

# **Text of Tariff Application**

## **1. Introduction**

In line with the Order dated 31<sup>st</sup> October 2005 of the U. P, Electricity Regulatory Commission (UPERC) directing the Company to revise its Annual Revenue Requirement (ARR)/ Tariff petition for F.Y. 05-06 and F.Y. 06-07, a consolidated Tariff Petition for F.Y 2005-06 (FY 06) and 2006-07 (FY 07) is being submitted.

The text of Tariff petition contains notes, discussion and justification on demand estimation, revenue projections, Capital Expenditure Plan, cost allocation for FY06 and FY07 for the kind perusal and the approval of the Hon'ble Commission so as to determine the Bulk Supply Tariff payable by the Company. The basis of energy demand, capital investment and cost allocation is outlined in support of the scale of activity to be undertaken. Income projections are made from analysis of historical data and growth trends. The expenditure to meet the demand for service is aligned with cost drivers. Due emphasis is placed on new investment in network, systems and processes to cope with the demand and consumer growth and target productivity enhancements. Resource planning is aimed at improving the delivery system, while keeping pace with organic growth and realizing the efficiency gains.

The data for FY 2004-05 is as per audited annual accounts. In presenting the data for FY 06, the data submitted in our earlier Tariff Petition dated 30.03.2005, has been revised considering the trends in first half of the financial year. However, the revenue is based on the existing tariff in U.P. The data for FY07 is based on demand forecast, availability of power and cost trends in the market. The revenue, however, has been computed based on prevailing tariff in U.P.

It is assumed that 400 kV substation at Pali, Greater Noida will be commissioned by January 2006 and capacity will be augmented at UPPCL's substation at Surajpur. NPCL intends to buy the additional power from UPPCL and/ or through Open Access. We have assumed availability of requisite power to the Company to meet the substantial growth in demand as estimated for FY 07.

## **2. Demand Estimates and Power Procurement**

Demand estimates for FY 06 and FY 07 have been prepared by analyzing the past trends and employing representative, case-specific models to make the future projections. Demand for current year has been estimated assuming that present scenario of shortfall in power supply would continue throughout FY 06 resulting in loss in consumption and restricted demand. Billing and consumer databases have been relied upon to construct the inter-relationships influencing energy demand.

For preparing demand estimates for FY 07, it has been assumed that the Company would be able to procure additional requisite power from UPPCL and/ or from the market through “Open Access”. The demand estimates for FY 07 are, therefore, prepared by extending the models deployed in preparing estimates for FY 06 and factoring in the assumption of availability of requisite power in the form of higher specific consumption.

### **2.1 Demand Forecast**

Demand forecast has been undertaken using regression models, time-series analyses or growth estimates as appropriate. Where statistical techniques did not result in correlation of past data with energy consumption, projections are based upon demand escalations anticipated from area development plan. The basis followed for the different consumer categories is explained in the following paragraphs. Detailed workings for FY 06 and FY 07 are given in Annexure A-1 from pages A-1.1 to A-1.27 and Annexure A-2 from pages A-2.1 to A-2.43 respectively.

#### **2.1.1 Large & Heavy Power (HV-2):**

- (a) Demand for the current year FY 06, is estimated based on actual energy sold in first six months (Apr'05- Sept'05). It is assumed that shortfall in availability will continue to remain in the balance period of the current year, thereby, resulting in no growth in restricted demand. For the ensuing year FY 07, forecasting models have been separately constructed for 11 large and heavy power consumers, who together will account for 40% of the total consumption under HV-2 category. Regression models are mostly used when production data could be taken as an explanatory variable, subsequently the efficacy of the model employed is  $R^2$  tested to assess the strength of the relationship. Where production estimates are lacking or do not provide any correlation, reasonable assumptions are made to capture the energy demand from past data. A summary is given in Table 2(a).
- (b) The remaining consumers accounting for 60% of energy sales under HV-2 category have been grouped separately according to supplies provided at 33 kV and 11 kV.

**Table 2(a) - Forecasting Models**

Consumer	Data Period	Time Interval of Past Data	Model	Forecast of Explanatory Variable	R <sup>2</sup>	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Inox Air Products	1997-98 to 2005-06	Yearly	Forecast of annual energy demand furnished by consumer			
2. Asian Paints	-do-	-do-	Regression of energy demand with production units	Furnished by consumer	0.73	
3. Neel-kamal Plastics	1998-99 to 2005-06	-do-	-do-	-do-	0.97	
4. LG Electronics	1999-00 to 2005-06	-do-	-do-	-do-	0.97	
5. Denso	1997-98 to 2005-06	-do-	-do-	-do-	0.93	
6. Honda Siel	1999-00 to 2005-06	-do-	-do-	-do-	0.90	
7. Yamaha Motors	1999-00 to 2005-06	-do-	Energy demand in the ratio of increase in production over FY05	-do-		Regression with production gives poor fit.
8. Vimal Plast	2001-02 to 2005-06	do	Increase in demand linked to increase in production of the customer LG Electronics			Production data not available
9. Uppal Steel	1998-99 to 2005-06	-do-	CAGR			Production data not available
10. New Holland Tractors	1999-00 to 2005-06	-do-	-do-			Regression with production gives poor fit
11. Punjab Fibres	1997-98 to 2005-06	-do-	Demand estimated to increase by 10% over current year's level			Since last 5 years, the unit has been under intermittent closure

Aggregate demand in these cases is found to change with a) usage pattern indicated by specific consumption levels and b) increase in the number of consumers, who are engaged in diverse production activity. In view of the disparate nature of the manufacturing units and their scale of operations, it would be difficult to postulate relationships between power consumption and any other explanatory variable like production. Demand estimates in these cases are, therefore, obtained as a product of a) the projected specific consumption (which is the energy demand per consumer) and b) the anticipated number of consumers under each group.

- (c) Specific consumption for 33 kV consumers in past four years has recorded a steady increase. Under such scenario, data on specific consumption has been extrapolated in time series with the best-fit curve in quadratic relation ( $R^2 = 0.81$ ). It has been assumed that in FY 07 with availability of additional power to NPCL, specific consumption for 33kV consumers will increase by 10% from the current level, which was hitherto restricted because of power curtailments on 33kV feeders. Based on the same argument, specific consumption for 11kV supplies which has witnessed a gradual increase in the past and provides a good fit ( $R^2 = 0.90$ ) in linear time series model, specific consumption is assumed to increase by 40% over current levels. Energy demand has been estimated from the anticipated number of consumers. To the extent possible, the increase in consumer strength is assessed from intending applications under each category of supply.
- (d) Demand estimates representing energy consumption have been initially expressed in units of kWh, which have been converted into equivalent kVAh by applying the assessed power factor in each case.
- (e) To facilitate computation of fixed Demand (kVA) Charges, the Recorded Demand has been linked to energy consumption by applying a simple regression equation based on past data. Billable Demand is taken at 75% of Contractual Demand if the Recorded Demand so obtained is lower than this value. However, if the Recorded Demand is higher, then Billable Demand equals Recorded Demand or Contractual Demand, whichever is lower.
- (f) The summary of demand estimates of energy consumption in FY 06 and FY07 under the Large & Heavy Power category vis-à-vis the comparative figure for FY 06 as per latest assessment is represented in Table 2 (b), indicating a growth of 56 %, which can be justified inter alia keeping in view higher usage by the industrial consumers as an outcome of availability of reliable and continuous power from the source. It may be pertinent to mention here that in the present scenario, restricted availability of power is resulting in an assessed loss of consumption of 10 % and 40 % for 33kV and 11 kV supplies respectively.

**Table 2(b) - Demand Estimates: Large & Heavy Power Category**

<b>Energy Consumption (MU)</b>		<b>Growth %</b>
<b>FY 06 Latest Estimates</b>	<b>FY 07 Projected</b>	
191.34	297.98	56 %

### 2.1.2 LT Consumers (Metered)

- (a) Electricity demand of consumers supplied power at low and medium voltage depends on a number of economic factors, like the level of industrial and commercial activity, rate of infrastructure development, individual household

income, electricity pricing compared to other energy sources, etc. In addition, exogenous elements like seasonal temperature variations, unscheduled power shortages and concentration of population in an area, which is yet to be fully developed, will lead to disparate energy consumption. Developing a model that would explicitly incorporate these factors would involve collection of diverse data of substantial magnitude that would be operationally complex as well as time and resource consuming. It is also the case that variations in local conditions and individual firm behaviour cannot always be captured with ease by econometric models. As a simple approximation, therefore, it has been assumed that the number of consumers would be representative of the occupancy rate in an area being planned as a new Township and an industrial centre and would serve the purpose of a good proxy variable. This number together with estimates of specific consumption of energy would yield the projected demand.

- (b) Within the broad model indicated above, estimates of projected consumption have been derived for different categories using specific customized models. In the case of consumer categories of LMV-1, LMV-2, LMV-4, LMV-6 and LMV-9 the number of consumers is projected by using a simple time-series model, barring those located in rural areas. The number of rural domestic consumers under LMV-1 supply is estimated as per the progressive plan of introducing metered connections in villages, while LMV-6 consumers in rural areas are taken as per the current level for FY 06. In all these cases, estimates of specific consumption for current year are taken as average specific consumption for the period Apr'05-Sept'05. Specific consumption is considered to be 15% higher in FY 2006-07 for domestic consumers because of increased availability as a result of sourcing additional power from UPPCL and/ or market. Similarly specific consumption for commercial and industrial categories are considered to increase by 25% and 35% respectively over current patterns in FY 07.
- (c) For LMV-3, LMV-5 and LMV-7 segments, realistic assumptions are made to project the growth of consumers and connected load based on the available data and inputs from the development authorities. Demand estimates are subsequently made from the consumption trends derived from the billing data. The approach followed in individual cases is summarized in the following paragraphs.

#### **2.1.2.1 Domestic Light, Fan & Power (LMV-1)**

Load and consumption patterns in the newly developed Township are different from those of rural areas. Hence, separate models have been considered to capture the load growth, as described below:

- (a) Urban Township: A Linear Time Series Model has been considered as it explains 97% of the growth in number of consumers over the period of April'02 to September'05

- (b) Rural Area: Growth in number of consumers is as per the targets set under the Village Metering Plan for conversion of consumers from un-metered to metered supply and addition of new metered consumers.
- (c) Registered Societies: 6 new residential societies are assumed to be added in the remaining period of FY 06 and 6 more in the ensuing year FY 07 based on the requisitions in hand and overall progress of construction activity in the region.

**2.1.2.2 Commercial Light, Fan & Power (LMV-2)**

Time Series Model providing the best fit under linear relation has been considered for estimating the growth in number of consumers for balance period of FY 06 and ensuing year 07

**2.1.2.3 Public Lamps (LMV-3)**

Following assumptions are made:

- (a) Average consumption of last 5 years beginning January'01 is taken in areas maintained by UPSIDC. There are no further road development plans in this area.
- (b) Based on GNIDA's area development plan, growth in load of 30 kW is estimated in balance period of FY 06 and growth of load for FY 07 is estimated to be 220 kW. Demand is estimated from monthly average consumption per kW of connected load as per the data of preceding 30 months commencing June' 03 after introduction of electronic timer controlled switches by GNIDA.

**2.1.2.4 Public & Private Institutions (LMV-4A and LMV-4B)**

Time series models have been considered for estimating growth in number of consumers for both Public Institutions (LMV-4A) and Private Institutions (LMV-4B) in the balance period of FY 06 and the same model has been extended for estimating growth in ensuing year FY 07. In both categories the best fit is provided in the linear relation of growth of consumers with time period spanning April'02 to Sept'05.

**2.1.2.5 Small Power for Private Tube Wells (LMV-5)**

Growth in number of consumers in this segment is expected to be low in the backdrop of rapid urbanization of agricultural land. Growth in number of consumers is estimated to be 7 in balance period of current year FY 06 and 24 in ensuing year of FY 07. Load per metered connection is assumed to be 5 BHP.

**2.1.2.6 Small & Medium Power (LMV-6)**

For small and medium power consumers with urban supply linear time-series model has been considered as it explains 98% growth in numbers in the period Apr'02 to Sept'05

For consumers connected to rural feeders, no growth is assumed as per current trends.

**2.1.2.7 Public Water Works (LMV-7)**

No further growth in number of connections is estimated for balance period of current year FY 2005-06 and 3 new connections have been estimated for FY2006-07 as per GNIDA's projections. The estimated energy demand for FY 2005-06 is based on average specific consumption between Apr'05- Sept'05. Specific consumption for ensuing year has been taken 15% higher than current levels to factor in higher supply availability as a result of assumed increased power supply.

**2.1.2.8 Temporary Supply (LMV-9)**

Number of consumers in this category has remained more or less constant in last two years as the number of consumers requisitioning for temporary supply for constructional activities equals to those opting for conversion from temporary to permanent supply under domestic category. This trend is appropriately reflected in the time series model in power function relation. Demand is estimated from average specific consumption averaged for the period April'05 to Sept'05.

**2.1.3 LT Consumers (Un-metered)**

**2.1.3.1 Public Lamps (LMV-3)**

Additional load of 10 kW per month and 20 kW per month is considered for FY 2005-06 and FY 2006-07 respectively as per GNIDA's projections. Demand estimates are made from average running hours.

**2.1.3.2 Domestic Light, Fan & Power (LMV-1) and Small Power for Private Tube Wells (LMV-5)**

Demand estimates correspond to progressive reduction in the number of un-metered consumers as a result of conversion of agricultural land to urban developed sectors in the region.

**2.1.3.3 State Tube Well (LMV-8)**

Consumption at existing levels has been retained as no growth of connected load is anticipated.

Based on the aforesaid assessment, the summary of demand estimates for FY 06 and FY 07 is given in Table 2(c ).

**Table – 2(c ) Projected Category-wise  
Energy Latest Estimates** (MU)

	Category	Energy Sales (MU)		Growth (%)
		FY 06 Latest Estimates	FY 07 Projected	
1	Domestic (LMV-1 - Metered)	38.72	59.86	55%
2	Domestic (LMV-1 – Un-metered)	14.53	7.33	-
3	Commercial (LMV-2)	5.87	8.82	50%
4	Public Lighting (LMV-3)	9.39	10.03	7%
5	Public Institutions (LMV-4)	6.08	8.94	47%
6	Private Tube Wells (LMV-5)	12.43	10.63	-
7	Small & Medium Power (LMV-6)	16.49	26.51	61%
8	Public Water Works (LMV-7)	3.70	4.27	15%
9	State Tube Wells (LMV-8)	0.56	0.58	3%
10	Temporary Supply (LMV-9)	5.53	5.43	-
11	Large & Heavy Power (HV-2)	191.34	297.98	56%
	<b>Grand Total</b>	<b>304.64</b>	<b>440.39</b>	<b>45%</b>

Note: Total may not tally due to rounding off

2.1.4 A growth of 45% in energy sales is projected in FY 2006-07 over the current year FY 2005-06 conditional to removal of demand restriction at the source end resulting in higher availability of power. This growth is estimated keeping in view the assumption of increased availability of power from the State Transmission Utility and/ or market and the estimation can be justified if the consumption loss due to restricted power in the current year is considered. Growth is likely to be enhanced by the accelerated pace of industrial activity as an outcome of improved capacity utilization as well as new capacity expansion. Concurrently, the customer base will expand in the new Township, which is witnessing a rapid pace of urbanization. Current operations will be scaled up significantly in order to cope with the increase in energy demand and service the growing number of consumers.

2.1.5 Year-on-year, the demand growth for FY 2005-06 and FY 2006-07 is estimated at 7.27% and 45% respectively while the CAGR over FY 05 is 25 %, as Table 2(d) will reveal.

**Table 2(d) Total Energy Sales** (MU)

FY 05 Actual	FY 06 Latest Estimates	FY 07 Projected	CAGR %
284.00	304.64	440.39	25%

## **2.2 Distribution Losses**

Since 2000-01, the Company has been successfully able to contain the distribution losses at 8 %, through an admixture of administrative support and technical measures. Proven techniques of high voltage distribution system (HVDS), LT Ariel Bunched Conductors and periodic energy auditing at Distribution Transformer (DTR) have been successfully deployed to arrest technical losses. Innovative loss reduction strategy in the form of social intermediation has been put in place to sensitize rural populace towards creation of community embargo on public abuse of electricity. Feeder franchisee model for distribution and local stake holding through emotive involvement of village contact person (VCP) have been ushered in. Despite all initiatives, best and sustained efforts, the Company faces an uphill task of containing distribution losses at 8% for the reasons described below.

The Company, of late, has encountered difficulty in bringing to book the errant and recalcitrant consumers, who have resorted to unfair means by tampering/damaging meters or accessing the network illegally for unauthorized abstraction of energy. The Police administration, generally, is found to be not forthcoming to register cases against evidences of theft of electricity citing inter alia inadequate judicial infrastructure for further proceedings. This, not only casts a shadow of de-motivation on the Company's personnel undertaking anti-pilferage drives against portents of threats from vocal constituencies and pressure groups, but also induces delinquent consumers to perpetrate such unlawful acts in the absence of effective deterrent measures. **The above problem is further aggravated in absence of authorization to the Company's officials under section 126(6) and 135(2) of the Electricity Act, 2003 from the State Government, applications for which have been pending since May, 2004.**

Large expanses of land in Greater Noida City are being rapidly developed as residential and commercial sectors in recent times resulting in unprecedented growth of electrical network, LT in particular. This growth not only disturbs the ratio of HT: LT lines of the network but contributing to increase in technical losses.

It is under these backdrops that the target for distribution loss, set at the beginning of current year for FY 2005-06 has been at 8% but pegged up at 8.1% for ensuing year FY 2006-07.

The Company craves leave of Hon'ble Commission to make further submissions on the above matter, if the circumstances so warrants.

## **2.3 Power Procurement**

### **2.3.1 Required Energy Input**

To meet energy sales of 304.64 MU the bulk power purchase in FY 06 is estimated to be 331.13 MU at 8% distribution loss. In FY 07 for meeting energy

sales of 440.39 MU the required energy inputs is estimated at 479.21 MU at 8.1% distribution loss.

**Table 2(e) Proposed Energy Purchase (MU)**

FY 05	FY 06	FY 07
Audited	Latest Estimates	Projected
308.73	331.13	479.21

### 2.3.2 Power Purchase Plan

Currently NPCL purchases power from UP state pool managed by UPPCL @ Rs.2.9361/ kWh.

There had been considerable difficulty in getting additional supply from UPPCL, presumably due to shortage in generation capacity. Hence Company apart from endeavoring to increase its current off-take from UPPCL is also exploring opportunities for buying power from the market in order to meet the growing need of its customers.

The Company has been exploring such options for buying additional power from market since 2003. However, notwithstanding the fact that in-principle agreement for procuring additional power was finalized with the prospective suppliers, the arrangements could not be completed in the absence of availability of transmission corridor in the State Transmission System. Having no other option, the Company had subsequently approached the Hon'ble Commission for adjudication and direction in the matter, the decision of which is pending. UPPCL, on the other hand had expressed that due to the present inadequacy in the State Transmission System in the area the additional power cannot be wheeled. As a remedial measure the transmission capacity in Greater Noida Area is being augmented by UPPCL with the commissioning of new 400/220/132 kV S/S at Pali which according to the latest indication is scheduled on March'06. Apart from above as desired by UPPCL, the Company is taking necessary steps to increase the capacity of Surajpur 132 kV S/S from 80 MVA to 100 MVA for evacuation of additional power. With the above bottleneck being removed the Company expects availability of additional power for its consumers in FY-07 either through increasing its off-take from UPPCL and/ or through purchase from the market. The Company craves leave to approach the Hon'ble Commission for approval for such arrangement/agreement with the prospective suppliers as and when the same is finalized.

### **3. Capital Investment in Network and System improvement**

#### **3.1 System Improvement**

The total expenditure planned for the FY 06 is Rs.16.87 Cr. For the ensuing year FY 07, capital budget has been scaled up to Rs 32.36 Cr to meet sharp growth in load and to respond customer base anticipated as an outcome of assumed increase in availability of power with augmentation of capacity at the source end. Details of the Capital Budget for FY 06 and FY 07, containing the proposals, break-up of costs and outline of works are provided under Annexure A-3 from pages A-3.1 to A-3.41 and A-4 from pages A-4.1 to A-4.53.

#### **3.2 Capital Investment Proposals for FY 06**

- (a) During the year FY 06, one new 33/11kV substation at EPIP is scheduled for commissioning. Work is expected to commence for another new 33/11kV Substation at Delta-2 with the objective of commissioning in the beginning of FY 07. Capacity augmentation at Girdharpur Substation from 5 MVA to 10 MVA will also be taken up in the current FY but completed in FY 07.
- (b) New 33kV overhead lines and network reorganization are planned in FY 06 to reinforce supply arrangement in the emerging load centers and form part of the plan for power evacuation from the proposed 132/33kV Substation at Knowledge Park –IV.
- (c) Demand for new connections and additional loads is anticipated to grow substantially from domestic, commercial and industrial segments with development of new residential, commercial and institutional sectors in the area. The Company, as a distribution licensee has the obligation to provide supply under section 43 of the Electricity Act, 2003 and Clause 4.1 of Electricity Supply Code –2005. Rs 5.15 Cr have therefore been budgeted for FY 06 under new services and load augmentation works.
- (d) The project for metering unmetered connections and expanding the network outreach to the rural populace will continue as per the time lines outlined in the metering plan, so as to ensure effective energy accounting and containment of the losses within the target of 8%.
- (e) The focus of IT initiatives in FY 06 will be on completing the implementation of mySAP Business Suite in the area of Customer Information Systems and thereafter consolidating the gains of implementation by leveraging upon the industry best practices around which these Information Systems. Coverage of GIS-based Network Information System would be expanded so that the advantages of GIS-based network analysis and process automation tools can be drawn upon for an even larger area. While the areas of process automation would be

expanded to include bar coded collection transactions and touch screen-based bill vending kiosks, ensuring information security for the enterprise would also be an area of focus in the IT plans for the year.

- (f) SCADA on optic fibre backbone is planned for all new 33/11 kV Substations for remote operations of plants and real-time monitoring of system parameters. In addition, automated meter reading is proposed for all bulk consumers for dispensing with manpower deployment on meter reading works and collating on-line data for energy audit.
- (g) New office facilities are planned for providing an ergo-friendly environment to the employees who will be dedicated for system operations including real time monitoring of system parameters in the newly emerging scenario under ABT/Open Access regime.
- (h) Apart from aforesaid identified works, routine capital expenditure will be incurred for replacement, renovation and augmentation of plant and installations for coping with the operational complexities of a growing distribution network.
- (i) AMR meter reading with GSM connectivity is planned for all 11 kV consumers.

### **3.3 Investment Proposals for FY 07**

- (a) Investment of Rs 4 Cr is planned for augmentation of transformation capacity at 132/33kV Surajpur Substation of UPPCL. The existing 80 MVA ( 2 X 40 MVA) capacity is proposed to be augmented to 100 MVA by replacement of one 40 MVA transformer by 60 MVA transformer. Investment is proposed to draw additional load of 20 MVA from the State Grid in addition to existing 45 MVA.
- (b) For the next year FY 07 two new 33/11 kV substations are planned at Builders' Area and Knowledge Park-II and capacity augmentation at Udyog Kendra and Alpha Sector substations are proposed to cater to the growing demand in these emerging load centers. The balance work of substation at Delta Sector and additional 5MVA transformer at Girdharpur are also scheduled for completion in FY 07. Capital investments in FY 07 are planned for new substations at NRI City, Sector 37 and at Surajpur (East). Work on these substations will however continue in the next FY.
- (c) Network improvements are envisaged in FY 07 by reorganization of 33kV networks and construction of new 33kV overhead lines for incoming feed to the proposed 33/11kV substations mentioned in para 3.2 (b). Investment in urban distribution network renovations have also been proposed in FY 07 by installation of RMU/VCB sets for ease of operations and increasing network redundancy.

- (d) Investments are planned in Energy Conservation and Village Metering project under progress as per the Metering Plan drawn up by the Company under the guidance of the Hon'ble Commission.
- (e) For FY 07, capital investment of Rs 7.17 Cr has been budgeted to cater to the demand for new connections and load augmentation anticipated to increasing occupancy, commercial activities and overall economic buoyancy.
- (f) The IT initiatives for the FY 07 are focused on consolidating the benefits of investments made in the past years in acquiring leading-edge technologies in the areas of ERP, Utility Billing and Customer Care and GIS with the end objective of attaining best-in-class process benchmarks. Thus, Financial Information Management is slated to migrate from the Oracle Applications platform to SAP to facilitate tighter integration of information and better process control. The SAP Enterprise Portal will help provide employees, customers and suppliers with unified access to relevant information, facilitate collaboration and improve productivity. The GIS applications are to be upgraded to take advantage of the latest technology innovations, integrated with the customer and asset database to make information available seamlessly across platforms and extended in terms of scope to new areas to maximise returns from the investment. Hardware infrastructure is to be consolidated to facilitate administration and increase availability. Finally, website is to be integrated with Payment Gateway and Enterprise Portal to take customer conveniences to the next level.
- (g) All new substations planned or under construction in FY 07 will have OFC connectivity and installed with SCADA. AMR metering with GSM connectivity is planned for remaining HT connections by the end of FY 07.

**3.4** The summary of capital investments (including capitalization of salary and interests during construction) under broad heads to be undertaken in FY 06 and FY 07 is presented in Table 3(a).

**Table 3 (a) - Capital Investment Plan (Rs. Cr.)**

Sl. No.	Nature of Works	FY 06	FY 07
1.	Capacity augmentation at 132/33kV S/s	0.00	4.00
1.	New Services / Load Augmentation	5.16	7.15
2.	Replacement Stock	0.25	0.51
3.	New 33/11kV Sub-Stations	2.25	7.97
4.	Network Improvement	3.51	5.41
5.	Energy Conservation & Metering	3.15	4.03
6.	Process / System Automation	1.81	2.26
7.	Communication & Testing Equipment	0.02	0.17
8.	Civil Works & Vehicles	0.42	0.26
	<b>Sub-Total</b>	<b>16.57</b>	<b>31.76</b>
	Add: Salary Capitalized	0.30	0.60
	<b>Total</b>	<b>16.87</b>	<b>32.36</b>

Note: Total May not tally due to rounding off

### 3.5 Funding of Capital Investment

- (a) Proposed capital investment is planned to be financed with combination of Capital Contribution from the consumers, term loan and internal accruals. Fund Flow analysis for FY 06 and FY 07 alongwith comparison vis-à-vis FY 05 is presented in Table 3 (b) below.

**Table 3(b) - Fund Flow Analysis (Rs. Cr.)**

	<b>FY 05</b>	<b>FY 06</b>	<b>FY 07</b>
	<b>Audited</b>	<b>Latest Estimates</b>	<b>Projected</b>
<b><u>Source</u></b>			
PAT	2.55	3.54	4.05
Depreciation	4.99	6.73	8.57
Appropriation to Contingencies Reserve	0.20	0.24	0.32
Non-cash Expenditure	0.03	0.03	0.10
Capital Contribution from Consumers	8.86	5.45	7.97
Consumer Security Deposits (Net of Refund)	2.76	2.25	1.15
Bank Finance	- 0.29	3.04	2.03
Institutional Loan	2.15	0.00	0.00
Term Loan	0.00	8.12	16.00
	<b>21.25</b>	<b>29.40</b>	<b>40.20</b>
<b><u>Use</u></b>			
Capital Expenditure*	14.51	16.86	32.36
Statutory Investments	0.16	0.21	0.24
Margin Money	0.00	0.00	0.00
Repayment of Loan	2.84	4.02	3.82
Transfer of Consumer Security Deposits to UPPCL	2.80	2.37	0.00
Increase in Other Current Assets	6.47	- 1.07	9.30
Decrease in Current Liabilities	- 5.53	7.01	- 5.52
	<b>21.25</b>	<b>29.40</b>	<b>40.20</b>
Note: Total may not tally due to rounding off			
* Includes capitalization of Capital works in progress, Salary & borrowing cost			

- (b) Debt financing will be leveraged to optimize the cost of capital for undertaking new investments under the Capital Budget. To meet the fund shortfall, fresh commercial borrowing of Rs. 14.00 Cr. under a new term loan carrying 10.00% interest is proposed apart from deferring the drawal

of Rs. 2.00 cr already sanctioned by ICICI Bank at present @ 9.85%. Thus the total long term financing for FY 07 will be Rs. 16.0 cr.

As per Accounting Standard 16 issued by ICAI, borrowing cost of assets requiring completion time of more than one year can only be capitalized. We have observed during last two years that most of the assets were capitalized within one year period, hence, only a nominal amount of Rs.0.05 Cr has been considered for capitalisation in the respective capital items for FY 06.

## 4. Estimation of Revenue Requirement

This chapter discusses the estimated costs, alongwith justification and relationship with relevant cost drivers. Costs in FY 06 and FY 07 under different expenditure heads have been aligned with the expansion plans and balanced against productivity and efficiency gains to be achieved by way of process and system automation. Wherever possible, costs have been analyzed with reference to cost drivers and relate the expenditure to specific activities and growth parameters. To cope with the increase in workload arising out of an expanding customer base and higher energy sale, both outsourcing options and process automation will be relied upon to optimize the establishment and improve the manpower deployment on value-added work.

### 4.1 Employee Costs

#### 4.1.1 Cost Structure:

Break-up of estimated employee costs in FY 06 & FY 07 and chargeable to revenue is summarized in Table 4(a) alongwith the audited figures of FY 05.

**Table 4(a) - Employee Costs (Rs. Cr.)**

Heads of Expense	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Salaries and Wages	1.46	1.77	3.64
Allowances (Employee Medical Expenses, Leave Travel Assistance)	0.13	0.19	0.25
Provision for Leave Encashment	0.03	0.06	0.12
Staff Welfare Expenses	0.05	0.06	0.10
Contribution to Pension & Gratuity Fund	0.09	0.10	0.21
Contribution to Provident Fund, etc	0.07	0.08	0.18
<b>Total</b>	<b>1.83</b>	<b>2.25</b>	<b>4.50</b>
Less: Capitalised Salary	0.29	0.30	0.60
<b>Charged to P&amp;L A/c</b>	<b>1.54</b>	<b>1.95</b>	<b>3.90</b>
<b>Number of Employees in Year</b>	<b>74</b>	<b>79</b>	<b>88</b>

Note: Total may not tally due to rounding off

#### 4.1.2 Manpower Deployment

Employee strength is estimated to increase from 74 in FY 05 to 79 in FY 06 and 88 in FY 07 as shown in Table 4(a) & Form R-14 a.

- (a) Till date activities of HR and Administration were looked after by Company secretary and CEO himself. The activities have increased considerably due to increasing manpower and frequent recruitments. Therefore, Company has planned to have a separate HR & Administration Department.
- (b) The number of consumers as also the quantum of energy sale and network length are on the rise, necessitating a higher degree of activity in terms of metering, billing and trouble call handling. Periodic monitoring of Sub-station equipment, including motorized gear, protection arrangements, etc., will increase manifold with the expansion of capacity in order to ensure security of supply and trouble-free operation.
- (c) Lean organization structure is manifest in the productive efficiency and input-output ratios under manpower utilization, all of which are set to increase in FY 06 and FY 07. Continuous improvements are being targeted by engaging employees on value-added work, relying on IT for repetitive data handling and outsourcing the peripheral activities to service the growing customer base.
- (d) Hon'ble Commission has issued Electricity Supply Code – 2005 and Regulation for General Condition for distribution licence. Both documents are mandatory on distribution licensee. The failure in compliance to Code and laxity in consumer service calls for penalty. Therefore Company plans for strengthening the supervision and increased activity in the domain of customer service.
- (e) With the introduction of the ABT / Open Access regime and the real time monitoring of exchange of power with the transmission licensee, additional deployment of manpower would be required for commencing a round the clock operations of control room for ABT in FY 07.
- (f) Number of employees would increase for close monitoring and supervision of the village metering scheme, which will involve network engineering, field supervision and social intermediation. The Company, hitherto, is experiencing tampering of the meters by recalcitrant consumers. In some villages the under-reporting of consumption due to such tampering and unauthorised drawl has been detected leading to commercial losses. In order to have real benefit of metering program, sustained follow up becomes necessary for educating the consumers for economical use of electricity, monitoring energy audit till reliable consumption pattern is set in. Thereafter, regular follow up of such activities becomes necessary for converting all the sales into cash. Hence, additional personnel are proposed for the purpose.
- (g) In coming months, the Company would switch from legacy database system in FOXPRO to SAP based Consumer billing and information system. This calls for data verification, trouble shooting, adequate safeguards in data updating, training, follow up with vendor, etc.

Therefore, there is a need for additional manpower in engineering and consumer billing. Redundancy is needed so that customer service is not affected.

#### 4.1.3 Manpower Utilization and Cost Driver Analysis

- (a) Form R-47 shows significant increase in quantum of energy sale, connected load and network length. 33/11 kV S/S would increase from 6 in FY 05 to 10 in FY07. Number of distribution transformers would grow from 1770 in FY 05 to 2524 in FY 07 (CAGR growth 12%). In FY 05 our forecasts of growth have proved true except for growth in consumers/employees.
- (b) A comparative analysis of manpower utilization is as under:

**Table 4(b) – Statistics of Cost Drivers**

	FY 05	FY 06	FY 07	Y-to-Y % Growth in FY 06	Y-to-Y % Growth in FY 07
	Audited	Latest Estimates	Projected		
No. of Consumers (Nos.)	26997	31675	35791	17.3	13.0
Connected Load (MVA)	181.14	197.95	223.02	9.3	12.7
Network Length (ckt. Km)	1930	2325	2642	20.5	13.6
Energy Sales (MU)	284.00	304.64	440.39	7.3	44.6
Revenue from Sales of power (Rs. Cr)	108.56	117.23	168.77	8.0	44.0
Number of 33/11 kV Substation	6	8	10	33.3	25.0
Number of distribution transformers	1770	2069	2524	16.9	22.0
Employee Strength (No.)	74	79	88	6.8	11.4

**Table 4(c) - Manpower Utilization Ratios**

	FY 05	FY 06	FY 07	Y-to-Y % Growth in FY 06	Y-to-Y % Growth in FY 07
	Audited	Latest Estimates	Projected		
Consumers (No.) per Employee	365	401	407	10.0	1.5
Connected Load (MVA) per Employee	2.45	2.51	2.53	2.4	0.8
Network (Ckt. Km) per Employee	26.08	29.43	30.02	12.8	2.0
Energy Sale (MU) per Employee	3.84	3.86	5.00	0.5	29.5
Revenue Sales (Rs. Cr.) per Employee	1.47	1.48	1.92	0.7	29.7

The Company has better employee productivity than most other distribution utilities in India. Following Tables would indicate comparison of employee productivity for FY 04 and FY 05 with few other utilities.

**Table 4(d) - Comparison with Other utility**

	NPCL			Torrent Power SEC	NDPL	BSES Rajdhani	BSES Yamuna
	FY 03	FY 04	FY 05	FY04 <sup>1</sup>	FY 05	FY 05	FY 05
				As per Audited Annual Accounts			As per Tariff filings and DERC Tariff Order dated 7/07/05
Consumers (No.) per Employee	247	286	365	370	193	183	190
Connected Load (MW)/ Employee	1.72	2.07	2.06	0.96	0.70	0.68	0.38
Network (Ckt. km) per Employee	21.18	26.19	26.08	2.69	N/A*	N/A	N/A
Energy Sale (MU) per Employee	2.92	3.35	3.84	1.85	0.97	0.96	0.59
Revenue Sales (Rs. Cr.) per Employee	1.03	1.24	1.47	0.70	0.44	0.34	0.21

<sup>1</sup> The data published by Torrent Power-SEC (formerly Surat Electricity Company limited) for FY 2004-05 does not give information in details. Therefore we are relying on data for FY 2003-04.

\* For NDPL, BSES Rajdhani, BSES Yamuna, Network length data is not available.

#### **4.1.4 Compensation Strategy**

- (a) The performance of any organization is as good or as bad as the performance of its employees. Hon'ble Commission has been consistently observing and recording in its Orders, the significant productivity gains on various parameters achieved by the employees of the Company. However for each year employee costs have been approved by increasing previous year's approved average employee cost to the extent of 50% of the least productivity gain, in addition to inflationary index reflected in the weighted average Consumer Price Index on YoY basis. Such dispensation of compensation results in de-motivation amongst work force inasmuch as that;
- The benefit of productivity gains has not been passed on, in its entirety, to the employees whose dedicated efforts and hard work paved the way to achieve one of the best benchmark levels ever set by similar utility.
  - The market driven remuneration structure relevant to an efficient firm is not taken into consideration.
- (b) It is in this backdrop the Company has been facing an uphill task to retain talented and motivated workforce and minimize attrition in the increasingly competitive market with more and more participation of private sector in the utility segment including electricity distribution. In such a scenario, it is necessary that the compensation structure on one hand meets the expectations of the employees, simultaneously on the other hand motivates them to strive for superior performance through congruence of individual and organization goals.

The Company would like to emphasize and draw kind attention of the Hon'ble Commission to the fact that of late the Company is experiencing an attrition rate of more than 10% and many skilled, talented and trained engineers switched over their jobs on significantly better emoluments. Needless to mention that some of them have joined the privatized distribution companies in the neighbourhood.

The Company is afraid to mention that it is seen as a good poaching ground especially by competitors and enterprises in allied field, as skilled & trained manpower available with the Company can easily be taken away by offering them much higher emoluments than the Company currently provides to them. ***It is relevant to mention here that the higher attrition rate not only derails continuity & productivity momentum but also results into higher recruitment and training costs in subsequent years.***

With the enactment of the Electricity Act, 2003, the competition in the power distribution segment is envisaged to hot up and retaining the skilled and motivated workforce would become even a more challenging task, which the Company has already started facing. The public sector companies like NTPC & PowerGrid can also lure our trained and experienced employees at much higher remuneration. The Company takes the liberty to enclose as

**Annexure 5.1**, a copy of the advertisement dated 12/1/05, published in the New Delhi edition of The Times of India by National Thermal Power Corporation (NTPC) offering a compensation package of Rs.7 lacs to the Executive Trainees on successful completion of one year training. Similarly PowerGrid in its advertisement in The Times of India dated 16<sup>th</sup> November 2005 (copy enclosed as **Annexure 5.2**) has offered a package of Rs. 5 lacs per annum in the second year. Another News items as appeared in The Economic Times dated 28<sup>th</sup> November 2005 (copy enclosed as **Annexure 5.3**) highlights that Larsen & Toubro plans to hire 3000 Engineers and additional 1500 every year thereafter. Another news report as appeared in The Economic Times of 8<sup>th</sup> December 2005 reports that the local placements of plain graduates are at a salary package ranging from 3.5 - 7.5 lacs per annum. (Copy enclosed as **Annexure 5.4**). Most recently, Business Standard dated 28<sup>th</sup> December 2005, reported India inc. to go on hiring spree resulting into the employment outlook index has grown up by 70% approximately. Copy of the aforesaid news report is enclosed as **Annexure 5.5**. Such widespread demand of skilled manpower leads to fierce competition culminating into employee attrition. Against this backdrop, normative salary of Rs. 2.09 lakh per employee, which is again subject to growth of cost drivers, is highly inadequate and non-remunerative to retain skilled, experienced and motivated employees. Therefore, the Company has to craft a new recruitment and retention strategy to stem talent erosion in the form of separation of employees primarily to join new organization on much higher salary.

Towards this pursuit, the Company would be required to re-rate the emoluments of its employees to bring the same in line with the prevailing market condition, which are witnessing steadily upward trend in the buoyant economy. Therefore, we have proposed to re-rate the remuneration package in FY 07. This would help the Company to prevent higher attrition leading to loss of grip and edge on the productivity.

The Hon'ble Commission while observing and appreciating the employee productivity gains had also noted in its Tariff Order dated 10<sup>th</sup> September'03 (Clause 3.7.1 Page 29) **“that the Commission agrees with the contention of the licensee that the employee cost of a growing Company would increase more than the inflation rate as cost is a function of energy sale, connected load, number of consumers, network size and inflation etc. The increase in this cost is linked to the increase in these determinants.”** Similar observations were also made by the Hon'ble Commission under Clause 3.7.1, Page 28 of Tariff Order dated 18<sup>th</sup> February, 2005.

- (c) The Company would like to draw kind attention of the Hon'ble Commission towards the judgement of the Hon'ble Supreme Court of India in the matter of Civil Appeal No. 4037 of 2002 between WBERC and CESC Limited, wherein it was stated that cost actually incurred for payment to employees arising out of employment contract will have to be allowed.

- (d) In view of the preceding rationale, employee cost is proposed to be re-rated in FY 07 aligning with market competitive emoluments so as to reward and retain the skilled, experienced and motivated employees.

The proposed employee cost/kWh energy sales for FY 07 is even comparable with employee cost of FY 04 of Torrent Power – SEC (formerly Surat Electricity Company) as shown in Table 4(e), which is one of the most efficient distribution Company in India.

**Table 4(e) - Employee Cost Analysis**

	Noida Power			Torrent Power SEC
	FY 05	FY 06	FY 07	FY 04
	Audited	Latest Estimates	Projected	Audited
Employee Cost (Rs. Cr.)	1.54	1.95	3.90	19.24
Energy Sales (MU)	284.00	304.64	440.39	2286
Cost per Unit (Paisa)	5.4	6.4	8.9	8.4

## 4.2 Administrative & General (A&G) Expenses

### (a) Summary of A&G Cost

Administrative and General Expenditure for FY 06 & FY 07 is projected at Rs.2.81 Cr. and 3.81 Cr. as detailed in Table 4(f).

**Table 4(f) - A&G Costs (Rs. Cr.)**

Sl. No	Item	FY 05	FY 06	FY 07
		Audited	Latest Estimates	Projected
1	Rent, Rates & Taxes	0.25	0.21	0.23
2	Insurance Premium	0.04	0.02	0.03
3	Communication Charges	0.07	0.07	0.08
4	Legal Expenses related to dispute with UPPCL on power purchase rate of prior period	1.22	0.62	0.51
5	Other legal costs & CGRF expenses	0.01	0.02	0.02
6	Audit	0.08	0.09	0.09
7	Regulatory Expenses	0.06	0.22	0.35
8	Professional Fee	0.28	0.26	0.50
9	Conveyance & Travelling Costs	0.25	0.25	0.39
10	Printing & Stationery	0.09	0.08	0.10
11	Advertisement and Promotional Expenses	0.06	0.12	0.12
12	Electricity & Water Charges	0.03	0.03	0.06
13	Meter Reading Expenses	0.18	0.20	0.25
14	Security Expenses	0.25	0.26	0.37
15	Training and Development Expenses	0.01	0.02	0.10
16	Courier Charges	0.06	0.07	0.10
17	Miscellaneous Costs	0.22	0.27	0.51
	<b>Sub-Total</b>	<b>3.15</b>	<b>2.81</b>	<b>3.81</b>

Note: Total may not tally due to rounding off

### (b) Legal Costs

Legal Costs in FY 07 have been budgeted in respect of court proceedings on past power purchase price on an estimated basis, since the Company, at this stage cannot precisely indicate the tenure of the proceedings.

The Company would like to draw kind attention of the Hon'ble Commission about the background of the on-going litigation with UPPCL. Due to non-acceptance of Tariff by one or other party, as determined by various independent Committees, the Company was forced to file writ petition on 29<sup>th</sup> February 2000, seeking various relieves, including to refer the issue of determination of the Tariff by UPERC. By an interim order dated 31<sup>st</sup> March 2000 by the Hon'ble High Court of Allahbad, Lucknow bench, directed the UPERC to fix tariffs. The UPERC vide its Order dated 12<sup>th</sup> February 2001 fixed the Tariff and submitted its report to the Hon'ble Court. However, UPPCL didn't accept/ agree with the aforesaid Order of UPERC and therefore, the litigation had to be continued.

**On 10<sup>th</sup> November 2005, the Hon'ble High Court decided the matter in favour of the Company. And mentioned in its order “ But the present litigation is an example of a dispute resulting into an uncalled for litigation which is continuing since the very intial stage of the agreement till date...”.**

In this background, the Company, therefore, had no option but to defend/ protect its legal rights and in the process has incurred and will be incurring such expenses in the event the Hon'ble High Court's Order is challenged at the Supreme Court. Since the Company could neither envisage aforesaid litigation by UPPCL, especially against the decision of the Regulatory Commission and now against the decision of the Hon'ble High Court, nor has any control over the process/ tenure of the litigation forced upon it, it is humbly submitted that Hon'ble Commission, instead of following its earlier methodology for determining the allowable legal costs, may kindly reconsider and allow the legal cost in full quantum.

It is also pertinent to mention here that increase in legal expenses is also contributed by abrupt postponement/ adjournment of hearings on number of occasions due to strikes and non-availability of judiciary, the circumstances beyond our control.

**(c) Other Legal Cost**

Other legal expenses are budgeted for representing the cases before District Consumer Redressal Forum and Civil Courts. It also includes expenses for working of Consumers Grievance Redressal Forum in terms of UPERC (Consumer Grievance Redressal Forum & Electricity Ombudsman) Regulations, 2003.

(d) **Regulatory expenses**

Regulatory Expenses for FY 05, FY 06 and FY 07 are listed in Table 4(g):

**Table 4(g) - Regulatory Expenses (Rs.)**

Description	FY 05	FY 06	FY 07
	Audited	Latest Estimate	Projecte d
<b><u>Licence Fee</u></b>			
Amount paid for FY 05 @ 0.05% on estimated sale of Rs.96,47,00,000/-	4,82,350		
Difference payable on revised audited sales of Rs. 108,55,88,880/-	60,444		
Amount paid for FY 06 @ 0.05% on estimated sales Rs. 116,79,00,000/-		583950	
Difference payable on revised sales Rs. 117,23,00,000/-		2200	
Amount payable for FY 07 @0.05% on estimated sales Rs. 168,77,00,000/-			843850
<b><u>Fee for Capital Expenditure Plan Approval</u></b>			
Amount payable @ 0.05% for FY 06 on estimated Capital Expenditure Plan 16,86,63,734/-		84332	
Amount payable @0.05% for FY 07 on estimated Capital Expenditure Plan 323,586,773/-			161793
<b><u>Fee for Petition for approval of ARR</u></b>	1,00,000		
Amount paid for annual filing of Aggregate Revenue Requirement for FY 05			
The fee for approval of ARR apportioned for 2 years		5,00,000	5,00,000
<b><u>Fee for approval of short terms Power purchase Agreement</u></b>		10,00,000	20,00,000
<b>TOTAL</b>	<b>6,42,794</b>	<b>21,70,482</b>	<b>34,85,624</b>

Note: Total may not tally due to rounding off

(e) **Other A&G Costs**

Barring regulatory, legal expenses and meter reading charges, balance components under A&G heads are in the nature of fixed overheads, which account for selling costs required to undertake the business activity of the given volume and meet the expected demand for service. Growth in number of consumers, network size, connected load and energy sale are key cost drivers that affect A&G Cost. Accordingly costs have been budgeted in line with activity growth after due adjustment for inflation and market conditions.

In general, costs in FY 06 and FY 07 are retained by and large at current levels except under the following heads:

- i) Meter reading cost – This increase is in line with growth in number of customers.
- ii) Conveyance & Travel cost is estimated at Rs. 0.25 Cr and 0.39 Cr in FY 06 and FY 07 **due to sharp rise in prices of petrol/diesel** and increased travel for business operations, regulatory and Government meetings, power procurement, recruitment, trainings, seminar and conferences etc.
- iii) Budget for manpower training and development is being enhanced. This is necessary to help employees acquire technical and management expertise, especially in the domains of ABT/ Open Access/ MYT.
- iv) Expenses for security services, which are outsourced, are budgeted at higher level. Additional deployment will be needed for new 33/11 kV Sub-stations, which would go up to 8 at the end of FY 06 and to 10 in FY 07. Also increased number of locations and substantial investment in these locations call for better protection and guarding. Security also needs to be increased and strengthened for safety of the office premises and employees in view of the frequent agitations and demonstrations due to inadequate supply of power.
- v) As the Company is increasing its exposure in software and automation, greater need is felt for Database management system, software support and continuous up-gradation. Further the Company has implemented pilot distribution Franchisee model in its area. As a result, the professional and consultancy expenses have been estimated at Rs. 0.26 Cr for FY 06 and Rs. 0.50 Cr for FY 07.
- vi) The Hon'ble Commission will appreciate that computers and application software are subject to fast obsolescence. At present, these assets are being depreciated over a period of 8 years as against their useful economical life around 3 years. Accordingly the hardware need to be replaced over 3-4 years period so as to derive the full technological advantage and maintain operational efficiency. In financial year 07, the loss on account of replacement of Computers due to implementation of SAP, has been estimated at Rs. 0.08 Cr out of the total estimated loss of Rs 0.10 cr under miscellaneous costs. It is pertinent to mention here that Loss on sale of assets is also recognized as a a genuine expenditure and is, therefore, allowed under the provisions of the Companies Act, 1956 and the Income Tax Act 1961.

- (f) Overall, A & G costs follow a regression trend relative to cost drivers as shown in Table 4(h).

**Table 4(h) - A&G Cost Analysis (Rs. Cr)**

A&G Cost/ Cost driver	FY 05	FY 06	FY 07	CAGR
	Actual	Latest Estimates	Projected	
A&G Costs (Rs. Cr.)	3.15	2.81	3.81	10%
A&G Cost/ 1000 ckt. km Network (Rs.Cr.)	1.63	1.21	1.44	- 6%
A&G Cost/ Per 100 MVA Connected Load (Rs.Cr.)	1.74	1.42	1.71	-1%
A&G Cost/ Per 10000 consumers (Rs. Cr)	1.17	0.89	1.06	-5%

#### 4.3 Repair & Maintenance (R&M) Expenses

- (a) Projected Costs of R&M in FY 06 are summarized in Table 4(i).

**Table 4(i) - R&M Costs (Rs. Cr.)**

	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Plant & Machinery	0.05	0.06	0.07
Transformers	0.31	0.39	0.48
Buildings & Civil Works	0.09	0.03	0.05
Lines, Cables, Networks, etc.	1.49	1.37	1.89
Substation Maintenance by private Agencies	0.00	0.12	0.10
Vehicles	0.08	0.13	0.17
Furniture & Fixtures	0.01	0.08	0.02
Office Equipment	0.25	0.38	0.54
Transportation	0.18	0.20	0.35
<b>Total</b>	<b>2.45</b>	<b>2.78</b>	<b>3.67</b>

Note: Total may not tally due to rounding off

- (b) Transformation capacity of 33/11 kV Sub-stations in last 3 years has seen a CAGR of 21% from 38 MVA in FY 03 to 68 MVA in FY 06 and is expected to increase to 88 MVA in FY 07. Similarly number of distribution transformers have also grown at 17% CAGR from 1297 in FY

03 to 2069 in FY 06 and expected to reach 2524 by FY 07. To service such growth in transformation capacity and numbers in the backdrop of steep global price escalation of basic raw material- copper, aluminum and transformer oil, 23% increase in cost of repair and maintenance of transformers is estimated. Of-late it has also been observed that instances of damages/ theft of transformers, particularly in rural areas have increased despite reporting to Police, resulting into result in additional outgo under R&M expenditure.

- (c) In order to achieve twin objectives of cost optimization and speedy attendance to plant outages gainful outsourcing of predictive and preventive maintenance of 102 nos of 11/0.4 kV Substations to outside agencies is envisaged in R&M budget for FY 06.
- (d) Upkeep of IT assets account for an expenditure of Rs.0.38 Cr. & 0.54 for FY 06 and FY 07 under 'Office Equipment' head being budgeted against 'Annual Maintenance Contracts (AMC)' for hardware and 'Annual Technical Support' for software. Fixed Asset Register has been computerized in FY 05. NPCL is upgrading customer billing, information and allied function on SAP. Increased dependence on IT systems for improving manpower productivity and routine business processes calls for continuous support of IT vendors. Service support will be necessary to undertake troubleshooting and maintain the mission-critical applications in running condition. Software products having proprietary design features are also required to have on-line vendor support to remove bottlenecks in daily work management, secure the process continuity and undertake (repeated) version upgrades as necessary to prevent obsolescence. Examples are Oracle E-Business Suite, Oracle 8i Database and GIS Software. Hardware components to be covered under AMC include Servers, Desktops, Printers and Peripherals.
- (e) Expansion of customer base and distribution network as detailed in form R-47 has registered a CAGR of 13.8% and 21.7% respectively from FY 03 to FY 05. This will further grow by 32.6% and 36.9% respectively by end of FY 07. This has resulted in appreciable rise in R&M Cost drivers, necessitating increased expenses for proper upkeep of Distribution assets like lines and cables. R&M cost is accordingly budgeted to service growing network as shown detailed in Table 4(i).

**Table 4(j) - Distribution Network**

Item	FY 05	FY 06	FY 07	Y-to-Y % Growth in FY 06	Y-to-Y % Growth in FY 06
	Actual	Latest Estimates	Projected		
Network Length (ckt. km)	1930	2325	2642	20.5	13.6
Connected Load (MVA)	181.14	197.95	223.02	9.3	12.7
LT Sub-stations					
Capacity (MVA)	117.4	139	175	18.4	25.9
Number	1770	2069	2524	16.9	22.0
No. of Consumers	26997	31675	35791	17.3	13.0

#### 4.4 Bad Debts

Bad debts are budgeted at Rs.0.69 Cr. and Rs. 1.70 Cr based on past practice and aging analysis of receivables for FY 06 and FY 07. The ratio of estimated provision of bad debt to sales stands at 0.59 % and 1.00 % respectively. Actual write off will be considered upon ascertaining that the consumer account has no chance of revival and the avenues of recovery are fully exhausted. As per the Company policy, bad debts will be identified against individual defaulting consumers and subsequently aggregated. In each such instance, supply will stand permanently disconnected and the service apparatus removed.

**Table 4(k) - Bad Debt Analysis**

	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Amount (Rs. Cr.)	0.57	0.69	1.70
Tariff Income (Rs. Cr.)	108.56	117.23	168.77
As % of Tariff Income	0.52 %	0.59 %	1.00 %

It is pertinent to mention here that the aforesaid provision of bad debts based on the past practices may not truly be adequate and sufficient to cover such loss. As the Hon'ble Commission would kindly appreciate that electricity distribution business is not only the most challenging segment among generation, transmission and distribution, but also exposed to maximum business risks, because on one hand the purchase of electricity is from one or two sources and that too through Letter of Credit (L/C) or Bank Guarantee (B/G), on the other hand the sales thereof is on credit to the thousands of customer in various segments from industry to rural and unmetred consumers.

Therefore, while converting “electricity” into cash, it is the distribution company which bears the maximum brunt in terms of bad debts and in the prevailing socio political and economic environment, law and order situation and power deficit scenario, problem of recovery further gets compounded.

In the above backdrop, any recovery around 94-95% of sales should undoubtedly be considered as efficient collection and, therefore, the balance 5-6% of sales should be provided as bad and doubtful debts.

Further, once debtors get accumulated for more than three years, recovery thereof become more costlier and uneconomical due to application of the Law of Limitation coupled with prevailing legal system.

Even Telecom companies, despite having significant prepaid subscribers and their ability to disconnect its delinquent consumers through remote operations, have much higher bad debts.

Keeping in view of the above, the Hon’ble Commission should consider and allow provision for bad debts around @ 5% of sales instead of 1% provided by the company for FY 07 as per past practice. However, the actual write offs of Bad debts should be allowed against carefully identified cases with prudence check by the Hon’ble commission.

## 4.5 Interest and Finance Expenses

### 4.5.1 Interest Cost of Long Term Loans

- (a) The fund flow analysis in FY 06 & FY 07 vis-à-vis FY 05 is presented in Table 4(l).

**Table 4(l) - Fund Flow Analysis (Rs. Cr.)**

	<b>FY 05</b>	<b>FY 06</b>	<b>FY 07</b>
	<b>Audited</b>	<b>Latest Estimates</b>	<b>Projected</b>
<b><u>Source</u></b>			
PAT	2.55	3.54	4.05
Depreciation	4.99	6.73	8.57
Appropriation to Contingencies Reserve	0.20	0.24	0.32
Non-cash Expenditure	0.03	0.03	0.10
Capital Contribution from Consumers	8.86	5.45	7.97
Consumer Security Deposits (Net of Refund)	2.76	2.25	1.15
Bank Finance	- 0.29	3.04	2.03
Institutional Loan	2.15	0.00	0.00
Term Loan	0.00	8.12	16.00
	<b>21.25</b>	<b>29.40</b>	<b>40.20</b>
<b><u>Use</u></b>			
Capital Expenditure*	14.51	16.86	32.36
Statutory Investments	0.16	0.21	0.24
Margin Money	0.00	0.00	0.00
Repayment of Loan	2.84	4.02	3.82
Transfer of Consumer Security Deposits to UPPCL	2.80	2.37	0.00
Increase in Other Current Assets	6.47	- 1.07	9.30
Decrease in Current Liabilities	- 5.53	7.01	- 5.52
	<b>21.25</b>	<b>29.40</b>	<b>40.20</b>
Note: Total may not tally due to rounding off			
* Includes capitalization of Capital Works in Progress, Salary & Borrowing cost			

- (b) Debt financing will be leveraged to optimize the cost of capital for undertaking new investment under the Capital Budget. To meet the fund shortfall, as stated in paragraph 3.5, Company proposes to borrow fresh term loans of Rs. 14.00 Cr. under a agreement @ 10% p.a and also

availing old sanctioned loan of Rs. 2.00 cr @ 9.85%. p.a Thus the total long term financing for the year will be Rs. 16.0 cr.

The entire interest of Rs.2.41 Cr. against long-term loans will be charged to revenue account. As per Accounting Standard 16 issued by ICAI, borrowing cost of assets requiring completion time of more than one year can only be capitalized. From our experience in last 2 years, most of the assets are capitalised within one year. Therefore no amount of interest has been considered to be capitalised.

#### **4.5.2 Interest Cost on Working Capital**

- (a) In terms of the contractual obligation with UPPCL, it is necessary to make payment of the power purchase bill of a month by 5<sup>th</sup> of the following month. Such payment is to be made earlier than and before the collections which the licensee can realize from its consumers in a given month against the receivables from sale of electricity. Further, the payment of power purchase bill is required to be made through irrevocable and revolving Letter of Credit (L/C) from a Commercial Bank, which is a usual and normal business condition of settling the payments. The Company also envisages procurement of additional power from UPPCL and/ or from Power Trading Companies, which also invariably insist for L/C and/ or Bank Guarantee (B/G). Therefore, the L/C and/ or B/G costs are *wholly, exclusively and necessarily* incurred for the business of the Company; which are also allowed in full as genuine business expenditure by the Income Tax Authorities. The Company, therefore, humbly submits that the Hon'ble Commission, instead of following the earlier methodology of disapproving the L/C costs, may kindly reconsider and allow the same in full.
- (b) To meet the working capital gap, a line of credit of Rs. 15 Cr. has been considered, consisting of non fund based limit of Rs.3 Cr. which may be in the form of LC or bank guarantee depending upon the need. Further a cash credit limit of Rs. 12.0 cr has been considered towards payment of monthly power purchase bills. Interest and finance charges have been computed considering the utilization of Bank borrowings in limited periods of anticipated cash shortfall.

Total interest cost is being restricted to Rs.1.09 Cr in FY 07, a break-up of which is given below in Table 4(m).

#### **4.5.3 Interest and Finance Cost on Debt and working capital chargeable to the Profit and Loss Accounts stands at Rs. 2.07 Cr and Rs. 3.51 Cr. for FY 06 and FY 07 as shown below in table 4(m).**

**Table 4(m) - Interest and Finance Cost (Rs. Cr.)**

	Type of Cost	FY 05	FY 06	FY07
		Audited	Latest Estimates	Projected
1.	Interest and Financial charges on Term Loan	1.36	1.66	2.41
2.	Interest and Finance Charges on Working Capital Loan including L/C and B/G Chgs	0.46	0.41	1.10
	<b>Total</b>	<b>1.72</b>	<b>2.07</b>	<b>3.51</b>

Note: Total may not tally due to rounding off

#### 4.6 Interest on Consumer Deposits

- (a) Consumer security deposits retained in FY 06 is Rs. 1.30 cr and in FY 07 is Rs.2.45 Cr. based on the assumption that all security deposits being received from consumers in FY 07 will be retained by the company as the Company is pursuing with UPPCL to sign a fresh agreement keeping in view the provisions of the Electricity Act 2003.

Accordingly, an amount of Rs.0.08 Cr. payable to consumers as interest on the retained deposits of Rs.1.30 Cr. is being charged to P&L A/c for FY 06 and Rs 0.15 Cr. is charged as interest on total deposits retained amounting to Rs 2.45 Cr. for FY07. The rate of interest considered is 6% in terms of clause 4.20 (g) of UP Electricity Supply Code-2005.

- (b) Further we would like to mention that security deposit is a measure to secure the electricity charges being due from consumers and therefore, should not be treated as part of long-term financing. We, therefore, request the Hon'ble Commission not to reduce the aforesaid security deposit from the computation of Capital Base while computing Reasonable Return.

#### 4.7 Depreciation

The gross block of fixed assets as at 31.03.06 & 31.03.2007 are estimated at Rs. 95.39 Cr. & Rs. 123.47 Cr, based on the capital expenditure being undertaken in FY 06 and FY 07. Depreciation on plant, equipment and installations has been computed under separate voltage categories in accordance with the rates prescribed in the relevant Notification No. S.O.265(E) dated 29.03.1994 of Ministry of Power. In case of Computers and IT assets and Civil structures where depreciation has been provided at the rates prescribed as minimum by the Companies Act 1956 for due compliance thereof. The amount booked under depreciation is as per the following the Table 4(n) :-

**Table 4(n) - Depreciation**

(Rs. Cr)

	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Depreciation	4.99	6.73	8.57

While consumer contribution is one time receipt, the Discoms is responsible for servicing, including replacement / modernization of the assets created from the said contribution for the life-time. Adequate depreciation is, therefore, vital for funding of such assets. Therefore, consumer contribution should not be knocked off from the value of the assets for providing depreciation. This was also provided in the Sixth Schedule of the repealed Electricity (Supply) Act, 1948.

In addition to the above, we would like to provide the following comments on depreciation :-

**IT assets i.e. Hardware and Software :**

Due to fast obsolescence, the IT assets are required to be replaced over a period of three years to maintain productivity and efficiency. Hence, these assets should be allowed to be depreciated over a period of three years. Even the Companies Act and the Income Tax Act supports the above with much higher depreciation rate at 40% and 60% respectively. This is also in line with “AS-28” impairment of assets.

**Office Equipments :**

The useful life of the mechanical office equipments such as Xerox Machine, Telephones, Airconditioners, Water Coolers, is normally five years as against 15 years proposed in these draft regulations. The Hon’ble Commission may, therefore, kindly consider depreciation on these assets accordingly.

**Terminal Depreciation:**

Loss on sales of the assets should be allowed as pass through while replacing the same.

**Amortisation of Intangible Assets :**

Amortisation of Intangible Assets as per “AS-26” should also be considered as depreciation.

Any impairment of the assets, in accordance with “AS-28”, should also be allowed as depreciation.

As per section 205 of the Companies Act, 1956, a Company cannot distribute dividend without providing minimum depreciation as per schedule XIV of the said Act, which stipulates that 95% of the assets should be depreciated as against maximum depreciation of 90%, proposed in these draft regulations. Further the

scrap value of the assets of an Electricity Distribution Company is generally less than 5% of their original cost.

The Hon'ble Commission would kindly appreciate that adequate depreciation is necessary to timely replace / modernization assets for efficient operations and also to raise and service the Medium Term Loans.

#### **4.8 Income Tax**

Due to protracted litigation on power purchase price, the Company had been claiming power purchase price as billed in its Income Tax Returns. Subsequent to the Order of the Hon'ble Lucknow bench of Allahabad High Court dated 10.11.2005, Company is liable to pay taxes at Corporate Tax rate. Company will also be required to pay taxes on past power purchase differentials which amounts to Rs. 3.31 cr.

Tax liability for the FY 07 is estimated at Rs. 2.79 cr at the Corporate Tax Rates. Tax liability for the FY 06 has also been provided at the Corporate Tax Rates for the reasons explained above at Rs. 3.07 cr.

Furthermore, as per Finance Bill, 2005, every assessee is liable to pay Fringe Benefit Tax on certain pre-defined expenses. The same have also been estimated at Rs 0.07 Cr. for FY 06 and Rs 0.10 Cr for FY 07. Table 4(o) below indicates the Corporate Tax, MAT and FBT

**Table 4(o) - Income tax and MAT (Rs. Cr)**

Particulars	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Corporate Tax in respect of previous Fys	-	-	3.31
Corporate Tax	-	3.07	2.79
MAT	0.25	-	-
Fringe Benefit Taxes	NA	0.07	0.10
<b>Total</b>	<b>0.25</b>	<b>3.14</b>	<b>6.20</b>

#### **4.9 Contingencies Reserve**

A provision of Rs.0.32 Cr., being 0.25% of the gross block of fixed assets amounting to Rs.128.64 Cr. as at 31.03.07 arising out of the planned capital expenditure, has been considered as per past practice.

**Table 4(p) - Contribution to Contingency Reserves (Rs. Cr.)**

	FY 05	FY 06	FY 07
	Audited	Latest Estimates	Projected
Gross Fixed Assets (Rs. Cr.)	79.82	96.56	128.64
Contribution to Contingency Reserves	0.20	0.24	0.32

#### 4.10 Total Expenditure

Table 4(q) contains the summary of costs in FY 06 compared to those of FY 05.

**Table 4(q) - Total Expenditure (Rs. Cr.)**

	Type of Cost	FY 05	FY 06	FY 07
		Audited	Latest Estimates	Projected
1.	Employee Costs	1.54	1.95	3.90
2.	Administrative and General Expenses	3.15	2.81	3.81
3.	Repair and Maintenance Expenses	2.45	2.78	3.67
4.	Interest on Working Capital and Term Loans	1.72	2.07	3.51
5.	Interest on Consumer Deposits	0.04	0.08	0.15
6.	Bad Debts and other 'Write-Offs'	0.57	0.69	1.70
7.	Depreciation	4.99	6.73	8.57
8.	Tax	0.25	3.14	6.20
9.	Contribution to Contingencies Reserve	0.20	0.24	0.32
	Miscellaneous Expenses	0.08	0.08	0.00
	<b>Total</b>	<b>14.99</b>	<b>20.56</b>	<b>31.83</b>

Note: Total may not tally due to rounding off

## 5. Capital Base and Reasonable Return

### 5.1 Capital base

- (a) The capital base is estimated at Rs.21.06 Cr. and Rs. 24.18 Cr. at the end of FY 06 and FY 07 respectively as shown in Table 5(a).

**Table 5(a) - Capital Base (Rs. Cr.)**

	Items	FY 05	FY 06	FY07
		Audited	Latest Estimates	Projected
<b>1</b>	(a) Original cost of fixed asset	78.66	95.39	123.47
	(b) Cost of intangible assets	1.17	1.17	5.17
	(c) The original cost of works in progress	3.63	3.63	3.63
	(d) The amount of investment compulsorily made under Para-IV of the Sixth Schedule	0.70	0.91	1.15
	(e) An amount on account of working capital equal to the sum of:			
	(e) i Average cost of stores+ (1/12 <sup>th</sup> of the sum of the stores materials and suppliers including fuel in hand at the end of each month of the year)	2.57	3.42	3.50
	(e) ii Average cash and bank balance (1/12 <sup>th</sup> of the sum of cash and bank balance whether credit or debit and call and short term deposits at the end of each month of the year)	1.96	2.10	2.50
	<b>Sum of 1 above</b>	<b>88.69</b>	<b>106.62</b>	<b>139.42</b>
	<b>Less</b>			
<b>2</b>	(a) The amounts written off or set aside on account of depreciation of fixed assets.	23.68	30.32	38.70
	(b) The amount of any loan or subvention from the State Government			
	(c) The amount of any loans borrowed from organizations or institutions approved by the State Government.	10.26	14.36	26.54
	(d) The amount of any debenture issued by the licensee.			

(e)	The amounts deposited in cash with the licensee by consumers, by way of security.	1.35	1.30	2.45
(f)	The amount standing to the credit of Tariff and Dividends Control Reserve at the beginning of the year of account.			
(g)	The amount standing to the credit of the Development Reserve at the close of the year.			
(h)	The amount carried forward (at the beginning of the year of account) in the accounts of the Licensee for distribution to the consumers.			
(i)	Consumer contribution	34.13	39.58	47.55
	<b>Sum of 2 above</b>	<b>69.42</b>	<b>85.56</b>	<b>115.24</b>
	<b>Net Capital Base (1 – 2)</b>	<b>19.27</b>	<b>21.06</b>	<b>24.18</b>

**Note: Total may not tally due to rounding off**

- (b) Computation has been undertaken in accordance with the provisions under the Sixth Schedule of the repealed Electricity (Supply) Act 1948, except that in case of consumer deposits, the deduction has been considered to the extent such amount as has been retained and not placed with UPPCL.

However, as sated in para 4.6 (a) we are pursuing UPPCL to sign a fresh agreement in line with the provisions of the Electricity Act 2003 and therefore, it has been assumed that security deposits being received from the consumers in FY 07 will be retained by the Company.

- (c) Status of consumer security deposits retained in FY 06 is Rs. 1.30 cr and in FY 07 is Rs.2.45 Cr., corresponding to which matching deduction has been made in the computation of the capital base, as per the past practice.

**However, as already stated in clause 4.6 (b), we would like to mention that security deposit is a measure to secure the electricity charges being due from consumers and therefore, should not be treated as part of long-term financing. We, therefore, request the Hon’ble Commission not to reduce the aforesaid security deposit from the computation of Capital Base while computing Reasonable Return.**

- (d) Fixed assets have been valued corresponding to the capital expenditure to be undertaken in FY 06 and FY 07 and also classified according to Voltage levels in the relevant Retail Tariff Formats i.e. R-2b and R-2c. The works-in-progress at year-end is estimated as per current trend. Intangible assets correspond to capacity augmentation at 132/33 kV Surajpur Sub-Station, which is the intake point of bulk supply and represent payments made to UPPCL less the amount written off/ depreciated.

- (e) Cost of stores under capital base is considered at Rs. 3.42 & Rs. 3.50 Cr. for FY 06 and FY 07. This is estimated at higher than average stock level in FY 05 for supporting enhanced Capital investment plan in these years.
- (e) Average cash and bank balance is estimated at Rs. 2.10 Cr and Rs. 2.50 Cr for FY 06 and FY 07 to account for the funds in transit required to support the business activity and finance the new assets.
- (f) Due deductions have been considered for depreciation of assets and bank / institutional borrowings as per details in Retail Tariff Formats i.e. R-3 & R-4 and R-8.

## 5.2 Reasonable Return

Reasonable return has been computed at 16% of the capital base plus 0.5% of the borrowed loans and income from investments as per provisions of the Sixth Schedule of the repealed Electricity (Supply) Act, 1948.

**Table 5(b) - Reasonable Return (Rs. Cr.)**

Description	FY 05	FY 06	FY07
	Audited	Estimated	Projected
Reasonable Return on Capital Base @16% on Capital base	3.08	3.37	3.87
Other Borrowed Loans at 0.5%	0.05	0.07	0.13
Income from Investments	0.22	0.10	0.05
<b>Total Reasonable Return</b>	<b>3.35</b>	<b>3.54</b>	<b>4.05</b>

**Note: Total may not tally due to rounding off**

## 6. Revenue Estimates

Revenue from sale of energy is estimated at Rs.117.23 Cr. in FY 06 and at Rs.168.77 Cr. in FY 07. The details of consumer categorywise revenue are furnished in Form R-22 and R-23 respectively. The consumer categorywise summary of estimation of electricity consumption for metered consumers and assessed consumption for unmetered consumers is given on page A-1.2 and A-2.2 for FY 06 and FY 07 respectively.

### 6.1 Tariff Income

- (a) Demand estimates obtained by statistical analysis as given under Chapter 2, are utilized to derive the annual revenue from sale of electricity upon aggregating the energy, demand and other tariff charges. The estimated revenue is based on the premise that the retail tariff as given in the Hon'ble Commission's Order dated 10.11.2004, made effective from 01.12.2004, will continue to apply in FY 06 and FY 07. Details of these calculations are presented under pages A-1.1 to A-1.27 and under pages A-2.1 to A-2.43 for FY 06 and FY 07 respectively. The summary of the tariff income under different consumer categories is presented in Table 6 (a):

**Table 6(a) – Tariff Income (Rs.Cr.)**

	Category	Sales Revenue		
		FY05	FY 06	FY 07
		Audited	Latest Estimates	Projected
1	Domestic (LMV-1)	9.11	13.59	20.07
2	Commercial (LMV-2)	2.34	2.80	4.01
3	Public Lighting (LMV-3)	2.08	2.97	3.21
4	Public Institutions (LMV-4)	2.01	2.62	3.64
5	Private Tube Wells (LMV-5)	0.52	0.62	0.58
6	Small & Medium Power (LMV-6)	8.43	8.10	11.63
7	Public Water Works (LMV-7)	0.85	1.29	1.47
8	State Tube Wells (LMV-8)	0.14	0.16	0.17
9	Temporary Supply (LMV-9)	2.73	2.79	2.44
10	Large & Heavy Power (HV-2)	80.35	82.29	121.55
	<b>Grand Total</b>	<b>108.56</b>	<b>117.23</b>	<b>168.77</b>

Note: Total may not tally due to rounding off

- (b) Revenue under Domestic category (LMV-1) is estimated to increase substantially to Rs. 13.59 Cr in FY 06 and Rs. 20.07 Cr in FY 07 due to rapid urbanization. Growth is also expected under LMV-2 and LMV-4 consumer segments located in the Township and Institutional sectors due to increased level of activities. Income from HV-2 and LMV-6 consumers is anticipated to increase substantially in FY 07 arising out of new industrial expansion, improved capacity utilization and assumed additional supply of power.

## 6.2 Non-Tariff Income

Income from delayed payment surcharge and other miscellaneous receipts incidental to business of electricity supply is summarized in Table 6(b). Due to substantial reduction in deposit rates as well as volume of deposits, the income from treasury operations has been projected at Rs. 0.16 Cr in FY 06 and Rs. 0.13 Cr in FY 07.

**Table 6(b) – Non-Tariff Income** (Rs. Cr)

	FY05	FY 06	FY07
	Audited	Latest Estimates	Projected
Investments, fixed and call deposits and bank balance	0.27	0.16	0.13
Other general receipts accountable for income tax and arising from and ancillary or incidental to business of electricity supply.	0.03	0.04	0.05
Delayed Payment Surcharge	0.26	0.30	0.40
<b>Total of Non-Tariff Income</b>	<b>0.56</b>	<b>0.50</b>	<b>0.58</b>

Note: Total may not tally due to rounding off

## 7. Bulk Supply Tariff (BST)

- 7.1 Having regard to the expected annual revenue that will accrue from the charges to consumers as per the Retail Tariff in force, the Bulk Supply rate is to be adjusted so as to cover the costs proposed to be incurred and allow for reasonable return to be earned.

Since UPPCL has been unable to meet the demand of the consumers, the Company has assumed procurement of additional power from market. The power purchase plan for FY 07 is as follows:

<b>Table 7(a) – Power purchase</b>			
<b>Sources</b>	<b>Units Imported</b>	<b>Rate (Rs./kWh)</b>	<b>Amount (Rs. Cr)</b>
UPPCL (45MW)	335.44 (70%)	2.050	68.78
Open market	143.76 (30%)	4.500	64.69
<b>Total</b>	<b>479.21</b>		<b>133.47</b>

Accordingly, in FY 06, the difference between the revenue income of Rs. 117.23 Cr plus non-tariff income of Rs. 0.50 Cr and the sum of aggregate expenses of Rs. 20.57 Cr. and reasonable return of Rs. 3.54 Cr. will be the disposable amount that can be utilized for purchase of bulk power. The residual amount of Rs. 93.62 Cr will, thus, represents the amount payable towards cost of bulk power in FY 06.

In FY 07, the difference between the revenue income of Rs. 168.77 Cr plus non-tariff income of Rs. 0.58 Cr and the sum of aggregate expenses of Rs. 31.83 Cr., cost of power from open market amounting to Rs. 64.69 Cr and reasonable return of Rs. 4.05 Cr. will be the disposable amount that can be utilized for purchase of bulk power from UPPCL. The residual amount of Rs.68.78 Cr will, thus, represents the amount payable towards cost of bulk power in FY 07 to UPPCL.

The following table 7 (b) summarizes the cost of power purchased.

**Table 7(b) - Cost of Power Purchase**

Sl. No.	Details	FY 06	FY07
		Latest Estimates	Projected
1.	Tariff Income (Rs. Cr.)	117.23	168.77
2.	Non-Tariff Income (Rs. Cr.)	0.50	0.58
3.	Expenditure excluding Cost of Power (Rs. Cr.)	20.57	31.83
4.	Reasonable Return (Rs. Cr.)	3.54	4.05
5.	Cost of Power purchased from Open Market	-	64.69
6.	Cost of Power Purchase (Rs. Cr.) {5 = 1+2-3-4-5}	93.62	68.78
7.	Estimated Energy Sales (MU)	304.64	440.39
8.	Energy Input from Open Market	-	143.76
9.	Energy Input Required from UPPCL (MU) {9=7/(1-distribution loss)}	331.13	335.44
10.	Input Price (Rs./kWh) {10 = 6/9}	2.827	2.050

**Note : Last digits in total and division may not match due to rounding off.**

## **8. Performance Review: FY 05**

To cope with the significant growth in consumer base, demand profile, operational complexities, strategies were devised to expand network outreach, undertake initiatives for energy conservation and demand curtailment, and invest in IT for integrating applications and linking diverse critical business processes. Efficiency gains and financial objectives are monitored through periodic review of field performance reported in various departmental MIS. Performance data are collated on Balanced Business Scorecard format so as to ensure the values are created for all stakeholders.

A brief summary of the strategic initiatives in FY 05 is presented below.

### **8.1 Energy Efficiency**

- (a) To inculcate price-sensitive and demand-responsive behaviour amongst rural consumers progressive metering of domestic connections was stepped up and 6990 metered connections representing 49% of the current consumer population was provided, by the end of FY 05. In all cases of village metering LT bare wires replaced by insulated cables to forestall public abuse of electricity.
- (b) As a further measure to curb energy losses, the scheme for extending the primary 11 kV network to provide supply to farmers via independent transformers serving individual pumps was continued with covering 580 agricultural installations comprising 62% of the pump population.

### **8.2 Metering and Billing**

- (a) Automated Meter Reading scheme on a pilot scale was launched for 33 kV consumers, the coverage of which will be extended to 11 kV consumers. The scheme has the potential of bringing in tangible productivity gains and remote monitoring of consumption profile of consumers.
- (b) Supervisory Control And Data Acquisition (SCADA) scheme was implemented for 3 new 33/11 kV Substations and part of the installations of old 33/11 kV Substations on retrofitting of breakers.
- (c) Project on implementation of mySAP Business Suite in the area of Customer Information Systems has been undertaken for migration of Fox-pro based legacy billing, collection, application processing and complaint logging to a multi-tier application software. This will enable implementation of Business Intelligence software, which will facilitate

flexible querying and reporting, analysis of trends and what-if analysis necessary for performance tracking and regulatory reporting.

### 8.3 Plant Security

- (a) The failure rate of distribution transformers in FY 05 has reduced from 6.7% to 6.0 % as per comparative statistics in Table 8(a).

		<b>FY 04</b>	<b>FY 05</b>	<b>FY 06</b>
		<b>Actual</b>	<b>Actual</b>	<b>Latest Estimates</b>
1.	No. of Failures	106	107	116
2.	Total Number	1580	1770	1990
3.	Failure %	6.7	6.0	5.8

- (b) HRC fuses as protection to the secondary side of the distribution transformers has been incorporated in 305 transformers in FY 05. Additional 515 transformers were further covered with HRC fuses in current financial year till date. Company plans to cover 80% of the total transformer population till end of FY 06. Furthermore, vendor surveillance steps have been escalated resulting in greater quality assurance.

### 8.4 Revenue Collection

- (a) Collections are monitored with the help of an on-line system, enabling daily posting of receipts, reconciliation of payments and updating of the consumer and billing database. Collection efficiency is being maintained at 97 % as shown in Table 8(b).

		<b>Upto FY 04 Actual</b>	<b>Upto FY 05 Actual</b>
1.	Gross Billing (Rs. Cr.)	498.07	606.63
2.	Gross Collection (Rs. Cr.)	484.57	588.10
3.	Gross Collection to Billing (%)	97	97
1. Billing & collection inclusive of Govt. Duty, Delayed Payment Surcharge & Meter Rent 2. Figures grossed up to represent cumulative billing & collection of previous and current periods.			

## 9. Audited Results for FY 05

In this chapter, we are submitting the audited Results for FY 05, for truing up the costs, revenue and reasonable return for FY05.

### 9.1 Income

**9.1.1 Tariff Income:** Annual revenue from sale of Electricity for FY 05 stands at Rs.108.56 Crore as summarised in Table 9(b) at the end of the chapter. Form R-21 is updated to record the tariff income for FY 05 under each consumer category.

**9.1.2 Non-Tariff Income:** In FY 05 non-tariff income stands at 0.56 Crore as detailed in Form R-20 and Table 9(c).

### 9.2 Expenditure

The summary of expenditure incurred in FY 05 is furnished in Table 9(d). The audited expenditure other than cost of Electricity Purchase chargeable to profit and loss account stands at Rs. 14.99 Crore as against approved expenditure Rs. 13.94 Crore by the Hon'ble Commission its vide Order dated 18.02.2005. Variances are explained below.

#### 9.2.1 Employee Cost:

Against approved Employee Cost Rs. 1.61 Crore, audited employee Cost in FY 05 stands at Rs. 1.54 Crore as detailed in table 9(e). Keeping in view the prevailing employee remuneration in market and for the reasons explained in paragraph 4.1.4 in chapter 4 of this Tariff Application, we would request that the same may kindly be approved to retain talented and motivated work force and minimize attrition.

#### 9.2.2 Repairs and Maintenance Cost

R&M cost stands at Rs. 2.45 Crore, which is less than 4% of the opening GFA and within limits approved by the Hon'ble Commission in previous tariff Orders. The detailed break up of R&M Cost for FY 05 is given in Table 9(f) & Form R-16.

#### 9.2.3 Administration & General Cost

A&G Expenses other than Regulatory Expenses and Legal Cost stands at Rs. 1.87 Crore as detailed in Table 9 (g), which is within limit approved by the Hon'ble Commission, notwithstanding the fact that the Cost drivers – namely number of consumers, energy sales, connected load and Network Length – have increased considerably vis-à-vis the projections made in the petition for FY 05. Table 9(h) indicates growth in cost drivers in FY 05 in respect of the previous financial year, which represent relative increase in selling activity arising out of network,

consumers and load growth. The detailed break up of A&G Cost for FY 05 is given in Form R-15.

Legal expenses in FY 05, incurred in respect of the protracted court proceedings on past power purchase price matter were Rs. 1.22 Crore, which are beyond the control of the licensee as explained in our letter P-77/071 dated 30.12.2004, ARR Petition for FY 05 and Paragraph 4.2(b) of this petition. Hence, it is requested that same kindly be approved at actual.

#### **9.2.4 Interest and Finance Cost:**

Interest and Finance cost for FY 05 stands at Rs. 1.76 Crore as given in table 9(i). The Cost of Term Loan is reduced by Rs. 0.12 Crore. Charges of Letter of Credit has been negotiated and reduced to Rs. 0.21 Crore as compared to FY 04.

In terms of the contractual obligation with UPPCL, it is necessary to make payment of the power purchase bill of a month by 5<sup>th</sup> of the following month. Such payment is to be made earlier than and before the collections which the licensee can realize from its consumers in a given month against the receivables from sale of electricity. Further, the payment of power purchase bill is required to be made through irrevocable and revolving Letter of Credit (L/C) from a Commercial Bank, which is a usual and normal business condition of settling the payments. Therefore, the L/C costs are *wholly, exclusively and necessarily* incurred for the business of the Company; which are also allowed in full as genuine business expenditure by the Income Tax Authorities. The Company therefore, humbly submits that the Hon'ble Commission, instead of following the earlier methodology of disapproving the L/C costs, may kindly reconsider and allow the same in full.

#### **9.2.5 Depreciation**

Depreciation during FY 05 amounts to Rs. 4.99 Crore as detailed in form R-3a.

#### **9.2.6 Bad Debts**

Bad debt written off against different consumer categories aggregate to Rs.0.57 Crore as against Rs. 0.53 Crore approved on provisional basis. Table 9(j) contains summary with consumer category-wise break up. Form R-18 is updated accordingly. Keeping in view that the electricity distribution business is exposed to maximum business risks and our detailed submissions vide para 4.4 of the petition, the Bad debts amount of Rs. 0.57 Cr may kindly be approved in full

#### **9.2.7 Other expenses:**

Doubtful debt Rs. 0.08 Crore of old outstanding amount of the consumers, not written off in P&L accounts is provided for as special appropriations as per the requirements of Statutory auditors. The amount represent inter alia 50% of the outstanding dues of M/s. Escorts-Yamaha pertaining to billing prior to NPCL's commencement of operations. The matter has been contested by the consumer and since lying pending with Hon'ble Allahabad High Court.

### **9.2.8 Tax payment:**

In terms of paragraph 3.7.8 of the Tariff Order dated 18.02.2005, it submitted that the Hon'ble Commission may kindly approve the tax at Rs. 0.25 Crore for FY 05.

## **9.3 Capital Base and Reasonable Return**

### **9.3.1 Capital Base:**

The Capital base stands at Rs. 19.27 Crore at the end of FY 05. Form R-1 and Table 9(k) is updated with audited data as on 31.03.2005. Some of the key data is explained here.

#### **9.3.1.1 Capital Expenditure Capitalized and closing Capital WIP:**

Table 9(l) explains investment capitalized against each heads as per classification in ARR Petition. Investment Capitalized in FY 05 stands at Rs. 14.17 Crore and closing CWIP is Rs. 3.63 Crore. Form R-2a is updated with audited data and reflects current balance at year-end FY 05.

#### **9.3.1.2 Average Stores and Bank Balance:**

Supporting calculations of average cost of stores and average cash and bank balances are shown in Table 9(m). As regards cash and bank balance a sum equivalent of 3 months expenditure has been considered in computing Capital Base in terms of Clause XVII (e) (ii) in Schedule VI of Electricity (Supply) Act, 1948.

#### **9.3.1.3 Other Details:**

Accumulated depreciation as at year-end is given asset-wise in Form R-3a.

### **9.3.2 Reasonable Return:**

Table 9(n) and Form R-10 shows the updated calculations for reasonable return in FY 05 based on the audited data of capital base and outstanding loan balance at year-end.

## **9.4 Productivity Ratios**

Cost drivers analysis vis-à-vis A&G Cost are provided in Table 9(h) which indicates substantial growth in all parameters. Manpower deployment ratios, Employee Productivity Gains shown in Table 9(o) also reflect considerable increasing trend. It is requested that all these productivity gains and inflation be also kept in view in addition to our submissions in the petition while approving the expenditure for FY 05.

## 9.5 Energy Purchase and Sale

Energy sale under different consumer categories aggregating to 284.00 MU is summarised in Table 9(p) alongwith Number of Consumers in each category. Actual Energy purchase for the year was at 308.73 MU. It is requested that energy purchase be approved at actual.

## 9.6 Computation errors in Tariff Order dated 18.02.2005

It is requested that errors in Table 3.6 & 3.11 in Tariff Order dated 18.02.2005 for FY 04 may please be corrected as shown below.

<b>Table 9(a) - Suggested Correction in errors for FY 04.</b>		
<b>Description</b>	<b>As per Hon'ble Commission's Order Dated 18.02.2005</b>	<b>Suggested modification</b>
Energy sold (MU)	244.60	244.60
Approved Energy Purchase (MU) #	264.17	265.87
Cost of Power Purchase (Rs. Crore)	76.49	76.49
Power Purchase rate Rs./kWh	2.8954	2.8770
Amount paid (Rs. Cr)	72.70	73.19
Balance amount (Rs. Cr)	3.79	3.29*
* Paid on 31.03.2005		
# As per practice in past Tariff Orders and also Table 3.12 of Tariff Order dated 18.02.2005 the approved loss 8% is based on input energy. Therefore energy purchase is computed by dividing by (1.00 – 8%) to Energy sold approved.		

## 9.7 Rebate for Errors in Previous Tariff Orders

"The Hon'ble Commission vide order dated 08.09.2003 has allowed the Company to adjust Rs. 0.08 cr from the payments to be made for the year 2003-04. It is humbly submitted that while the Company has adjusted the amount of Rs. 0.08 cr in making payment for the year 2003-04, the same needs to be allowed as an expense in its Annual revenue Requirement to enable the Company to write back the same in its books. Therefore, we request the Hon'ble Commission to allow the amount as an expense while computing the power purchase price for the year 2004-05.

Further the balance amount of Rs. 0.03 cr is the difference arising due to truing up of the values of FY 03-04 relating to LC and rounding off differences which may be allowed in full."

**Table 9(b) - Category-wise Revenue from Sale of Electricity**  
(Rs. Cr)

Sl. No.	Category	FY 05		
		Approved <sup>1</sup>	Unaudited <sup>2</sup>	Audited
1	Domestic (LMV-1)	9.51	9.10	9.11
2	Commercial (LMV-2)	2.49	2.34	2.34
3	Public Lighting (LMV-3)	2.11	2.08	2.08
4	Public Institutions (LMV-4)	1.57	2.01	2.01
5	Private Tube Wells (LMV-5)	0.53	0.52	0.52
6	Small & Medium Power (LMV-6)	8.44	8.43	8.43
7	Public Water Works (LMV-7)	0.75	0.85	0.85
8	State Tube Wells (LMV-8)	0.15	0.14	0.14
9	Temporary Supply (LMV-9)	2.11	2.73	2.73
10	Heavy and Large Industry (HV-2)	78.80	80.35	80.35
	<b>Total*</b>	<b>106.46</b>	<b>108.55</b>	<b>108.56</b>

Note: Second decimal figures may not tally due to rounding off

**Table 9(c) - Non Tariff Income**  
(Rs. Cr.)

Sl. No.	Particulars	FY 05		
		Approved	Un-audited	Audited
1	Investments, Fixed & Call deposits and bank balance	0.23	0.27	0.27
2	Other General Receipts	0.02	0.03	0.03
3	Delayed payment surcharge	0.23	0.26	0.26
	<b>Total*</b>	<b>0.48</b>	<b>0.56</b>	<b>0.56</b>

\*Second decimal figures may not tally due to rounding off

<sup>1</sup> The remark "Approved" refers provisional approval accorded vide Hon'ble Commission's Order dated 18.02.2005 on Petition No. 163/2004.

<sup>2</sup> The remark "Unaudited" indicates that unaudited data submitted to the Hon'ble Commission in Letter P-77/FY06/050 dated 14.07.2005.

**Table 9(d) - Summary of Expenditure (Rs. Cr.)**

SL.NO.	DESCRIPTION	FY 05		
		Approved	Unaudited	Audited
1	Employee Costs	1.61	1.54	1.54
2	Administrative & General Expenses	2.59	3.22	3.15
3	Repairs and Maintenance	2.20	2.39	2.45
4	Depreciation	5.19	4.98	4.99
5	Interest and Financial Charges	1.61	1.75	1.76
6	Bad Debts	0.53	0.60	0.57
7	Other expenses (Provision for bad and Doubtful Debts)	0.00	0.00	0.08
8	Taxes	0.00	0.44	0.25
9	Miscellaneous Expenses	0.00	0.00	0.00
10	Contribution to Contingency Reserve	0.21	0.20	0.20
	<b>TOTAL</b>	<b>13.94</b>	<b>15.12</b>	<b>14.99</b>

Note: Total may not tally due to rounding off

**Table 9(e) - Employee Cost (Rs. Cr.)**

SL.NO.	DESCRIPTION	FY 05		
		Approved	Unaudited	Audited
1	Salaries		1.46	1.46
2	Allowances		0.13	0.13
3	Provision for Leave Encashment		0.03	0.03
4	Staff Welfare Expenses		0.05	0.05
5	Contribution to Pension and Gratuity		0.09	0.09
6	Contribution to Provident Fund		0.07	0.07
	<b>Total</b>		<b>1.83</b>	<b>1.83</b>
	Employee Expenses Capitalized		0.29	0.29
	<b>TOTAL</b>	<b>1.61</b>	<b>1.54</b>	<b>1.54</b>

Note: 1) Total may not tally due to rounding off

2) Hon'ble Commission has approved Employees Cost in total only. Hence in Approved column the break up is not shown.

**Table 9(f) – Repairs and Maintenance Cost (Rs. Cr)**

Sl. No.	Particulars	FY 2004-05		
		Approved	Un-audited	(Audited)
1	Plant and Machinery		0.12	0.02
2	Transformers		0.45	0.35
3	Buildings		0.09	0.06
4	Lines, Cable network etc.		1.21	1.46
5	Vehicles		0.08	0.08
6	Furniture & Fixtures		0.01	0.01
7	Office Equipments		0.25	0.29
8	Transportation		0.18	0.18
	<b>Total</b>	<b>2.20</b>	<b>2.39</b>	<b>2.45</b>

Note: 1) Total may not tally due to rounding off

**Table 9(g) – Administrative and General Cost (Rs. Cr)**

Sl. No.	Particulars	FY 2004-05		
		Approved	Un-audited	(Audited)
1	Regulatory Expenses	0.06	0.06	0.06
2	Legal Charges related to power purchase price for earlier period	0.64	1.22	1.22
3	Other A&G Expenses	1.88	1.94	1.87
	<b>Total</b>	<b>2.59</b>	<b>3.22</b>	<b>3.15</b>

Note: 1) Total may not tally due to rounding off

<b>Table 9(h) - Cost Driver Analysis of A&amp;G Cost</b>						
<b>Parameters</b>	<b>Unit</b>	<b>FY 04</b>	<b>FY 05 Growth Forecast</b>	<b>FY 05</b>	<b>% Growth - Forecast of FY 05 over Actual FY 04</b>	<b>% Growth -Actual in FY 05 over Actual FY 04</b>
		<b>Audited</b>	<b>(Petition)</b>	<b>Audited</b>	<b>(Petition)</b>	<b>(Audited)</b>
Number of Consumers	Nos.	24539	26608	26997	8.43%	10.0%
Energy Sales	MU	244.60	263.41	284.00	7.69%	16.1%
Connected Load	MVA	151.01	164.35	181.14	8.84%	20.0%
Network Length	Ckt -km	1577	1969	1930	24.86%	22.4%
Revenue from Sale of Energy (Rs. Cr.)	Rs. Cr	90.53	96.47	108.56	6.56%	19.9%

**Table 9(i) - Interest and Finance Cost** (Rs. Cr.)

<b>SL.NO.</b>	<b>DESCRIPTION</b>	<b>FY 2004-05</b>		
		<b>Approved</b>	<b>Un-Audited</b>	<b>Audited</b>
<b>A</b>	<b>Domestic Loans</b>			
1	Interest and Financial Charges on Term Loan	1.48	1.36	1.36
2	Working Capital Loan	0.16	0.14	0.15
3	Financial Charges (Working Capital - Letter of Credit)	0.00	0.21	0.21
4	Interest on Consumer Security Deposit	0.09	0.04	0.04
	<b>Total</b>	<b>1.73</b>	<b>1.75</b>	<b>1.76</b>
<i>Less:</i>	Interest Capitalised	0.12	0	0
	<b>TOTAL</b>	<b>1.61</b>	<b>1.75</b>	<b>1.76</b>

\*Second decimal figures may not tally due to rounding off

**Table 9(j) - Details of Bad Debts for FY 05 (Rs. Cr)**

Sl.No	Category	FY 2004-05		
		Approved	Un-Audited	Audited
1	Domestic (LMV-1) Metered		0.00	0.00
2	Domestic (LMV-1) Unmetered		0.10	0.10
3	Commercial (LMV-2) Metered		0.01	0.01
4	Commercial (LMV-2) Unmetered		0.00	0.00
5	Private Tube Wells (LMV-5) Metered		0.00	0.00
6	Private Tube Wells (LMV-5) Unmetered		0.45	0.45
7	Small & Medium Power (LMV-6)		0.00	-0.01
8	Temporary Supply (LMV-9)		0.02	0.02
9	Large & Heavy Power (HV-2)		0.01	0.01
	<b>Total Bad Debts</b>	<b>0.53</b>	<b>0.60</b>	<b>0.57</b>

\*Second decimal figures may not tally due to rounding off

**Table 9(k) - Capital Base**

(Rs. Cr.)

Sl. No.	DESCRIPTION	FY 2004-05	
		Approved	Audited
1. (a)	Original Cost of Fixed Assets	80.03	78.66
(b)	Cost of Intangible Assets	1.17	1.17
(c)	The original cost of work in progress	3.27	3.63
(d)	Investment compulsorily made under para IV of Sixth Schedule	0.75	0.70
(e)	An amount on account of working capital equal to the sum of:		
	(I) Average Cost of Stores	2.51	2.57
	(ii) Average Cash and Bank balances	2.02	1.96
(f)	Capitalized loss allowed by the Commission		0.00
	<b>Sum of above (1)</b>	<b>89.75</b>	<b>88.69</b>
2.(a)	The amounts written off or set aside on account of depreciation of Fixed Assets	23.87	23.68
(b)	The amount of any loan or subvention from the State Government	0.00	0.00
(c)	The amount of any loans borrowed from any organisation or institutions approved by the State Govt.	13.27	10.26
(d)	The amounts deposited in cash with the licensee by consumers by way of security	1.40	1.35
(e)	Consumers' Contribution	31.39	34.13
	<b>Sum of Above (2)</b>	<b>69.93</b>	<b>69.42</b>
	<b>NET CAPITAL BASE (1-2)</b>	<b>19.82</b>	<b>19.27</b>

\*Second decimal figures may not tally due to rounding off

**Table 9(l) - Details of Investment Capitalized and closing Capital WIP**

Rs. Crore

Details	FY 2004-05	
	Expenditure Capitalized	Closing C WIP
Service Connections	6.69	1.92
Distribution Automation	0.81	0.24
Network Improvement	0.75	0.22
Village Metering	1.43	0.18
Commissioning 33/11 kV Substation	3.83	0.72
Normal Works	0.37	0.35
Add IDC	0.00	0.00
Add: Salary Capitalization	0.29	0.00
<b>Total</b>	<b>14.17</b>	<b>3.63</b>

**Table 9(m) - Month-end Stores Balances (Rs.)**

At the end of the Month	FY 2004-05
	Audited
Apr-04	22,198,415
May-04	23,639,397
Jun-04	23,786,483
Jul-04	28,051,184
Aug-04	28,316,169
Sep-04	25,483,020
Oct-04	27,622,463
Nov-04	24,826,244
Dec-04	24,983,318
Jan-05	27,164,392
Feb-05	29,712,438
Mar-05	23,170,355
<b>Total</b>	<b>3,08,953,881</b>
<b>Average</b>	<b>25,746,157</b>

**Table 9(n) - Reasonable Return (Rs. Cr.)**

SL.NO.	DESCRIPTION	FY 2004-05	
		Approved	Audited
1	Reasonable Return on Capital Base	3.18	3.08
2	Income from Investments other than those Investments made under para IV of Sixth Schedule	0.07	0.22
3	Government Loans	0.00	0.00
4	Other Approved Loans	0.18	0.05
5	Debentures	0.00	0.00
6	Development Reserve	0.00	0.00
7	Such other amount as may be allowed by the Central Govt.	0.00	0.00
	<b>REASONABLE RETURN</b>	<b>3.43</b>	<b>3.35</b>

Note: Second decimal figures may not tally due to rounding off

**Table - 9(o)**  
**Month-end Cash/Bank Balances/Short-term Deposits**

2004-05														
Date	Petty	Cash	Vijaya Bank	Oriental Bank	Bank of Baroda	ICICI BANK	ICICI BANK	ICICI BANK	State Bank of India	Short Term	ICICI BANK	Cash Balance	Vijaya Bank, LKO Br.	Total
	Cash		C/A	C/A	C/A	C/A NOIDA	O/D	NO Lien	C/A	Deposit	C/A NEW DELHI	Lucknow Br.	C/A	
GL A/c	25452	25453	25402	25404	25409	25410	12103	25412	25403	25406	25413	25454	25408	
April	6800.00	240025.00	153262.91	10610.07	6130254.00	25110393.92	-4974281.76	13764956.91	529506.45	5500000.00	178028.73	1659.00	22722.32	46673937.55
May	5820.00	620419.00	188271.41	10610.07	-7248.00	25110393.92	4632503.70	3564735.85	606455.45	5500000.00	629295.23	1659.00	22722.32	40885637.95
June	9843.00	385496.00	223746.91	10610.07	7201670.00	26910393.92	3218854.06	3395725.85	537258.45	5500000.00	727403.33	1659.00	22722.32	48145382.91
July	2235.00	465088.00	235236.41	10610.07	308140.00	26910393.92	16099681.82	1522987.35	831980.45	5500000.00	745427.33	1659.00	22722.32	52656161.67
August	9035.00	579927.00	248728.91	10610.07	111529.00	26910393.92	8768380.91	1361662.35	781919.45	5500000.00	771309.99	1659.00	22722.32	45077877.92
September	4096.00	613064.00	348541.41	10610.07	218722.00	26910393.92	8833549.53	2162155.41	950248.45	5500000.00	774053.49	1659.00	22722.32	46349815.60
October	9903.00	883235.00	373353.91	10582.07	1801889.00	26910393.92	5021518.09	2162055.41	1009759.45	5500000.00	796262.11	1659.00	14980.32	44495591.28
November	3795.00	734096.00	387887.41	10582.07	148675.00	26910393.92	43172244.74	2162055.41	1059267.45	5500000.00	439344.61	1659.00	14980.32	80544980.93
December	104.00	994795.00	274850.66	10582.07	362628.00	26910393.92	8570075.84	2162055.41	735523.45	25500000.00	121583.02	1659.00	14980.32	65659230.69
January	8213.00	846897.00	201443.91	10582.07	63878.00	26925176.92	18310466.61	5055.41	680230.45	15500000.00	129000.93	1659.00	14980.32	62697583.62
February	4789.00	990933.00	300931.16	10582.07	87165.00	425176.92	15073906.41	5055.41	721704.45	62300000.00	164780.18	1659.00	14980.32	80101662.92
March	4437.00	505683.00	255495.41	10582.07	156150.00	100260.39	5744620.85	5055.41	769941.45	45700000.00	180786.10	6659.00	14980.32	53454651.00
<b>Total</b>	<b>69070.00</b>	<b>7859658.00</b>	<b>3191750.42</b>	<b>127152.84</b>	<b>16583452.00</b>	<b>266044159.51</b>	<b>132471520.80</b>	<b>32273556.18</b>	<b>9213795.40</b>	<b>193000000.00</b>	<b>5657275.05</b>	<b>24908.00</b>	<b>226215.84</b>	<b>666742514.04</b>

Average Rs. 666742514/12 =

55561876.17

Details	Unit	FY 04 Audited	FY 05 Audited	Productivity Gain in FY 05 over FY 04 (%)
Consumers per Employee	Nos./ Employee	350.56	364.82	4.1%
Energy Sold per Employee	MU/ Employee	3.49	3.84	9.8%
Connected Load per Employee	MVA/ Employee	2.16	2.45	13.5%
Network per Employee	Ckt km/ employee	22.53	26.08	15.8%
Revenue from sale of energy per employee	Rs. Cr/ Employee	1.29	1.47	13.4%

**Table 9(q) - Category-wise Number of Consumers and Energy sold**

Sl. No.	Category	FY 05 (Audited)	
		Energy Sold	Number of Consumers
		(MU)	(Nos.)
1	Domestic (LMV-1)	42.35	23363
2	Commercial (LMV-2)	4.72	713
3	Public Lighting (LMV-3)	6.60	5
4	Public Institutions (LMV-4)	5.01	72
5	Private Tube Wells (LMV-5)	11.80	1035
6	Small & Medium Power (LMV-6)	16.28	511
7	Public Water Works (LMV-7)	2.07	20
8	State Tube Wells (LMV-8)	0.56	19
9	Temporary Supply (LMV-9)	5.02	1133
10	Heavy and Large Industry (HV-2)	189.59	126
	<b>Total*</b>	<b>284.00</b>	<b>26997</b>

Note: \*Second decimal figures may not tally due to rounding off

## 10. Way Forward

In sync with the new paradigms of competition, efficiency and economical use of resources envisaged in Electricity Act, 2003, the Hon'ble Commission, in NPCL's tariff order for FY 05, has expressed its intent to adopt a different approach in determining the Bulk Supply Tariff (BST) payable by NPCL to transmission licensee and Retail Supply Tariff payable to NPCL by its consumers. Against this backdrop, NPCL's points of view on a variety of issues like Multi Year Tariff (MYT), Cost of Supply, and Elimination of Cross Subsidies have been sought.

On the subject of MYT envisaging multi-year targeting framework, intensive intra-organizational deliberations have been undertaken for profiling and enumerating measurability, materiality, controllability and predictability of the cost elements affecting the functions of the organization. As for Cost of Supply, the Company has been preparing cost information in pursuance of Cost Accounting Records (Electricity Industry) Rules, 2001, segregating "cost of distribution" and "cost of supply" at each level of voltage, which can provide a reference point in determining cost of supply to each category of consumers. Once the cost of supply is determined the issues like cross-subsidy can be accounted for quantitatively.

The issues involved in MYT, Cost of Supply and Elimination of Cross-Subsidy are complex in nature having multifaceted implications on financial performance, risk mitigation initiatives and incentivization structuring. Therefore, it will be imperative to enter into dialogue with various parties/agencies involved in the process prior to formulation of views on the subject. The Company looks forward to mutual deliberation/exchange of views for better clarity and understanding of the issues involved to proceed further in crystallizing its views within the policy framework and guidelines. In the interim, it is suggested to determine BST on the basis of cost of input power, instead of through residual approach in line with the current practice, so as to enable the Company to pass on the benefits of efficiency gains to the consumers in the form of tariff relief, subject to regulatory approval.

The Hon'ble Commission has further directed the Company to gear themselves up to operate under an ABT-regime and in an Open access environment. To become an efficient firm in the emerging scenario under ABT/Open Access regime, people and process capabilities are required to be built up and towards this goal the Company has been working in close coordination with transmission licensee and their consultants. While resources are being mobilized for embracing systemic changes, Company's executives are being trained to provide them with all-inclusive insights into the intricacies of "day ahead scheduling", "real time monitoring", ex-ante and ex-post settlement mechanism for addressing systemic imbalances and energy accounting.

To facilitate operations, new office facilities are planned in Capital Expenditure for FY 06 and communication facilities being reinforced and ABT-compliant special meters being sourced. SCADA systems already in place for all new 33/11 kV Substations are being upgraded for ensuring decongestion of data traffic. Leveraging IT infrastructure, and sourcing, customizing and internalizing energy data management software will play pivotal role in de-bottlenecking and streamlining operations under new market rules to be ushered in ABT era.

At the same time the Company is looking forward to a holistic change in the current situation. Presently, the consumers of the Company are being subjected to disruption of power supply due to a variety of factors arising out of transmission congestion, network vulnerability, plant capacity constraints and poor maintenance. Past data of failures of 220 kV and 132 kV network serving Surajpur 132/33 kV Substation, which is the power off-take point for the Company, will bear testimony to the unscheduled interruptions in the Company's licensed area at Greater Noida. The application for "right of open access" onto the transmission corridors of UPPCL was long pending and the Company had to seek intervention of the Hon'ble Commission to find a solution to this imbroglio. The issue has been recently decided and the Company is would try its best to utilize the same at the earliest possible. The metering arrangement at Surajpur 132/33 kV Substation, which is a hybrid of summation and individual feeder metering without Time-of-day features, needs to be replaced by ABT-compliant summated metering for real-time monitoring of demand profile and sharing of such information should be institutionalized for facilitating system analysis based on load curves and diversity factors. Without addressing these pressing issues the targeted benefits of ABT and Open Access cannot be achieved. Against this background, the Company would submit that the Hon'ble Commission may introduce necessary guidelines on the aforesaid issues to ensure smooth transition to the new ABT/Open Access regime.