission would like to highlight the constraints under which it has analyzed the tariff petition submitted by the Board:-

a) The unfinished task related to transfer of assets and liabilities between BSEB and the Board.
b) The accounts for FY 2001-02, FY 2002-03, FY 2003-04, FY 2004-05, FY 2005-06 and FY 2006-07 are still not audited.
c) Despite repeated reminders, the Board could not provide underlying principles/assumptions and rationale for estimates proposed in tariff petition.
d) Data inconsistency not only within the tariff petition but also between different departments and documents of the Board.

5.3 Energy Sales

5.3.1 The Board proposed 3821 MU of energy sales for FY 2006-07, an increase of 11.79% over the previous year's actual energy sales. The energy sales projections are based on category wise sales CAGR for past three years. The proposed category wise energy sales for FY 2006-07 have been summarised in Table 5.1.

Table 5.1: Proposed category wise energy sales (MU) for FY 2006-07

Category	FY 2006-07	CAGR FY 2005-07
Domestic	1206	24.57%
Commercial	170	10.46%
LT Industry	119	2.59%
HT Industry	1621	10.90%
Railway Traction	556	20.49%
Agriculture	64	7.00%
Public street lighting	84	6.40%
Total	**3821**	**15.55%**

5.3.2 The Commission vide tariff order for FY 2003-04 highlighted the issue of data inadequacy, which hampers estimation of accurate demand. The Commission also stated that under such conditions the estimated energy sales do not represent the true demand of electricity**. It directed the Board to undertake a detailed study for load research and demand forecast in order to correctly workout it's short-term and long-term peak energy requirements.** The study required compilation of information about the demand for various consumer categories at different times of the day as well as on consumption of energy during various intervals.

5.3.3 However, in response the Board has submitted that it would consider appointing a consultant for conducting a detailed study for load research and demand forecast after restructuring takes place. The study will bring out the short-term and long-term peak energy requirement of the Board, a daily load curve of the state, category wise demand forecast for the state including demand forecast for existing and new consumers, unmet demand, latent demand of the system, potential impact of demand side management and energy conservation measures on overall energy consumption in the state.

5.3.4 The Commission wants to highlight that load research and demand forecast study of the Board has no direct relation with the restructuring. The Board should adhere to the concept of 'going on concern', and accordingly must address this issue without any further delay. **Hence, the Commission directs the Board to estimate its circle wise consumption for different categories including unmetered category and to furnish circle wise number of hours of supply to various categories of consumers in the next tariff petition.**

5.3.5 Further in this regard, the Board submitted that information on circle-level category of consumption, feeder-wise number of hours of supply, number of hours of supply to HT and 33kV consumers is provided in volume II of tariff petition for FY 2006-07. However, the Commission's scrutiny of the information revealed that data regarding the feeder-wise number of hour of supply is only for Ranchi circle. Moreover, the supply area wise interruption report is also for Ranchi District HQ town, whereas it had to be for all the circles. The petition was completely silent on the details regarding the category-wise connected load. This reflects a lenient attitude of the Board and a neglect of the directives issued by the Commission, which cannot be accepted.

5.3.6 In the backdrop of data inconsistency and insufficiency, which have also been highlighted in the Section 4 of this order, it is very difficult to determine the energy sales for FY 2006-07. Further, the information regarding the Ranchi circle as provided in the volume II of the petition is of limited use. It does not serve any purpose, as the consumer mix for other circle is quite different from that of Ranchi circle. Ranchi circle is primarily a mix of urban and industrial consumers with a comparative low rural mix, whereas other circles may not be so fortunate to have such a good consumer mix.

5.3.7 With the above in view, the Commission undertook an exercise to estimate sales for FY 2006-07, based on the approved level for FY 2003-04 and CAGR of sales between FY 2000-01 and FY 2003-04. Based on this the sales worked out to be 3765 MU, which was quite close to sales estimated by the Board. Table 5.2 highlights the CAGR worked out by the Commission for undertaking the above exercise.

Table 5.2: Estimated category wise energy sales (MU) for FY 2006-07

Category	FY 2001-02*	FY 2003-04**	FY 2001-04 CAGR	FY 2006-07 Estimated
Domestic	422	577	17%	923
Commercial	123	148	10%	195
LT Industry	102	163	26%	329
HT Industry	1192	1387	8%	1741
Railway Traction	305	370	10%	494
Agriculture	34	48	19%	81
Public street lighting	30	37	11%	51
Total	**2208**	**2730**	**11%**	**3765**

*Actual as per tariff petition for FY 2006-07

**Approved vide tariff order for FY 2003-04

5.3.8 **Thus, keeping in mind the data inadequacy highlighted above and nominal difference between the sales arrived by the Commission and the Board, the Commission approves energy sales of 3821 MU for FY 2006-07.**

5.4 Transmission and Distribution (T&D) Loss

5.4.1 The Board has proposed a reduction of 4.26% in T&D loss from 46.76% in FY 2005-06 to 42.50% in FY 2006-07. The Board mentioned it has been taking the following initiatives to bring down the level of T&D losses in the state: -

a) Energy audit at 11kV feeder and distribution transformer levels to localize the distribution losses,
b) Strengthening of Transmission and distribution network through capital investments.

The proposed T&D losses for FY 2006-07 have been summarised in Table 5.3.

Table 5.3: Proposed T&D losses for FY 2006-07

Description	FY 2006-07
Transmission Losses	6.10%
Sub-Transmission & Distribution Losses	40.23%
Overall T&D losses	**42.50%**

5.4.2 The Commission through its tariff order for FY 2003-04 had approved a T&D loss level of 42.66% for FY 2003-04. This was against the then proposed ambitious target of 10% T&D loss reduction from 47.66% to 37.66% by the Board. Further, through the tariff order for FY 2003-04, the Commission had directed the Board to strictly monitor the T&D loss reduction programme. From preliminary scrutiny of the tariff petition it is evident that the Board has taken no action in this regard. Further, due to laxity of the Board T&D losses increased to 50.73% in FY 2004-05, and reached a level of 46.76% in FY 2005-06. The Board does not have correct picture of losses till date. One of the reasons for the same is presence of substantial unmetered supply in the state. High level of T&D losses could also be due to the loading of transformers beyond the optimum tolerance capacity, which lead to the burning of transformers, increases the losses and degrades the quality of power being supplied to the consumers.

5.4.3 **In view of the above, the Commission directs the Board to formulate a task force for supervising the T&D loss in the State. The task force should report to the Commission quarterly about the various efforts that have been undertaken to reduce these losses with its results.** Further, Audit report (Civil and Commercial) for the year ended 31st March 2006 states

Quote

Central Electricity Authority (CEA) has fixed the norms of transmission and distribution (T&D) losses at 15.5 percent (8.5 percent transmission and sub-transmission losses and 7 percent distribution losses). Against this, the reported losses in the Board's system during the five years ended March 2006 were as under:

Year	**T&D loss (Norms)**		**Excess over norms**	
	Percent	**Million Units**	**Percent**	**Million Units**
2001-2002	15.50%	674.04	33.46%	1455.06
2002-2003	15.50%	733.17	35.03%	1656.97
2003-2004	15.50%	796.46	36.44%	1872.46
2004-2005	15.50%	911.03	35.80%	2104.17
2005-2006	15.50%	1005.4	31.81%	2063.35

Jharkhand State Electricity Regulatory the Commission (JSERC), Ranchi in its tariff order (December 2003) had directed the Board to monitor the T&D loss reduction programme. It would be seen from the above table that T&D losses of the Board had increased from 674.04 MU in 2001-02 to 1005.40 MU in 2005-06. The Board could not achieve the norms fixed by CEA. Thus, due to T&D losses in excess of the norm, the Board lost potential revenue of Rs. 3798.08 Crore.

Unquote

5.4.4 Hence, it becomes evident that the T&D loss levels in the state are far exceeding the norms due to which the Board is bearing a substantial revenue loss. The Commission is of the view that such a high T&D loss level due to Board's inefficiency cannot be passed on to the consumers. The Board must make a long term plan to reduce the T&D Losses every year so that the normative T&D Loss is reached over a period of time. A similar view has also been expressed and a corresponding resolution adopted in the Chief Minister's Conference on Power held on 28th May, 2007 at New Delhi. The resolution no. 8 states:

Quote

The Conference recognises that the current level of AT&C losses constitute a grave threat to the viability of the power sector and the distribution segment, which is currently losing about Rs 47,000 crores per annum, is the weakest link in the power system; and resolves that the States commit themselves to achieve and sustain drastic the overall AT&C losses in the next five years, and at least to level of 15% in the APDRP project areas as has been demonstrates by the participating States in 163 towns and cities.

Unquote

The resolution further makes a call to establish necessary baseline data and IT applications for energy accounting and auditing. **The Commission therefore, directs the Board to carry out energy audit of its system and provide quarterly reports to the Commission regarding the progress of energy audit, action taken to reduce T&D loss and results achieved. The Board is directed to reduce its T&D loss by 4 % every year till normative T&D loss level is reached.**

5.4.5 Further, energy sales to the Street Lighting, Domestic and Agriculture category amounts to 35.43% of total energy sales. These categories have a substantial number of unmetered consumers. Hence, the energy losses in the system also remain unmetered making it difficult to realistically assess the T&D loss. The Commission observes that although the consumer mix for the Board is quite favourable, with energy sales for industry and railways amounting to 65% of the total energy sales, the technical losses remain very high. This is in contrast with general trends as experienced in other states where consumption by agriculture and other unmetered categories is very high thereby leading to higher losses. Thus, there is no reason for such high level of losses in the state.

5.4.6 Another concern the Commission feels important to point out is the declining share of HT Industry in the overall sales mix. The share has dropped from 51% in FY 2003-04 to 42% in FY 2006-07. The Board needs to take cognizance of this fact and device strategies to prevent this trend from growing up. HT Industry is high paying consumer category and loss of consumers in this category may result in substantial revenue loss to the Board.

5.4.7 **In view of the above facts, the Commission approves an overall T&D loss level of 36.67% for FY 2006-07, which comprises of a transmission loss of 5.41% and distribution loss of 34.11% for FY 2006-07. The overall T&D loss represents a nominal 5% reduction from the loss level approved in FY 2003-04 i.e. over the three-year period.**

5.5 Own Generation- Patratu Thermal Power Station (PTPS)

5.5.1 The Board proposed a net generation of 594.93 MU, with a PLF of 10.5% and an auxiliary consumption of 16%, for FY 2006-07 from PTPS. It also submitted that the reason behind the low level of generation and abysmally low PLF is non–functioning of many units and other factors, as mentioned in para 2.3. The proposed energy generation from PTPS for FY 2006-07 have been summarised in Table 5.4.

Table 5.4: Proposed energy generation from PTPS for FY 2006-07

Description	Units	FY 2006-07
Installed Capacity	MW	840
Derated Capacity (Usable)	MW	770
Plant Load Factor	%	10.5%
Auxiliary Consumption	%	16.0%
Station Heat Rate	kCal/kWh	4230
S. Oil Consumption	ml/kWh	25
Calorific Value of Coal	kCal/kg	4165
Calorific Value of Oil	kCal/L	10500
Coal Transit Loss	%	4.0%
Price of Landed Coal (Inc. Transit Loss)	Rs/tonne	965
Price of Oil	Rs/kL	24065
Specific Coal Consumption	kg/kWh	0.96
Gross Generation	**MU**	**708.25**
Auxiliary Consumption	MU	113.32
Net Generation	**MU**	**594.94**
Total Fuel Cost	**Rs Crore**	**108.32**
Other expenses related to Generation	Rs Crore	6

5.5.3 Keeping in view the above facts, the Commission is of the view that the Board should have at least improved the PLF of PTPS @ 4% to 5% per annum from the PLF approved in FY 2003-04. Further, the Commission opines that Station Heat Rate of 4230 Kcal/Kwh, oil consumption of 25 ml/Kwh and auxiliary consumption of 16% cannot be allowed. The Commission has proceeded with this improvement on the PLF to estimate the energy generation and fixed and variable cost per unit for PTPS. The estimated energy generation from PTPS for FY 2006-07 based on the above highlighted efficiency improvements have been summarised in Table 5.5.

Table 5.5: Estimated energy generation from PTPS for FY 2006-07

Description	Units	FY 2006-07
Installed Capacity	MW	840
Derated Capacity (Usable)	MW	770
Plant Load Factor	%	40.0%
Auxiliary Consumption	%	9.0%
Station Heat Rate	kcal/kWh	2600
S. Oil Consumption	ml/kWh	2
Calorific Value of Coal	kcal/kg	4165
Calorific Value of Oil	kcal/L	10500
Coal Transit Loss	%	0.3%
Price of Landed Coal (Inc. Transit Loss)	Rs/tonne	965
Price of Oil	Rs/kL	24277
Specific Coal Consumption	kg/kWh	0.62
Gross Generation	**MU**	**2698**
Auxiliary Consumption	MU	243
Net Generation	**MU**	**2455**
Total Fuel Cost	**Rs Crore**	**175.63**
Per Unit Fuel Cost*	Rs/kWh	0.72
Fixed cost of PTPS	Rs. Crore	133.30
Fixed cost per unit*	Rs./kWh	0.54
Total cost per unit	Rs./kWh	1.26

* On Net generation only for thermal generation.

Note: Station heat rate, Specific oil consumption and coal transit loss are in accordance with the JSERC regulation

5.5.4 While estimating the net generation the Commission considered a PLF of 40%, this represents a trajectory of approx. 4% year on year increase in the PLF over the approved PLF for FY 2003-04. Since the Commission approved a high R&M cost for FY 2003-04 vide tariff order FY 2003-04, hence, such a gradual improvement in the PLF is well justified.

5.5.5 Further, the Commission has considered an auxiliary consumption of 9%, station heat rate of 2600 kCal/kWh, specific oil consumption of 2 ml/kWh and a coal transit loss of 0.3% (for pithead plants), which is as per the JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004.

5.5.6 The Commission also verified other parameters i.e. calorific value of oil, calorific value of coal, price of coal and price of oil from the actual fuel bills and the same were considered to be appropriate. Hence these parameters have been considered at the proposed level. As per the Commission's analysis the estimated net generation for FY 2006-07 works out to be 2762 MU with a total fuel cost of Rs. 175.63 Crore. Corresponding variable cost works out to be Rs. 0.72 per unit. Further, the fixed cost per unit works out to be Rs. 0.54 unit at the approved level of generation. This fixed cost corresponds only to the thermal power generation by JSEB.

5.5.7 The Board notified the tariff petition on 19th January 2007, and by the time of scrutiny of the details submitted by the Commission, all the actual data regarding the generation from the PTPS for the complete FY 2006-07 was made available by the Board. The Commission observed that the actual performance of the PTPS has further degraded. The net generation was only 529 MU for FY 2006-07. The gross generation reported was 615 MU with 86 MU as auxiliary consumption.

5.5.8 As per the actual data PTPS operated at a PLF of 9.1%, which is abysmally low in comparison to the PLF approved for PTPS in FY 2003-04. The actual auxiliary consumption reported was 14%, which is again very high and indicate a dismal state of affair at PTPS. Similar trends were observed for every other performance indicator. One of the crucial parameter of performance for the thermal power plant, the station heat rate (SHR) of PTPS stood at 4230 kCal/kWh. This typifies an increase of 63% above the norms as mentioned in the JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004.

5.5.9 The Actual specific oil consumption of PTPS stood at 25 ml/kWh, which is again quite high when, compared with the norms at 2 ml/kWh. Further, the actual coal transit losses for PTPS stood at 4%. PTPS is a pithead plant, with distance from pithead to siding being between 3-20 kilometres. Hence, under the given scenario the coal transit losses cannot be so high. At the actual gross generation level of 615 MU and other parameters reported by the Board, the total fuel cost for the Board for FY 2006-07 comes out to be Rs. 94.29 Crore. The actual energy generation from PTPS for FY 2006-07 have been summarised in Table 5.6.

Table 5.6: Actual energy generation from PTPS for FY 2006-07

Description	Units	FY 2006-07
Installed Capacity	MW	840
Derated Capacity (Usable)	MW	770
Plant Load Factor	%	9.1%
Auxiliary Consumption	%	14.0%
Station Heat Rate	kCal/kWh	4230
S. Oil Consumption	ml/kWh	25
Calorific Value of Coal	kCal/kg	4165
Calorific Value of Oil	kCal/L	10500
Coal Transit Loss	%	4.0%
Price of Landed Coal (Inc. Transit Loss)	Rs/tonne	965
Price of Oil	Rs/kL	24277
Specific Coal Consumption	kg/kWh	0.96
Gross Generation	**MU**	**615**
Auxiliary Consumption	MU	85.87
Net Generation	**MU**	**529**

5.5.10 The Commission recognizes that some units of the plants are very old and it would not be possible to run them at a high PLF. However, the actual level of PLF has been exceptionally low, even lower than the level approved by the Commission in FY 2003-04. In addition, instead of improving the performance has been deteriorating rapidly over time. In the light of above facts, the Commission is of the view the decline in performance of PTPS is largely due to lack of initiative from the Board and consumers cannot be burdened with this inefficiency.

5.5.11 Thus for the purpose of estimating the per unit fixed and variable cost of PTPS the Commission shall follow the efficiency improvements highlighted in Table 5.5.The per unit fixed and variable cost so obtained shall then be applied to the actual generation of FY 2006-07 on pro-rata basis. The Commission reiterates that the above has been done particularly to prevent inefficiencies of the Board to be passed on the consumers, who are already facing hardship due to poor quality of supply and low availability of power.

5.5.12 **Thus, the Commission approves a per unit fuel cost of Rs 0.72 and a per unit fixed cost of Rs. 0.54. The total cost of energy generation from PTPS, including both fixed and variable cost comes out to be Rs. 66.57 Crore i.e. Rs. 1.26 per unit.** The approved energy generation cost from PTPS for FY 2006-07 have been summarised in Table 5.7.

Table 5.7: Approved energy generation cost from PTPS for FY 2006-07

Per Unit Fuel Cost	Rs./kWh	0.715
Per Unit Fixed cost	Rs./kWh	0.543
Total cost per unit	Rs./kWh	**1.258**
Total Fuel cost	Rs. Crore	37.85
Total Fixed cost	Rs. Crore	28.72
Total Cost	Rs. Crore	**66.57**

5.5.13 The Commission has discussed the detailed estimation of fixed cost of the PTPS later in this section, according to which the total fixed cost works out to be Rs. 133.30 Crore. This cost consists of fixed expenses viz. employee cost, A&G cost, R&M cost, depreciation and reasonable return on account of running PTPS. As discussed above, the Commission shall allow fixed cost only to the extent of Rs. 28.72 Crore for PTPS, hence a certain portion of cost to the tune of Rs. 104.58 (=133.30-28.72 Crore) would be left that shall remain uncovered and not passed on to the consumers as this cost represents inefficient fixed cost of PTPS.

5.5.14 The Commission further is of the view that since this inefficient cost cannot be passed on to the consumers and remains unrecovered as of now, the Board should approach the State Government for this support.

5.6 Own Generation- Hydro

5.6.1 The Board proposed a net generation of 144.76 MU for FY 2006-07 from the Sikidiri hydel power station (SHPS). The proposed energy generation from SHPS for FY 2006-07 have been summarised in Table 5.8.

Table 5.8: Proposed energy generation from SHPS for FY 2006-07

Description	Unit	FY 2006-07
Capacity	MW	130
Gross Generation	MU	145
Auxiliary Consumption	MU	0.24
Net Generation	**MU**	**144.76**

5.6.2 During the discussion with the Board officials, the Commission obtained the actual energy generation from the SHPS as FY 2006-07 has already elapsed. The actual net generation from SHPS as submitted by the Board for FY 2006-07 is 207.8 MU, with an auxiliary consumption of 1.04 MU, variable cost of Rs. 2.78 Crore and fixed cost of Rs. 5.79 Crore. The actual energy generation from SHPS for FY 2006-07 have been summarised in Table 5.9.

Table 5.9: Actual energy generation from SHPS for FY 2006-07

SHPS	Unit	FY 2006-07
Capacity	MW	130
Gross Generation	MU	208.85
Auxiliary Consumption	MU	1.04
Net Generation	**MU**	**207.80**
Variable Cost	Rs. Crore	2.78
Fixed cost	Rs. Crore	5.79
Total Cost	**Rs. Crore**	**8.56**
Variable Cost per Unit	Rs./kWh	0.13
Fixed Cost per Unit	Rs./kWh	0.28
Total Cost per Unit	**Rs./kWh**	**0.41**

5.6.3 The Commission observes that SHPS is a multipurpose project, which caters to the irrigation needs and drinking water requirement of Ranchi city. Overtime it has been marked with the problem of silting due to which it has operated below the designed parameters. Although the Board should have improved its generation from SHPS, however delay in effectively resolving problems of silting have resulted in lower generation.

5.6.4 The Commission is of the view that every effort should be made to improve generation from SHPS, as the overall cost of generation is extremely low. **Thus, the Commission directs the Board to look into the matter of silting immediately and resolve the conflicts, if any on priority to improve generation from this plant. Hence, for FY 2006-07, the Commission approves**

the total variable cost of SHPS at Rs. 2.78 Crore and fixed cost at 5.79 as proposed by the Board.

5.7 Energy requirement

5.7.1 The Board proposed a total energy requirement of 6646 MU for FY 2006-07, which is based on T&D loss of 42.5%. The proposed energy requirement of the system for FY 2006-07 have been summarised in Table 5.10.

Table 5.10: Proposed energy requirement of the system for FY 2006-07

Description	Unit	FY 2006-07
Energy sales within system	MU	3821
Total T&D loss	%	42.50
Total T&D loss	MU	2824
Su-Transmission and Distribution loss	%	40.23%
Sub-Transmission and Distribution loss	MU	2572
Transmission loss %	%	6.10%
Transmission loss	MU	252
Energy required	**MU**	**6646**

5.7.2 The Commission calculated a total energy requirement of 6130 MU for FY 2006-07 based on the approved energy sales and T&D loss. Further, during FY 2006-07 the Board traded a net of 595.8 MU under the UI and has earned revenue of (net UI receivable) of Rs. 211.13 Crore. This is as per the data downloaded from the Eastern Load Dispatch Centre (ERLDC) website. The Commission though has considered the UI sales for FY 2006-07, it points out that this practice should not be encouraged especially when the state is reeling under an acute power shortage. **For all future transactions, the Commission directs the Board to first meet the need of its consumers and resort to UI sale only in case of zero load shedding. The Commission further directs the Board to host the details of the weekly power purchase/sale in MU and Rs. Crore on its website. Circle and division wise weekly details of load shedding and details of UI power purchase/ sale should also be posted regularly on the website.**

5.7.3 **For FY 2006-07, the Commission approves a total energy purchase of 6726 MU of which 736.9 MU will be met through its own generation (Thermal and Hydro combined), where as the remaining 5989.2 MU will be purchased from the other sources. The approved energy requirement of the system for FY 2006-07 have been summarised in Table 5.11.**

Table 5.11: Approved energy requirement of the system for FY 2006-07

Description	Unit	FY 2006-07
Sales	MU	3821.0
T&D Loss	%	37.67%
Energy requirement	MU	6130.3
Net traded energy in FY 2006-07	MU	595.8
Total energy purchased	MU	6726.0
Energy met through own generation	MU	736.9
Power purchase requirement	MU	5989.2

5.8 Power purchase

5.8.1 The Board proposed a gross power purchase requirement of 5971 MU for FY 2006-07 from various sources; however, no source wise allocation details were provided. It may be worthwhile to point out that of the total power purchase requirement of the Board, purchase from DVC accounts to 42%, hence it significantly influences the overall power purchase cost.

5.8.2 The Board has proposed an external transmission loss of 3.5% on the inter-state power purchase. However, it has not provided details of how it has arrived at the figure of 3.5% transmission loss on inter-state power purchase. Also, no details of meter reading at interface points have been provided to substantiate the above. Further, the Board has proposed no transmission losses on the power purchase from TVNL and DVC, as they are intra-state transfer of power. The proposed power purchase requirement from other sources for FY 2006-07 have been summarised in Table 5.12.

Table 5.12: Proposed power purchase from other sources (MU) for FY 2006-07

Power Purchase	FY 2006-07
D.V.C	2510.70
NTPC	
Farakka	704.07
Kahalgaon	533.40
Talcher	396.63
Sub Total NTPC	1634.10
NHPC	
PGCIL-Chukka	157.51
Rangit	43.20
Kuruchi	0.00
Sub Total NHPC	200.71
PGCIL-ERLDC Charges	0.00
Other sources	

TVNL	1607.45
WBSEB	18.00
PTC & NVVN	0.00
UI	0.00
Gross Power purchase	5970.96
External Losses*	3.5%
Net Power Purchase	**5906.11**

* Not applicable on DVC and TVNL

5.8.3 Further, the Board has proposed to purchase 400 MU from TVNL for UI sale. This is in addition to 1607 MU that has been mentioned above. The proposed additional power purchase requirement from TVNL for UI sale for FY 2006-07 have been summarised in Table 5.13.

Table 5.13: Proposed additional power purchase from TVNL for UI sale for FY 2006-07

Description	MU
Power purchase for Intra-state sale	1607
UI sale	400
Total	2007

5.8.4 During the discussion with the Board officials, the Commission asked for actual bills of power purchase from various sources for FY 2006-07, as FY 2006-07 has already elapsed. As per the actual bills for power purchase for FY 2006-07, the Commission formulated a merit order despatch based on the variable cost after considering the transmission constraints and contractual obligations from various sources. Quantum of power purchase being approved from each source, unless otherwise stated has been limited to the actual power purchased by the Board as per the bills.

5.8.5 **The Commission approves a total power purchase cost of Rs. 1142.98 Crore at an average per unit cost of Rs. 1.91 per unit for FY 2006-07.** The approved power purchase from other sources as per the merit order for FY 2006-07 have been summarised in Table 5.14. The detailed explanation of purchase from each source is given in the following paragraphs.

Table 5.14: Approved power purchase from other sources as per the merit order for FY 2006-07

Source	Units	Fixed cost	Variable Cost	Total Cost	Per unit
	MU	Rs. Cr.	Rs./kWh	Rs. Cr.	Rs./kWh
Chukka	198.9	-	-	30.21	1.52
Tala	94.1	-	-	17.19	1.83
Talcher	388.6	27.11	0.41	43.00	1.11
Rangit	26.0	4.70	0.67	6.44	2.48
TVNL	2375.5	-	0.85	451.35	1.90
DVC	2441.0	239.22	0.95	471.11	1.93
Farakka	465.1	39.82	1.06	76.76	1.65
PGCIL Charges	-	-	-	12.74	-
Fixed Cost of Kahalgaon	-	-	-	21.74	-
Total Cost	**5989.2**			**1142.98**	**1.91**

5.8.6 Chukka and Tala are international projects and the power purchase obligation from them is bound by contractual obligations, as per MOU between the India and Bhutan. The Government of India has designated PTC India Limited as the nodal agency for transfer of power from Tala, Bhutan. Hence, PTC is billing the Board for the power that is being provided to it. Accordingly, the Commission has considered power purchased from Tala as must purchase power.

5.8.7 Further, the Commission has scrutinized the actual bills raised by PTC for FY 2006-07 to determine the actual cost and quantum of power purchased from Chukka and Tala. It was observed that the power purchase from Chukka and Tala is being billed at a single part tariff (Rs./unit) on monthly basis. Hence, the Commission has approved the actual power purchase quantum and power purchase cost from the Chukka and Tala.

5.8.8 Tala project (1020 MW) is being implemented in Bhutan with the assistance of Government of India. A bilateral agreement for execution of this project was signed between the Government of India and Royal Government of Bhutan on 5th March 1996. As per this agreement, the surplus power would be sold by Bhutan to India at a mutually agreed rate to be determined by the two Governments at the time of commissioning of project.

5.8.9 Further, the Commission would like to bring to light a letter dated 27th July 2006 from the Government of India to Eastern Region Electricity Board, Kolkatta, which says:

Quote

2. It is assumed that initially entire Tala power would be available for India. The Eastern Region constituents would get 867 MW power (85% of 1020 MW) from Tala HEP commencing with the commissioning of Tala units progressively during 2006-07 and 15% of power i.e. 153 MW has been kept as unallocated quota at the disposal of the Central Government.

3. Accordingly, share of power from Tala HEP to the constituents of the Eastern Region (i.e. 867 MW) on firm basis would be as under:-

i) West Bengal (45% of 867 MW)	390.15 MW
ii) Bihar (30% of 867 MW)	260.10 MW
iii) Jharkhand (13.48% of 867 MW)	116.90 MW
iv) DVC (6.52% of 867 MW)	56.50 MW
v) Orissa (5% of 867 MW)	43.35 MW
Total:	867.00 MW

The actual energy generation by the project, after taking into account the auxiliary consumption, will be distributed among the beneficiaries indicated above. As and when, a part of the Tala power is utilized by Bhutan for its own use, the allocation to the Indian states shall also be revised in the above proportion accordingly.

4. Allocation of 867 MW of Tala power to the State utilities of the Eastern region and surrender of equivalent thermal power from Kahalgaon Unit 1-4 and Farakka STPS and revised allocation to ER States on commissioning of Mejia units 5 & 6 would be a follows:

(iii) Jharkhand (13.48%)

Allocation to Jharkhand from Tala is 116.90 MW (13.48% of 867 MW).

Jharkhand has 71 MW of allocation from Kahalgaon U 1-4 and 102 MW from Farakka. With progressive commissioning of Tala HEP units, first it would surrender its allocation from Kahalgaon U 1-4 and after surrendering the entire 71 MW from Kahalgaon U 1-4, the balance 45.9 MW would be surrendered from

Farakka. When all units at Tala are commissioned, its allocation from Kahalgaon U1-4 and Farakka would stand reduced to nil and 56.1 MW respectively. Subsequently, when Mejia Units 5 & 6 are commissioned and consequently the surrender requirement of ER reduces from 867 MW to 720 MW, surrender of Jharkhand would reduce from 116.87 MW to 97.1 MW. Consequently, 19.8 MW would be restored from Farakka increasing its allocation from Farakka from 56.1 MW to 75.9 MW.

Unquote

Hence, as a result with the progressive commissioning of the Tala Units, the allocation from the Kahalgaon and Farakka power plant will be reduced appropriately. Further, during April 2006 to July 2006 the power allocation from Kahalgaon was 71 MW. However, after the commissioning of initial Units of Tala, the allocations of Jharkhand in Kahalgaon have been reduced to 57.6 MW since August 2006.

5.8.10 Talcher (NTPC) and Rangit (NHPC) have been considered as per the merit order despatch. The power purchase quantum and cost have been based on the actual data provided by the Board.

5.8.11 Tenughat Vidyut Nigam Limited (TVNL) is a thermal generation plant located in the State of Jharkhand. Prior to the bifurcation of erstwhile Bihar, the TVNL catered to the entire state. However, post bifurcation, TVNL has come under the ownership of the Government of Jharkhand and thereon it has been supplying power to the JSEB only. It has an installed capacity of 420 MW with two units of 210 MW each. The Commission approves a purchase of 2375.52 MU from TVNL at the rate specified in the tariff order for FY 2005-06. The quantum of purchase is in line with the actual purchase undertaken by the Board in FY 2006-07 as obtained from the actual bills.

5.8.12 Damodar Valley Corporation (DVC) supplies power to the Board at 31 interconnection points as per PPA signed between them with a total contract demand of 395.7 MVA. Power is being supplied at 33 kV. During discussion with the officials of the Board, the Board submitted that no 132 kV transmission network exists through which power from DVC could be brought beyond these points and be supplied to other areas in JSEB area of supply. In view of the transmission constraints that exist, the Commission approves the actual power purchase of 2441 MU made by the Board in FY 2006-07.

5.8.13 The tariff order of DVC issued by Central Electricity Regulatory Commission (CERC) was challenged by DVC in the Appellate Tribunal. The final tariff of DVC will depend on the verdict of the Appellate Tribunal. However, as per the hearing on 11th July 2007, the Tribunal has allowed JSERC to determine tariff for JSEB. This tariff however shall be provisional and will be subject to revision based on the result of the appeal (No. 273 of 2006). Based on the CERC tariff order (against petition no. 66/2005, dated 3rd October, 2006) the overall cost of power from DVC works out to be Rs. 1.93 per unit. The fixed cost per unit works out to be Rs. 0.98 per unit, which includes Rs. 0.28 per unit on account of pension liability and variable cost works out to be Rs. 0.95 per unit.

5.8.14 Considering the above sources of power purchase, only 465.1 MU additional units are required to meet the energy requirement of the Board. This requirement is met through purchase from Farakka Thermal Power Station. Thus, Kahalgaon Thermal Power Plant does not enter into the merit order schedule. However, since the power purchase from these plants is based on PPA, the Board is liable to pay fixed charges on account of these agreements. As per the actual bills the fixed cost of Farakka TPS and Kahalgaon TPP works out to be Rs. 39.82 Crore and Rs. 21.74 Crore respectively.

5.8.15 In order to estimate the transmission charges for FY 2006-07, the Commission has looked at the actual transmission charges vis-à-vis the units transferred through the network, as provided in the bills raised by PGCIL and ERLDC. The actual per unit transmission charge works out to be Rs. 0.11 per unit. The same has been applied to the approved level of power purchase (interstate transfer of power) from various sources.

5.8.16 **Based on the above, the Commission approves total transmission charges at Rs. 12.74 Crore for FY 2006-07.** The details of the approved transmission charges for FY 2006-07 have been summarised in Table 5.15

Table 5.15: Approved transmission charges (Rs. Crore) for FY 2006-07

Description	Units	FY 2006-07
Chukka	MU	198.91

Tala	MU	94.09
Talcher	MU	388.63
Rangit	MU	25.97
Farakka	MU	465.06
Total	**MU**	**1172.65**
Per unit transmission charge	**Rs./Unit**	**0.11**
Total transmission charges	**Rs. Crore**	**12.74**

** Based on approved interstate transfer of power*

5.8.17 In addition, to the above the Board has also proposed to purchase 18 MU at a rate of Rs. 4.61 per unit from the West Bengal State Electricity Board (WBSEB) for FY 2006-07. The WBSEB power is the costliest power amongst the other sources. The Board claims that since it lacks the infrastructure to wheel power to Pakur district, therefore it is purchasing a costly power from the neighbouring state.

5.8.18 The Commission is of the view that to supply power to the Pakur district, the Board should consider opting for an open access to wheel its own cheap power from DVC to Pakur District through West Bengal. By doing this the Board will be paying only wheeling charges to the WBSEB and the resultant total cost of power will be significantly less than the proposed power purchase cost from WBSEB.

5.9 Employee cost

5.9.1 The Board proposed a disaggregated employee cost for Generation, Transmission and Distribution functions for FY 2006-07. Disaggregation has been based on number of employees existing in different functions. The total employee cost proposed by the Board is Rs. 272.88 Crores, which represents a CAGR of 18% over the approved employee cost for FY 2003-04. The employee cost proposed by the Board for FY 2006-07 also includes a provision of Rs. 60 Crore for the creation of a pension corpus. The Board submitted that no funds have been transferred to it for the payment of outstanding liabilities like pension, GPF, Gratuity and other terminal benefits hence necessitating a pension corpus. The proposed disaggregated employee cost have been summarised in Table 5.16.

Table 5.16: Proposed disaggregated employee cost (Rs. Crore) for FY 2006-07

Description	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 compensation / Group Insurance	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**
Less Capitalization	6.06	1.82	9.92	17.80
Net Employee Cost	**92.96**	**27.85**	**152.07**	**272.88**

5.9.2 A large numbers of consumers have objected to the increase in employee cost. They have stated that increase in employee cost reflects the inefficiency of the Board, which should not be passed onto the consumers. The steep increase in proposed employee costs is due to the creation of Rs 60 Crore pension corpus fund.

5.9.3 The Commission has benchmarked several parameters of employee productivity with those in other states. These parameters are highlighted in Table 5.17. As seen, not only the employee cost per unit of sale for Jharkhand is high when compared to West Bengal and Delhi, it has also deteriorated when compared to an employee cost of Rs. 0.68 per unit of sale that was approved by the Commission vide tariff order for FY 2003-04. Also, the number of employees per thousand consumers for Jharkhand when compared with neighboring states is one of the highest. The Commission recognizes that these states may not be truly comparable due to difference in consumer mix and other factors; nevertheless Table 5.17 indicates the severity of inefficiency of the Board. The Commission considers that this problem needs to be approached from both ends – reducing employee costs and increasing sales per employee. Presently the Board is resorting to load shedding even when power is available. The only way out is to increase sales both by increasing the consumer base by expanding supply to unserved areas and by efficient metering and billing systems so that the sales are accurately recorded and revenue collected.

Table 5.17: Comparison of employee productivity of various states

Sl. No.	States	EC per unit of sale	No. of employees/ 1000 consumers	No. of employees/ MU sold
		Rs/kWh		
1	Delhi	0.32	5.63	1.23
2	Chhattisgarh	0.74	NA	NA
3	Madhya Pradesh*	0.61	2.37	3.41
4	West Bengal	0.36	4.80	2.36
5	Bihar**	1.21	9.52	3.73
6	Jharkhand***	0.71~	6.58	1.88

* Till FY 2004-05
**As approved by BSERC for FY 2006-07
***Based on tariff petition for FY 2006-07
~Employee cost per unit of sales based on approved figures for FY 2003-04 was 0.68.
Note: Delhi is for distribution segments, Jharkhand, Bihar, Madhya Pradesh and West Bengal for generation, transmission and distribution combined for FY 2005-06.

5.9.4 Keeping in mind the above comparison, the Commission is of the view that such a steep increase in employee cost proposed by the Board is unwarranted. The Commission feels that overtime the Board should improve its own performance and also compete with other states in terms of setting benchmark for performance indicators.

5.9.5 In addition, absence of audited annual accounts and detailed information has also constrained estimation and verification of actual employee cost of the Board. The Board failed to furnish details of actuarial studies being conducted by it for the determination of terminal benefit and pension corpus liabilities. In absence such information, the Commission feels that it would not be prudent to approve pension corpus fund of Rs. 60 Crore and pass on this cost to consumer. It may be noted that the honorable Supreme Court vide its order in Civil Appeal No. 5338 of 2006 arising out of Special Leave to Appeal (Civil) No(s). 8618/2006 gave the judgment that pension liability of all retiree before the reorganization of erstwhile combined Bihar would rest with Bihar and pension liability of Jharkhand would only be for those retirees who retire from JSEB. As such, the pension liability of Jharkhand would stand reduced.

5.9.6 The Commission is of the view that creation of a pension corpus is a capital commitment, which cannot be treated as revenue requirement. In order to honor the terminal benefit liabilities the Commission approves Rs. 22.86 Crore towards the terminal benefit liabilities for FY 2006-07. This is equivalent to amount approved for FY 2003-04 vide tariff order FY 2003-04, which is being maintained and allowed without any escalation. Further, the Commission is of the view that the burden of 'free electricity' should not be passed on to the customers. Hence, it has not considered the 'free electricity' for FY 2006-07 as this leads to inefficiencies and masquerading of T&D losses.

5.9.7 **Thus for FY 2006-07, the Commission approved an inflationary increase on various components of employee cost, except for terminal benefits and free electricity. The year on year inflation rate (Wholesale Price Index) for FY 2004-05, FY 2005-06 and FY 2006-07 have been 6.48%, 4.43% and 6.90%. The base for this inflationary increase would be the employee costs approved vide tariff order for FY 2003-04. The total employee cost taking the above into consideration and terminal benefits liabilities of Rs. 22.86 Crores, the total employee cost works out to be Rs. 193.38 Crore for FY 2006-07. At the same time, the Commission directs the Board to provide details of actuarial studies being undertaken by the Board with the next tariff petition, as any revision in the terminal benefit liabilities would have to be based on the same.**

5.9.8 In addition to the above, the petition is completely silent on the Capital work in progress (CWIP). The Board provided no information regarding CWIP, even after repeated correspondence. Further, in its unaudited Annual Statement of Accounts for FY 2005-06, the statement –IV mentions that

Quote

The capitalisation of depreciation is not being done due to the fact that there is no major project under consideration stage in the Board. The last generation project was commissioned in the year 1986. For the past three years, the Board has been executing only Transmission, Distribution and R.E. Schemes in which no equipment warranting capitalisation of depreciation are needed.

Unquote

5.9.9 Hence, the Commission is of the view that there is no prudent basis for capitalization of employee cost. Therefore, the Commission disapproves the capitalization of employee cost for FY 2006-07. **Further, the Commission directs the Board to declare its capitalization policy and to provide the year wise details regarding CWIP with the next tariff petition. Any consideration regarding the capitalization of employee cost would be considered thereafter.**

5.9.10 As regards disaggregating, the Commission feels that the factual disaggreation of respective costs into G, T & D functions could only be considered after the State Government notifies restructuring of the Board. However, the Commission is of the view that functional disaggregation is must for the purpose of better transparency, enhanced accountability and efficient cost allocation. Currently the Board has a practice of preparing consolidated accounts for all the functions. It has no provisions through which the details of disaggregated costs could be made available. Hence, under the given data constraints the Commission has based the functional disaggregation on similar assumption as made by the Board, which it feels forms appropriate basis for disaggregation under the said data constraints. **The approved disaggregated employee cost for Generation, Transmission and Distribution function have been summarized in Table 5.18.**

Table 5.18: Approved disaggregated employee cost (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Salary	30.40	9.11	49.90	89.42
DA	16.37	4.90	26.78	48.05
Overtime	1.07	0.32	1.75	3.14
Bonus	0.71	0.21	1.18	2.10
Sub Total	**48.56**	**14.55**	**79.61**	***142.71***
Medical Reimbursement	0.34	0.10	0.56	1.00
Leave Travel Assistance	0.12	0.00	0.25	0.37
Leave Encashment	1.64	0.49	2.68	4.81
Workmen compensation / Group Insurance	0.38	0.11	0.62	1.12
Total Other staff Cost	***2.48***	***0.71***	***4.10***	***7.29***
Terminal Benefits	7.79	2.33	12.74	22.86
Pension Corpus	0.00	0.00	0.00	0.00

Interim Relief	0.04	0.01	0.07	0.13
Compensatory Allowance	0.26	0.08	0.43	0.77
Special Pay	0.02	0.01	0.04	0.07
Medical Allowance (Fixed)	0.12	0.04	0.20	0.36
House Rent Allowance	1.50	0.44	2.47	4.40
Conveyance Allowance	0.14	0.04	0.23	0.41
Emergency Allowance	0.06	0.02	0.10	0.18
Free Electricity	0.00	0.00	0.00	0.00
Cash Handling / Steno Typist Allowance	0.01	0.00	0.01	0.02
Social Welfare Expenses	0.04	0.01	0.07	0.12
Uniform & Liveries	0.20	0.06	0.32	0.58
Group Saving Scheme	0.55	0.16	0.90	1.61
Contribution to Provident Fund	0.21	0.06	0.35	0.62
Gratuity	3.52	1.03	5.79	10.34
Honorarium / Ex. Gratis	0.02	0.01	0.03	0.05
Funeral	0.01	0.00	0.01	0.02
Provident Fund Compensation Charges	0.05	0.01	0.08	0.14
Cont. to Officer Welfare Fund	0.08	0.02	0.13	0.22
Other, if any (With Details)	0.13	0.04	0.21	0.37
Group Insurance Premium	0.00	0.00	0.00	0.01
Medical Expenses	0.03	0.01	0.05	0.09
Gross Employee cost	**65.80**	**19.64**	**107.94**	**193.38**
Net Employee cost	**65.80**	**19.64**	**107.94**	**193.38**

5.10 Administrative and General cost

5.10.1 The Board proposed a disaggregated A&G cost for Generation, Transmission and Distribution functions for FY 2006-07. Disaggregation has been based on number of employees existing in different functions. The total A&G cost proposed by the Board is Rs. 45 Crore, which represents a CAGR of 14% over the approved A&G cost for FY 2003-04. The proposed disaggregated A&G cost have been summarised in Table 5.19.

Table 5.19: Proposed disaggregated A&G cost (Rs. Crore) for FY 2006-07

Description	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 telegram and telex charges.	0.53	0.16	0.87	1.56
Legal Charges	0.60	0.18	0.98	1.76

Description	Generation	Transmission	Distribution	Total
Audit Charges	0.37	0.11	0.61	1.09
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 & Oil	0.59	0.18	0.97	1.74
Vehicle Running (Heavy), Diesel, Petrol, Oil	0.41	0.12	0.68	1.21
Vehicle License & Registration	0.07	0.02	0.12	0.21
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 Related to Expenses	0.37	0.11	0.60	1.08
Bank the 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**
Less: A&G Expenses capitalized	0.86	0.26	1.40	2.52
Net A&G Costs	**15.34**	**4.58**	**25.12**	**45.04**

5.10.2 The Commission has analyzed the A&G cost and is of the view that such a steep increase in A&G cost is unwarranted. Further, under the light of given data constraints and stand that the Commission has taken, as per the para 4.18 in Section 4. **The Commission approves a year on year inflationary increase on various components of A&G cost. The year on year inflation rate (Wholesale Price Index) for FY 2004-05, FY 2005-06 and FY 2006-07 have been 6.48%, 4.43% and 6.90%. The base year for this inflationary increase would be A&G cost approved for FY 2003-04. The Commission approves a total A&G cost of**

Rs. 35.98 Crore for FY 2006-07. The approved disaggregated A&G cost for Generation, Transmission and Distribution function have been summarized in Table 5.20.

5.10.3 In addition to the above, the petition is completely silent on the subject of Capital work in progress (CWIP). The Board provided no information regarding capital expenditure plans even after repeated correspondence. Hence, the Commission observes that in the absence of any relevant details, regarding CWIP or capex plans, it has no basis to decide on the capitalization of A&G cost. Further, in its unaudited Annual Statement of Accounts for FY 2005-06, the statement –IV mentions that

Quote

The capitalisation of depreciation is not being done due to the fact that there is no major project under consideration stage in the Board. The last generation project was commissioned in the year 1986. For the past three years, the Board has been executing only Transmission, Distribution and R.E. Schemes in which no equipment warranting capitalisation of depreciation are needed.

Unquote

5.10.4 Hence, the Commission is of the view that there is no prudent basis for capitalization of employee cost. Therefore, the Commission disapproves the capitalization of A&G cost for FY 2006-07. **Further, the Commission directs the Board to declare its capitalization policy and to provide the year wise details regarding CWIP with the next tariff petition. Any consideration regarding the capitalization of A&G cost would be considered thereafter.**

5.10.5 Due to reasons stated earlier, the Commission has adopted similar basis for functional disaggregation of A&G costs as proposed by the Board. Table 5.20 highlights the approved A&G costs for G, T & D functions.

Table 5.20: Approved disaggregated A&G cost (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Rent (Including Lease Rental)	0.76	0.22	1.26	2.24
Insurance	0.49	0.15	0.81	1.45

Description	Generation	Transmission	Distribution	Total
Telephone, Postage telegram and telex charges.	0.68	0.20	1.13	2.01
Legal Charges	0.50	0.15	0.82	1.46
Audit Charges	0.25	0.07	0.41	0.74
Total consultancy chare/Tech fees	0.55	0.16	0.90	1.61
Conveyance & Travel	0.50	0.15	0.83	1.48
Vehicle Running (Light), Petrol & Oil	0.44	0.13	0.72	1.28
Vehicle Running (Heavy), Diesel, Petrol, Oil	0.22	0.06	0.35	0.63
Vehicle License & Registration	0.07	0.02	0.11	0.20
Fees and Subscription	0.02	0.01	0.04	0.06
Books & Periodicals	0.02	0.01	0.03	0.05
Printing & Stationary	1.27	0.37	2.10	3.75
Advertisement	0.55	0.16	0.91	1.62
Electricity & Water Charges	0.83	0.25	1.37	2.45
Entertainment Charges	0.10	0.03	0.16	0.29
Miscellaneous Expenses	0.36	0.11	0.60	1.06
Total other expenses	***3.16***	***0.93***	***5.20***	**9.29**
Stores Handling	0.10	0.03	0.16	0.29
Pvt. Security Guards / Home Guard	2.59	0.76	4.27	7.62
Computer Agency	0.98	0.29	1.61	2.88
Freight & Other purchase Related to Expenses	0.39	0.12	0.65	1.16
Bank the Commission	0.03	0.01	0.05	0.09
Bill Distribution Expenses	0.12	0.04	0.20	0.36
Training	0.05	0.01	0.08	0.15
Pollution	0.09	0.03	0.15	0.27
Vehicle Hire Expenses	0.24	0.07	0.40	0.71
Rates & Taxes	0.02	0.00	0.03	0.05
A&G Costs	**12.23**	**3.60**	**20.15**	**35.98**

5.11 Gross fixed asset

5.11.1 The Board proposed in their tariff petition a consolidated gross fixed asset (GFA) of Rs. 1775.07 Crore for FY 2006-07 as a projected figure. However, provided no details regarding the disaggregating of Gross fixed asset amongst the Generation, Transmission and Distribution function have been provided. Further, the Board has considered the total consumer contribution under the distribution function. The net fixed asset of the Board for FY 2006-07 stands at Rs. 558.49 Crore. The proposed disaggregated Gross fixed assets have been summarised in Table 5.21.

Table 5.21: Proposed disaggregated Gross fixed asset (Rs. Crore) for FY 2006-07

Description	**Generation**	**Transmission**	**Distribution**	**Total**
Gross Block/Fixed Asset	751.66	193.99	829.42	1775.07
Less: Accumulated Depreciation	569.53	113.67	453.42	1136.62
Less: Consumer Contribution	0.00	0.00	79.96	79.96
Net Block/Fixed Asset (Exc. Consumer Cont.)	**182.13**	**80.32**	**296.04**	**558.49**

5.11.2 The GFA in tariff petition for FY 2005-06 and FY 2004-05 has been stated as Rs.1602.08 Crore and Rs. 1439.77 Crore as revised estimate and provisional figure respectively. However, these figures do not match with the Accounts submitted to the Commission vide their letter no. 983, dated 15th December 2006. It may be noted that the Board submitted the Annual Statement of Accounts for FY 2005-06 to the Accountant General for audit. The Annual Statement of Accounts for FY 2005-06 has a mention of consolidated GFA of Rs. 1662.63 Crore for FY 2005-06. Further, as per the Statement of Accounting Policies, under the Statement-IV it has been mentioned that

Quote

None of the accounting units are maintaining fixed asset register.

Unquote

5.11.3 Hence, under the existing multiplicity of figures submitted by the Board and admission of the Board, in its Accounts, that none of the accounting units are maintaining fixed asset register clearly highlights the unreliability of data in the submitted Accounts. **However, for the purpose of tariff determination, as one time dispensation, the Commission approves the consolidated GFA of Rs. 1662.63 Crore for FY 2006-07, as mentioned in Annual Statement of Accounts for FY 2005-06 as submitted to Accountant General (Audit) for audit.** Further, the Commission is of the view that the approved consolidated GFA should be disaggregated between the G, T&D function in the same ratio as was done by the Board for the proposed GFA. **The Commission also, directs the Board to get its accounts audited and asset register completed. Both of these should be submitted with the next tariff petition. In case this is not done, the Commission may in view of data uncertainty not allow any return on equity in the next tariff order.** The approved disaggregated Gross fixed assets have been summarised in Table 5.22.

Table 5.22: Approved disaggregated Gross fixed asset (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Gross Block/Fixed Asset	704.05	181.70	776.88	1662.63
Less: Accumulated Depreciation	512.64	102.32	408.13	1023.09
Net Block/Fixed Asset	182.44	80.46	376.64	639.54
Less: Consumer Contribution	0	0	77.61	77.61
Net Block/Fixed Asset (Exc. Consumer Cont.)	**182.44**	**80.46**	**299.03**	**561.93**

5.12 Repair and Maintenance cost

5.12.1 The Board proposed a disaggregated R&M cost for Generation, Transmission and Distribution functions for FY 2006-07. R&M cost have been functionally separated among the different functions of the Board. The total R&M cost proposed by the Board for FY 2006-07 is Rs. 55.14 Crore. In the tariff petition, the Board has mentioned that the proposed R&M cost is 2.53% of the proposed GFA. This is based on the closing balance of GFA for that year. Based on the proposed level of opening GFA the percentage works out to be 3.11%. The proposed disaggregated R&M cost have been summarised in Table 5.23.

Table 5.23: Proposed disaggregated R&M cost (Rs. Crore) for FY 2006-07

Description	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
Total	**29.73**	**6.03**	**19.38**	**55.14**

5.12.2 The Commission has analyzed the R&M cost of the Board and is of the view that proposed GFA does not form a prudent base for the determination of R&M cost. The same has also been highlighted in para 5.11.3. Hence, the Commission has used the approved GFA for the purpose of estimation of R&M costs.

5.12.3 The Commission recognizes that most of the Boards' infrastructure and plant are quite old. The Unit 1-6 of the PTPS is 33-40 years old and the remaining units are also of the same vintage. Further, the transmission and distribution network of the Board is also quite old and is prone to breakdown. The Commission also is of the view that proper R&M is essential for optimally utilizing the existing assets and adequate amount should be provided to the Board for effectively undertaking the same. **The Commission for FY 2006-07 has therefore approved R&M cost of Rs. 51.64 Crore, which is 3.11% of approved GFA.**

5.12.4 In addition to the above, for reasons stated above, functional disaggregation for R&M costs has been done on the assumptions proposed by the Board. The approved disaggregated R&M cost for Generation, Transmission and Distribution function have been summarized in Table 5.24.

Table 5.24: Approved disaggregated R&M cost (Rs. Crore) for FY 206-07

Description	Generation	Transmission	Distribution	Total
Plant & Machinery	23.22	1.40	4.64	29.26
Buildings	1.40	0.57	1.28	3.26
Civil Works	0.53	0.41	0.81	1.75
Hydraulic	0.63	0.00	0.00	0.63
Lines, Cable, Network	1.26	3.19	11.15	15.61
Vehicles	0.74	0.04	0.15	0.93
Furniture & Fixture	0.02	0.01	0.03	0.06
Office Equipments	0.04	0.02	0.09	0.15
Technical Fees	0.00	0.00	0.00	0.00
Total	**27.84**	**5.65**	**18.15**	**51.64**

5.13 Bad and Doubtful Debt Provision

5.13.1 The Board proposed Rs. 32.46 Crore towards the provision for bad and doubt debts, which is at 2.5% of the proposed revenue from sale of power. The provision for bad and doubtful debt was allocated in total to the Distribution function. The proposed disaggregated provision for bad and doubtful debt have been summarised in Table 5.25.

Table 5.25: Proposed disaggregated provision for Bad and Doubtful debt (Rs.Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Revenue from sale of power	0	0	1298.48	1298.48
Provision for B&D debts as % of Revenue	0	0	2.5%	2.5%
Bad Debts Provision	**0.00**	**0.00**	**32.46**	**32.46**

5.13.2 The Commission would like to highlight that during discussions and information collection from the Board, no details have been submitted by the Board on the policy and rules for classifying a receivable as bad debt and procedure followed in this respect. Also, as highlighted in the preceding sections Board's accounts are not yet finalized and hence bad debts that may have been written off cannot be verified. Further, as per the JSERC (Terms and conditions for distribution tariff) Regulations, 2004 no provision for bad and doubtful debt should be considered as an admissible expense in ARR estimation. The Commission is of the view that allowing bad debts leads to attenuation on the part of licensee to collect its dues vigorously and hence Board should make every effort to collect its revenue expeditiously.

5.13.3 **In the light of the above and absence of detailed information, the Commission disapproves provision any provision for bad debts for FY 2006-07.**

5.14 Depreciation

5.14.1 The Board has proposed a disaggregated depreciation cost for Generation, Transmission and Distribution functions for FY 2006-07. The total depreciation proposed by the Board is Rs. 97.98 Crore, at 5.52% of proposed opening GFA for FY 2006-07. The details of the proposed disaggregated depreciation cost is summarised in Table 5.26.

Table 5.26: Proposed disaggregated depreciation for (Rs. Crore) FY 2006-07

Description	Generation	Transmission	Distribution	Total
GFA- Opening Balance	751.66	193.99	829.42	1775.07
Asset addition during the year	41.87	104.69	261.72	408.28
GFA Closing Balance	793.53	298.68	1091.14	2183.35
Depreciation Rate	2.88%	7.50%	7.44%	5.52%
Depreciation	**21.65**	**14.55**	**61.71**	**97.98**

5.14.2 The Commission has analyzed the depreciation charge of the Board and is of the view that the proposed GFA does not form the prudent base for the determination of depreciation charge. This is due to the data inconsistency and data insufficiency already highlighted in para 4.18 of section 4. The Commission is of the view that for the purpose of estimating depreciation for FY 2006-07, GFA as approved by the Commission is para 5.11.3 of this section shall be considered.

5.14.3 Further, as a part of the scrutiny process for the determination of ARR, the Commission requested the Accountant General (Audit) to provide remarks on the Accounts part of the tariff petition, by the letter number JSERC/Legal/02(06-07) Pt. /721 dated 1st February, 2007. The Accountant General (Audit) in its remarks stated that

Quote

"The depreciation rate goes on increasing from 5.11% (2004-05) to 5.52% (2006-07) as per the projections made in the tariff petition but the actual depreciation rate has been pegging around 5% during the period 2002-03 to 2004-05. Hence the projected rate is on higher side."

Unquote

5.14.4 Further, the Commission repeatedly corresponded with the Board for getting the asset wise break-up. However, the Board was not able to provide any such details, as the Board does not maintain any Fixed Asset Register.

5.14.5 In view of the above data constraints and absence of audited accounts, the Commission has considered the actual depreciation rate at FY 2004-05 level i.e. 5.11%, as mentioned in the Accountant General's (Audit) Letter. In addition, the residual lives of the asset have been considered as 10% and depreciation have been allowed up to maximum of 90% of effective GFA. The land, assets lost in fire and assets not in use have been excluded while computing 90% of effective GFA.

5.14.6 **Based on the above, the Commission approves a total depreciation cost of Rs.70.65 Crore for FY 2006-07. At the same time, the Commission directs the Board to provide data related to fixed assets and maintain an asset register classifying assets on the basis of appendix II of, JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004.** The approved total depreciation charges for FY 2006-07 have been summarized in Table 5.27.

Table 5.27: Approved total depreciation (Rs. Crore) for FY 2006-07

Description	Total
GFA- Opening Balance	**1662.63**
Asset lost due to fire*	118.76
Asset not in use*	4.04
Land**	3.6
Effective GFA	**1536.23**
GFA for Depreciation (@ 90% of effective GFA)	1382.61
Deprecation rate	5.11%
Depreciation	**70.65**

* As per Chartered Accountants Report

** As on March 2001-02, as per the SBI inception report.

5.14.7 Currently the Board has a practice of preparing consolidated accounts for all the functions. It has no provisions through which the details of disaggregated costs could be made available. Hence, under the given data constraints, the Commission is of the view that the functional disaggregation should to be based on certain assumptions. The Commission has scrutinized the assumptions made by the Board, as stated in para 2.16 of section 2. The Commission is of the view that under the proven scenario of data constraints and data insufficiency the stated assumption forms the lone basis for the disaggreation of respective cost. Hence, the Commission adopts the same assumptions for the disaggregation of the respective costs for FY 2006-07. The approved disaggregated depreciation cost for Generation, Transmission and Distribution function have been summarized in Table 5.28.

Table 5.28: Approved disaggregated depreciation (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
GFA- Opening Balance	704.05	181.70	776.88	1662.63
Depreciation	**15.61**	**10.49**	**44.55**	**70.65**

5.15 Interest Cost

5.15.1 The Board has proposed a disaggregated interest cost for Generation, Transmission and Distribution function for FY 2006-07. The total interest cost proposed by the Board is Rs. 551.6 Crore. The proposed disaggregated interest cost have been summarised in Table 5.29.

Table 5.29: Proposed disaggregated interest cost (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Generation Loans	16.51	0	0	16.51
Transmission Loans	0	28.53	0	28.53
Distribution Loans	0	0	211	211
Building Loans	0	0	0.31	0.31
APDRP	0	0	11.89	11.89
MNP	0	0	18.87	18.87
Power Purchase	0	0	46.64	46.64
Loan from PFC (APDRP)	0	0	5.81	5.81
CPA	0.91	0	13.86	14.77
State Government Loan (erstwhile BSEB)	0	0	202.94	202.94

Gross Interest	**17.42**	**28.53**	**511.32**	**557.27**
Less: Interest capitalized	*(0.39)*	*(0.48)*	*(4.80)*	*(5.67)*
Net Interest Costs	**17.03**	**28.05**	**506.52**	**551.6**
Interest on Working Capital Loan	8.13	2.30	2.50	12.93
Total Interest Cost	**25.16**	**30.35**	**509.02**	**564.53**

5.15.2 The Board has further proposed that the interest on BSEB loan to be treated as "Regulatory Asset" for FY 2006-07 to be amortized in the later years.

5.15.3 The Commission has reviewed the accounts submitted by JSEB for FY 2005-06. The accounts highlight a figure of Rs. 6233.72 Crore as cash and bank balances. The detailed explanatory note attached along with the accounts states,

Quote

Remittances from Board (Hqrs) to the field offices as well as payment by the HQ on behalf of field offices are booked under the account head 24.601 and 24.602. But it has been observed that field offices were crediting different heads of Accounts on receipt of fund/debit note and the same is yet to be reconciled by DDA Hqrs DDA [RE] and Area Board/Zone. Since the remittances of fund are made through Demand draft by special messenger, it is not possible to remain the same under cash in transit. The unusual balance exist in schedule 26© under subhead of Cash in transit is due balance in field units cash in transit head and 25% cash in transit figure of DDA Hqrs and DDA RE of erstwhile B.S.E.B. as on 31.03.2001.

Unquote

5.15.4 In addition to the above, the Commission has had repeated communication, both written and oral with the Board in order to clarify the above issue, however no convincing explanation has been provided by the Board in this regard. The statutory auditor of the Board, the Accountant General (Audit), Jharkhand was requested to comment on Board's note. The Accountant General (Audit), Jharkhand comments are as follows:

Quote

Though the erstwhile Bihar State Electricity Board (BSEB) showed a sum of Rs 44.95 crores under cash in transit in Schedule-26(c) as on 31.03.2001 and the present BSEB accounted for Rs 15.94 crores during 2001-02, the Jharkhand State

Electricity Board (JSEB) accounted Rs 5,888.13 crores as its share from erstwhile BSEB in their first accounts 2001-02.

Unquote

5.15.5 The Commission is of the view that with such huge amount under cash in Hand and Bank, there arises no need for JSEB to resort to high cost borrowings. The Board should meet its fund requirements from the available funds. The Commission observes that Board has repeatedly taken a stand that this cash in transit (as shown in Cash in hand and Bank) as shown in Scheule 26(c) does not actually exist on the asset side and exists due to discrepancy in reconciliation between the field units and the headquarter. However, if this is considered a similar amount has to be deducted from the liability side in order to tally the asset and liability side of the balance sheet, which in itself means that the corresponding loan amount will vanish from there which will warrant no interest liabilities.

5.15.6 **Pending this reconciliation and clarification, the Commission feels that at this it would not be appropriate to burden the consumers with such huge liability and hence Commission does not approve any interest liability for FY 2006-07. At the same time, the Commission directs the Board to submit the audited annual accounts for the previous years with detailed explanation and clarification of the above issue.**

5.16 Interest on working capital

5.16.1 The Board proposed a total interest on working capital of Rs. 12.89 Crore, at 12% of the total working capital requirement for FY 2006-07. The proposed disaggregated interest on working capital have been summarised in Table 5.30.

Table 5.30: Proposed disaggregated interest on working capital (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
O&M Expenses for 1 month	11.5	3.21	16.38	31.09
Maintenance Spares @ 1% GFA	7.52	1.94	8.29	17.75
Receivable equivalent to 60 days	48.75	13.70	218.08	280.53
Less: PP cost of one month			*(111.27)*	*(111.27)*
Less: Security deposit			*(110.64)*	*(110.64)*
Total Working Capital	**67.77**	**18.85**	**20.84**	**107.45**
Rate of Interest	12%	12%	12%	12%

Interest cost on working capital	**8.13**	**2.26**	**2.50**	**12.89**

5.16.2 The Commission is of the view that interest on working capital is required to meet shortfall in the revenue and is essential to cover its day-to-day cash requirement. **The Commission approves Rs. 6.35 Cr towards interest on working capital for FY 2006-07 to meet shortfall in revenue collection by 5%.** This has been calculated by applying 10.5% rate of interest i.e. short-term prime lending rate of State Bank of India and approved revenue for FY 2006-07. This is in accordance with the JSERC (Terms and Conditions of Distribution Tariff) Regulations 2004. This shall be attributed to the distribution function of JSEB.

5.17 Statutory return

5.17.1 The Board proposed a total statutory return of Rs. 16.75 Crore, at 3% of the proposed Net Fixed Asset (NFA) as per the Electricity (Supply) Act, 1948. The proposed disaggregated statutory return have been summarised in Table 5.31.

Table 5.31: Proposed disaggregated statutory return (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Gross Block/Fixed Asset	751.66	193.99	829.42	1775.07
Less: Accumulated Depreciation	569.53	113.67	453.42	1136.62
GFA less consumer contribution	182.13	80.32	376	638.45
Less: Consumer Contribution	0	0	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**

5.17.2 The Commission would like to highlight that post enactment of Electricity Act, 2003, the Electricity (Supply) Act, 1948 stands repealed. Hence, the proposed methodology does not form prudent base for the determination of statutory return.

5.17.3 JSERC (Terms and Conditions for Distribution Tariff) Regulations, 2004 specify that a return of 14% shall be provided on the normative equity base arrived by using a norm of 70:30 (debt: equity). The Commission has applied this norm on the asset base approved above. Based on this, the approved return for FY 2006-07 works out to be Rs. 66.57 Crore.

5.17.4 Due to reasons stated above, the Commission has adopted similar basis for segregation of return into G, T and D functions as proposed by the Board. This is indicated in Table 5.32.

Table 5.32: Approved disaggregated statutory return (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Gross Fixed Asset	704.05	181.70	776.88	1662.63
Less: Consumer contribution	0.00	0.00	77.61	77.61
GFA less consumer contribution	704.05	181.70	699.27	1585.02
Normative Equity	211.21	54.51	209.78	475.71
Return (@ 14% of normative equity)	**29.57**	**7.63**	**29.37**	**66.57**

5.18 Non-Tariff Income

5.18.1 The Board proposed a disaggregated non-tariff income for Generation, Transmission and Distribution functions for FY 2006-07. The total non-tariff income proposed by the Board is Rs. 63.73, which includes 10% of the delayed payment surcharge apportioned to the Distribution function. The proposed disaggregated non-tariff income have been summarised in Table 5.33.

Table 5.33: Proposed disaggregated Non-Tariff income (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Delayed Payment Surcharge (DPS)	0	0	402	402
Realizable DPS @ 10% of DPS	0	0	40.2	40.2
Realizable DPS	**0**	**0**	**40.2**	**40.2**
Sale of Water	3.09	0	0	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	1	1	10
Total Non-Tariff Income	**12**	**1.89**	**49.84**	**63.73**

5.18.2 The Commission observes that the Board has not proposed any amount towards the rebate for timely payment of dues, although it is required to offer a rebate for it to the consumers. The Commission in its previous tariff order for FY 2003-04 had approved Rs. 1.60 Crore for the above. The Board has provided no details of rebate offered to the consumers during the previous years.

5.18.3 In absence of detailed information, the Commission approves Rs. 1.6 Crore towards the rebate on timely payment of due for FY 2006-07 i.e. at the same level as approved in tariff order for FY 2003-04.

5.18.4 The Commission has analysed the power traded by the Board for FY 2006-07 from the data obtained from the Eastern Region Load Despatch Centre (ERLDC). It is observed that while in FY 2005-06 the Board was a net importer of power under UI, in FY 2006-07 it emerged as a net exporter. In FY 2005-06, the Board imported 119 MU under UI whereas in FY 2006-07 it exported a net of 596 MU under UI earning a net UI receivable of Rs. 211.13 Crore. This has therefore been accounted for in the non-tariff income of the Board. The Commission wants to emphasize that the Board should first meet the need of its consumers and resort to UI sale only in case of zero load shedding and zero power outage situations.

5.18.5 Further, as regards delayed payment surcharge (DPS), the Commission would like to highlight that the intent of DPS is to penalize the defaulting consumers on account of non-payment of electricity bills in time so that, consumers pay their bills promptly. Over the years, JSEB has defaulted on collecting the DPS from its consumers, which has resulted in accumulation of the same. The Commission has repeatedly asked for details pertaining to DPS, however no information or explanation has been provided by the Board.

5.18.6 **In absence of detailed information on the above, the Commission for FY 2006-07 approves Rs. 40.20 Crore towards the DPS and directs the Board to make all efforts to collect the DPS promptly and also maintain complete records of the same, which should be submitted along with the next tariff petition**. The approved disaggregated Non-Tariff income have been summarised in Table 5.34.

Table 5.34: Approved disaggregated Non-Tariff income (Rs. Crore) for FY 2006-07

Description	Generation	Transmission	Distribution	Total
Delayed Payment Surcharge (DPS)	0.00	0.00	402.00	402.00
Realizable DPS @ 10% of DPS	0.00	0.00	40.20	40.20
Total DPS from Consumer	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	5.50	6.88
Miscellaneous Receipt (Incl. Sale of scrap)	8.00	1.00	1.00	10.00
Less: Rebate for timely payment	0.00	0.00	1.6	1.60
UI Payable	0.00	0.00	1.95	1.95
UI Receivable	0.00	0.00	213.09	213.09
Net UI receivable (UI Payable minus UI Receivable)	0.00	0.00	211.13	211.13
Total	**12.00**	**1.89**	**259.37**	**273.26**

5.19 Net revenue recoverable for Generation function

5.19.1 The Board proposed net revenue recoverable of Rs. 292.60 Crore for FY 2006-07 by the generation function of the Board. The proposed net revenue recoverable for generation functions for FY 2006-07 have been summarised in Table 5.35.

Table 5.35: Proposed net revenue recoverable for generation function (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Fuel cost	114.33
Employee cost	92.96
R&M cost	29.73
A&G cost	15.34
Interest cost	25.15
Depreciation	21.63
Bad & Doubtful Debts	0.00
Total Cost	**299.13**
Add: Reasonable return	5.46
Less: Non- Tariff Income	11.99

Net Revenue recoverable	**292.60**

5.19.2 Based on the analysis and approved cost of various components highlighted in this section, Table 5.36 highlights the approved net revenue recoverable for generation function for FY 2006-07.

Table 5.36: Approved net revenue recoverable for generation function (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Fuel cost	40.62
Employee cost	65.80
R&M cost	27.84
A&G cost	12.23
Interest cost	0.00
Depreciation	15.63
Bad & Doubtful Debts	0.00
Total Cost	**162.13**
Add: Reasonable return	29.57
Less: Non- Tariff Income	12.00
Less inefficient cost of PTPS	104.57
Net Revenue recoverable	**75.13**

5.20 ARR for Transmission Function

5.20.1 The Board proposed net revenue recoverable of Rs. 83.92 Crore for FY 2006-07 by the transmission function of the Board. Further, the expenses incurred by the Transmission function are typically of fixed nature and the tariff determined for the transmission function is a single part tariff in the form of capacity charges. The proposed ARR for transmission function for FY 2006-07 have been summarised in Table 5.37.

Table 5.37: Proposed ARR for Transmission Function (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Fuel cost	0.00
Employee cost	27.85
R&M cost	6.04
A&G cost	4.60
Interest cost	30.35
Depreciation	14.56

Bad & Doubtful Debts	0.00
Total Cost	**83.40**
Add: Reasonable return	2.41
Less: Non- Tariff Income	1.89
Net Revenue recoverable	**83.92**
Total energy handled by Transmission system (MU)	**4135**
Transmission charges (Rs. per KWh)	**0.2029**

5.20.2 Based on the analysis and approved cost of various components highlighted in this section, Table 5.38 highlights the approved net revenue recoverable for transmission function for FY 2006-07.

Table 5.38: Approved ARR for Transmission function (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Fuel cost	0.00
Employee cost	19.64
R&M cost	5.65
A&G cost	3.60
Interest cost	0.00
Depreciation	10.55
Bad & Doubtful Debts	0.00
Total Cost	**39.43**
Add: Reasonable return	7.63
Less: Non-Tariff Income	1.89
Net Revenue recoverable	**45.17**
Total energy handled by Transmission system (MU)	**3548.20**
Transmission charges (Rs. per KWh)	**0.127**

5.21 ARR for Distribution Function

5.21.1 The Board proposed net revenue recoverable of Rs. 2470.62 Crore for FY 2006-07 by the Distribution function of the Board. The proposed ARR for Distribution function for FY 2006-07 have been summarised in Table 5.39.

Table 5.39: Proposed ARR for Distribution function (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Generation Charges	292.60
Power purchase cost	1335.28
Transmission charges	83.91
Employee cost	152.07

R&M cost	19.37
A&G cost	25.10
Interest cost	509.03
Depreciation	61.75
Bad & Doubtful Debts	32.46
Total Cost	**2511.58**
Add: Reasonable return	8.88
Less: Non- Tariff Income	49.84
Net Revenue recoverable	**2470.62**

5.21.2 Based on the analysis and approved cost of various components highlighted in this section, Table 5.40 highlights the approved net revenue recoverable for distribution function for FY 2006-07.

Table 5.40: Approved ARR for Distribution function (Rs. Crore) for FY 2006-07

Description	**FY 2006-07**
	Approved
Generation Charges	75.13
Power purchase cost	1142.98
Transmission charges	45.71
Employee cost	107.94
R&M cost	18.15
A&G cost	20.15
Interest cost	0.00
Interest on working capital	6.35
Depreciation	44.55
Bad & Doubtful Debts	0.00
Total Cost	**1460.42**
Add: Reasonable return	29.37
Less: Non- Tariff Income (Incl. UI Charges)	259.37
Net Revenue recoverable	**1230.42**

5.22 Wheeling Charges

5.22.1 The wheeling charges represent the costs of distribution licensee or its wire business. The Commission is of the view that the wheeling charges for the open access consumers in distribution network shall be determined from the Distribution cost as approved by the Commission for FY 2006-07. The approved Distribution cost has been summarized in Table 5.41.

Table 5.41: Approved Distribution Costs for FY 2006-07

Description	Rs Crore
Employee cost	107.94
R&M cost	18.15
A&G cost	20.15
Interest cost	0
Interest on working capital	6.35
Depreciation	44.55
Bad & Doubtful Debts	0
Add: Reasonable return	29.37
Less: Other Income*	(48.24)
Total	**178.27**

* Not including Net UI income (259.37 -211.13 = 48.24) as per table 5.34.

5.22.2 Further, the Commission is of the view that the distribution system loss of 34.11% as per the section 5.4.7, at the voltage at which the open access transaction is undertaken, shall be borne in kind and debit able to energy account of open access consumers. Wheeling charges represent the cost of network usage and ideally the Distribution Cost should be bifurcated between network usage costs and costs related to energy supply. As these costs are not available in the tariff petition for FY 2006-07, the Commission has divided the total approved Distribution Costs equally between the two functions i.e. Wheeling Charges for network usage and Energy supply. Hence, for FY 2006-07 the Commission approves the total Wheeling Charges of Rs 89.14 Crore and a Wheeling Charges of 15.60 Paisa per kWh for FY 2006-07. The wheeling charge for FY 2006-07 has been summarized in Table 5.42.

Table 5.42: Wheeling Charges for FY 2006-07

Description		FY 2006-07
Energy input to transmissions system	MU	6040.03
Losses in transmission*	MU	326.57
Energy input in Distribution system	MU	5713.46
Total distribution cost	Rs. Crore	178.27
Applicable Distribution cost @ 50% of Total distribution cost	**Rs. Crore**	**89.14**
Wheeling charges	**Paisa./kWh**	**15.60**

*@ 5.41 %, as approved in section in section 5.4.7

5.23 Consolidated ARR

5.23.1 The Board proposed a net revenue requirement of Rs 2470.75 Crore for FY 2006-07.The revenue at current tariff was proposed as Rs. 1259.79 Crore. Hence, the revenue gap at existing tariff after considering the UI receivable and GoJ subsidy comes at Rs. 1162.27 Crore. Further, the Board proposed a revenue hike of Rs. 220.47 Crore for FY 2006-07. This clubbed with the regulatory asset left an uncovered revenue gap of Rs. 738.73 for FY 2006-07. The proposed consolidated ARR for FY 2006-07 have been summarised in Table 5.43.

Table 5.43: Proposed consolidated ARR (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Power Purchase	1,335.28
Fuel Cost	114.32
Employees Cost	272.98
Repairs & Maintenance cost	55.14
Administrative & General cost	45.03
Depreciation	97.98
Bad Debts Provision	32.46
Interest and Finance Charges	551.60
Interest on working capital	12.93
Total Expenditure	***2517.73***
Statutory Return	16.75
Gross Revenue requirement	***2534.48***
Less: Other Income	63.73
Net Revenue required	**2470.75**
Average cost of supply (Rs./kWh)	6.47
Revenue at current tariff	1259.79
UI Receivable	38.69
GoJ Grant/Subsidy	10.00
Revenue Gap at existing tariff	**1162.27**
Addl. Revenue at Proposed tariff	220.47
Creation of Regulatory Asset	202.94
Total additional resources	**423.41**
Uncovered revenue gap	**738.73**

5.23.2 Based on the analysis and approved cost of various components highlighted in this section, Table 5.44 highlights the approved ARR for FY 2006-07. DVC has appealed to the Appellate Tribunal against the tariff order of CERC, due to which the DVC tariff is currently pending. For the purpose of tariff determination the cost of DVC power has been taken provisionally as Rs 1.93 per Unit (the tariff approved by CERC). Therefore, the Commission has allowed a contingency reserve of Rs 30 crores to meet exigencies. The total revenue requirement considering a contingency reserve of Rs 30 Crore comes to Rs 1260.42 Crore with an average cost of supply of Rs 3.30 per unit for FY 2006-07.

Table 5.44: Approved ARR (Rs. Crore) for FY 2006-07

Description	FY 2006-07
Power Purchase	1142.98
Fuel Cost	40.62
Repairs & Maintenance cost	51.64
Employees Cost	193.38
Admin. & General cost	35.98
Depreciation	70.73
Bad Debts Provision	0.00
Interest and Finance Charges	0.00
Interest on working capital	6.35
Less: Inefficient cost of PTPS	104.57
Total Expenditure	**1437.11**
Statutory Return	66.57
Gross Revenue requirement	**1503.68**
Less: Other Income (Inc. UI Charges)	273.26
Net Revenue required	1230.42
Contingency reserve	30.00
Total Net Revenue Requirement	**1260.42**
Revenue at existing tariff @ 95% collection efficiency	1183.15
Revenue Gap	**(77.27)**
Average cost of supply (Rs./kWh)	3.30

The revenue gap comes to Rs. 77.27 Crores, however the State Government has provided much more than this as resource gap.