

ANNUAL REVENUE REQUIREMENT

FY 2007-08



Kanpur Electricity Supply Company Limited
KANPUR

October 2007

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ABBREVIATIONS

A&G	Administrative & General Expenses
ABC	Aerial Bunch Conductors
APDRP	Accelerated Power Development and Reform Programme
ARR	Annual Revenue Requirement
AT&C	Aggregate Technical and Commercial (losses)
BST	Bulk Supply Tariff
CERC	Central Electricity Regulatory Commission
Cr	Crores
DA	Dearness Allowance
EHV	Extra High Voltage
ERC	Electricity Regulatory Commission
FBT	Fringe Benefit Tax
FI	Financial Institutions
FIR	First Information Report
FY	Financial Year
GIS	Geographical Information System
GFA	Gross Fixed Assets
GOI	Government of India
GoUP	Government of Uttar Pradesh
GPF	General Provident Fund
HT	High Tension
HV	High Voltage
KESA	Kanpur Electricity Supply Area
KESCO	Kanpur Electricity Supply Company Limited
KV	Kilo Volt
KW	Kilo Watt
KWh	Kilo Watt Hour
LF	Load Factor
LT	Low Tension
MoP	Ministry of Power
MU	Million Units
NTPC	National Thermal Power Company
OD	Overdraft
OTS	One Time Settlement Scheme
PF	Provident Fund
PFC	Power Finance Corporation
PNs	Promissory Notes
PPA	Power Purchase Agreement
PTW	Private Tube Wells
R&M	Repair & Maintenance
SI	System Improvement
T&D	Transmission & Distribution
UP	Uttar Pradesh
UPER Act	Uttar Pradesh Electricity Reform Act 1999
UPERC	Uttar Pradesh Electricity Regulatory Commission
UPJVNL	Uttar Pradesh Jal Vidyut Nigam Limited
UPPCL	Uttar Pradesh Power Corporation Limited
UPRVUNL	Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited
UPSEB	Uttar Pradesh State Electricity Board
WIP	Work In Progress

1 Introduction

1.1 Kanpur Electricity Supply Company Limited

The Kanpur Electricity Supply Company Limited (hereinafter referred to as KESCO) is a company incorporated under the Companies Act, 1956 which is entrusted with the business of supply of electrical energy and authorized to maintain a distribution system for supplying electricity to the consumers in its area of supply.

1.2 Transfer Scheme

Consequent to Uttar Pradesh Electricity Reforms Transfer Scheme 2000, the erstwhile UPSEB was reorganized into three corporations; Uttar Pradesh Power Corporation Limited (UPPCL), to carry out the business of transmission, distribution and retail supply, Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL), to carry out thermal generation, and Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL), to carry out hydro generation in the State. In addition, the Government of Uttar Pradesh transferred Tanda Thermal Power Station to the National Thermal Power Corporation (NTPC) and the Kanpur Electricity Supply Area was separated as a subsidiary company of UPPCL and christened The Kanpur Electricity Supply Company Limited (KESCO) vide Uttar Pradesh Transfer of Kesa Zone Electricity Distribution Undertaking Scheme, 2000 notification No. 186/XXIV – 1- 2000 dated January 15th, 2000.

1.3 Enactment of Electricity Act, 2003

The Electricity Act, 2003 (Central Act 36 of 2003) came into force with effect from 10.6.2003 and the previous acts governing the electricity supply in the country viz. The Indian Electricity Act, 1910 (9 of 1910), the Electricity (Supply) Act, 1948 (54 of 1948), and the Electricity Regulatory Commissions Act, 1998 have been repealed. The provisions of the Uttar Pradesh Electricity Reform Act 1999 (Uttar Pradesh Act 24 of 1999) to the extent not inconsistent with the provisions of the Electricity Act 2003, however, continue to apply to Uttar Pradesh. The first proviso of Section 14 of the Electricity Act 2003 specifies that any person already engaged in the business of transmission or supply of electricity under the UP Electricity Reform Act shall be deemed to be a licensee under the Electricity Act 2003 and the provisions of Reform Act in respect of such licensee shall apply for a period of one year from the date of commencement of the Electricity Act 2003 (10th June 2003) and thereafter the provisions of the Electricity Act 2003 shall apply to such business

1.4 Legal Requirement

Section 62 of the Electricity Act 2003 read with section 24 (4) of the UPER Act, 1999 mandates that the licensee will provide to the UPERC at such time as provided by the regulations full details for its expected revenue from the tariffs and charges which it is permitted to recover for the ensuing financial year.

The text contains the Annual Revenue Requirement of KESCO for the Financial Year 2007-08 which have been prepared in consistency with the regulations notified by UPERC for distribution tariff determination namely the UP Electricity Regulatory Commission (Terms and Conditions for Determination of Distribution Tariff) Regulations – 2006 vide Notification No. UPERC/Secy/Regulation/06-2102 on October 6th, 2006

In the entire application, preceding year refers to financial year 2005-06, current year refers to financial year 2006-07 and ensuing year refers to financial year 2007-08.

1.5 Structure of the ARR Submission for FY 2007-08

The structure of this submission is as follows:

- Section 1. Introduction:** This contains a brief background and rationale used for the submission; major assumptions used and describe the structure of the submission.
- Section 2. Performance Analysis of ARR 07 Filing and Action Plan for FY 2007-08:** This includes:
- a) A review of FY 2006-07 UPERC Tariff Order;
 - b) Comparison of estimated cost and actual figures to-date
 - c) Various Efficiency improvement measures undertaken by KESCO in FY 2006-07 and Action Plan for FY 2007-08.
 - d) Details of Investments made in FY 2006-07 and Investment Plan for FY 2007-08
- Section 3. Forecast of Retail Sales and Revenue Assessment:** This includes actual sales for FY 07 and forecasts for FY 08. This also includes actual FY 07 and detailed forecast billing determinants for FY 08 by consumer category. Forecast revenues for FY08 under existing tariff levels are then calculated.
- Section 4. ARR for Wheeling & Retail supply Business FY2007-08:** This includes the ARR forecast for 2007-08. This ARR also includes the revenue gap figures for FY 08 ARR.
- Section 5. Bulk Supply Tariff:** This chapter presents the Cash Gap and calculation of the Bulk Supply Tariff.

2 Performance Analysis of ARR 07 Filing:

As previously mentioned, this section contains the following:

- a) A review of FY 2006-07 UPERC Tariff Order;
- b) Comparison of estimated cost and actual figures to-date
- c) Various Efficiency improvement measures undertaken by KESCO in FY 2006-07 and Action Plan for FY 2007-08.
- d) Details of Investments made in FY 2006-07
- e) Investment Plan for Ensuing year FY 2007-08

2.1 Review of UPERC FY 2006-07 Tariff Order

On June 27, 2007, the Commission issued Tariff order for FY 2006-07 in response to the ARR petition filed by KESCO for FY 2006-07.

In the order the Commission had determined the bulk supply tariff of Rs. 2.41 per unit which would be applicable to KESCO for purchase of power from UPPCL. The Commission had also determined the retail supply tariff vide order dated 10th May 2007 for UPPCL and DisComs for the entire state of Uttar Pradesh. The same retail tariffs were to be applicable for KESCO as well, based on the need of uniform retail tariffs in the state.

The Commission had estimated that KESCO would have a cash surplus of Rs. 70.21 crores at the approved level of efficiencies. However in same spirit the Commission had remarked that the ground realities of KESCO were such that it would not be able to achieve this surplus. Infact the licensee would here like to inform that since incorporation KESCO has not received any major funds for investments towards strengthening the Distribution network unlike the other distribution entities in the state. Due to the above fact the ground realities are different and incomparable with other distribution entities.

The Commission had approved Sales of 2,613.37 MU by UPPCL to KESCO in the Tariff Order for UPPCL and DisComs for FY07. It was based on UPPCL's projected sales to KESCO. The licensee in its Petition for FY 2006-07 had projected its load forecast and projected sales for the year at 1595 MU. However the Commission had adopted UPPCL's projections of its bulk sales to KESCO as purchases by KESCO. The licensee has discussed this matter with further detail later in the petition and has requested the Commission that KESCO's projected sales to be adopted in future filings.

The Commission had approved T&D loss target of 30.47% and Collection Efficiency at 95% for KESCO for both FY 2006 and FY 2007

2.2 Comparison of Approved items and FY 07 actual figures:

The aim of this section is to provide a comparison of pertinent items contained in the Tariff Order with the actual for the year.

2.2.1 Sales forecast – Tariff Order FY 07 and actual data:

Table 2-1 provides a summary of actual sales for FY 2007. It can be seen that the actual sales figures for FY 2007 show a major variance in total with the Approved Tariff Order figures of FY 2006-07. The Commission in the Order for KESCO had fixed the sales forecast at 1,817 MU (16.67% above the licensee's estimates of sales of 1595 MU's). This is because the Commission had adopted the forecast of UPPCL's sales to KESCO as petitioned by UPPCL rather than the forecast presented by KESCO.

Table 2-1: Approved and Actual Energy Sale (MU)

Consumer Category	Tariff Order FY 2006-07	Actual FY 2006-07	% Difference
LMV-1: Domestic Light, Fan & Power	974	743	-24%
LMV-2: Non Domestic Light, Fan & Power	208	186	-11%
LMV-3: Public Lamps	33	35	7%
LMV-4A: Public Insitutions	83	118	42%
LMV-4B: Private Insitutions	17	17	0%
LMV 6A: Powerlooms	-	-	
LMV-6B: Small and Medium Power	137	144	5%
LMV-7: Public Water Works	56	53	-5%
HV-2: Large and Heavy Power	309	270	-13%
Total KESCO	1,817	1,566	-14%

Table 2-2 provides a comparison of licensee's Projected Sales in Tariff Petition for FY 2006-07 and the Actual Energy Sales for FY 2006-07. As can be seen from the table, there is a very small variance between the projections filed by the licensee and the actual energy sales. KESCO's projection was a more realistic Sales forecast and the actual position is an ample example. Here the licensee would request the Honorable Commission to fix the future electricity sales of KESCO based on KESCO's sales forecast rather than the forecast of UPPCL of its bulk sales to KESCO.

Table 2-2: Petitioned and Actual Energy Sale (MU)

Consumer Category	Petititon FY 2006-07	Actual FY 2006-07	Difference % (Petition vs Actual)
LMV-1: Domestic Light, Fan & Power	855	743	-13.07%
LMV-2: Non Domestic Light, Fan & Power	183	186	1.45%
LMV-3: Public Lamps	29	35	22.14%
LMV-4A: Public Insitutions	73	118	61.21%
LMV-4B: Private Insitutions	15	17	13.80%
LMV-6A: Powerlooms			
LMV-6B: Small and Medium Power	120	144	19.98%
LMV-7: Public Water Works	49	53	8.04%
HV-2: Large and Heavy Power	271	270	-0.33%
Total KESCO	1,595	1,566	-1.81%

As with the Category wise data above, it can be seen in this table that the largest variances seem to occur for categories having a relatively small proportion of total sales. The most significant percentage variation occurs in the Public Lamp and Institutional categories.

Table 2-3 summarizes the results of a monthly “flash report”, that reports the average supply hours from feeders supplying various types of consumers/area of KESCO. The data for FY 2007-08 is for four months April to July 07.

Table 2-3: Supply Hours Summary – FY 2006 - FY 2008

Area of Supply	2005-06	2006-07	2007-08
	Hours of Service		
Supply to Industrial Consumers	21.32	23.42	23.37
Supply to Other Consumers	18.03	19.08	19.35
Power Cut	5.97	4.92	4.65

Local Interruptions not included
Source: Flash Report March 2006, March 2007, July 07

2.2.2 ARR items – Tariff Order and Actual for FY07:

Tables 2-4 provides comparative summary of expense items for FY07 as per KESCO’ s un-audited balance sheet and Approved expenses as per KESCO’ s Tariff Order for FY 2006-07. It is to be noted that in overall terms the expenses are within the approved limits.

Table 2-4: Approved and Estimated Expenses - KESCO

Expense Items (Rs.Cr)	FY 2006-07 Tariff Order	FY 2006-07 Estimated	% Difference
Power Purchase Cost	496	476	3.93%
Employee Costs (net of capitalization)	49	48	2.79%
A&G Costs (net of capitalisation)	2	9	-306.53%
Repair & Maintenance Expense	12	10	17.76%
Interest & Finance Charges	8	13	-60.35%
Depreciation	18	25	-39.02%
Total KESCO	585	581	0.73%

In addition to above KESCO has created a Provision for Bad Debts of Rs. 33.59 crores which is as per the permitted norm of 2% of revenue receivables.

The huge jump in A&G costs is due to the fact that the earlier accounting practice of charging Electricity charge of offices, sub stations and divisions under the head R&M expense has been done away with and now such expense is booked under the head A&G costs. Similar treatment has been mandated by Distribution Tariff Regulations.

2.3 Efficiency Improvement Measures - Overview for FY-07 and Action Plan for FY-08

As per the directives and guidelines specified by the Commission towards efficiency improvement, the Licensee has made concerted efforts to bring the AT&C losses to desired levels and to increase revenue realisation. In the following paragraphs the licensee has presented the outcomes of such Efficiency Improvement initiatives undertaken by KESCO. In the ensuing year the main thrust of the licensee would be on reduction of T&D losses and accordingly KESCO has proposed to initiate the following steps:

2.3.1 Replacement of LT lines by laying Aerial Bunch Conductor (ABC)

Presently approximately 4.5 lakh consumers exist in KESCO against population of 30 lakh, whereas in Lucknow city approximately 6.0 lakh consumers exist against a similar population. This clearly shows the adverse impact on KESCO's health by katiya (hooking) connections. For prevention of katiya's (hookings) in katiya prone areas, there is a need to replace the present naked LT lines by Aerial Bunch Conductor.

ABC shall be used to replace the old conductor of different sizes. Use of ABC in Distribution system is very safe and proven technology in various other states. LT line faults are practically eliminated, the life of transformers is considerably increased as these are not subject to frequent faults as happens with the bare conductors. The problem of free clearance is also eliminated. The theft of energy is minimized, and it is not possible to easily hook aerial bunched cable system as compared to overhead bare conductor system.

Following actions are proposed to be undertaken to reduce line losses by laying of LT ABCs:

- 1- Replacement of conductor from theft prone areas by Aerial Bunch Conductor.
- 2- Providing service connections from Distribution Boxes which will be installed on pole.
- 3- The service cable of consumer shall be replaced with Armoured L.T. cable to prevent tendency of cable cuts before the meter.

Objectives of the project:

1. Improvement of quality, reliability & Voltage profile of power supply.
2. Reduction in transmission & Distribution losses along with reduction in commercial losses.
3. The main benefits of the project are to eliminate the tendency to use illegal (Katiya) connection and consumers shall be provided legal connection at the earliest.
4. Better quality of supply & improved supply hours.
5. By preventing theft, consumers mind set can be oriented towards energy conservation.

Technical Details of the Project:

Presently, the electricity supply of KESCO is being fed from 06 Nos of 220 KV & 132 KV primary s/s. There are 80 Nos of 33 KV S/S with 280 Nos 11 KV and 6.6 kV feeders. Total distribution transformers in KESCO on 280 feeders are 3251 out of which 800 are in the area where replacement of LT lines by ABC need to be carried out on top priority. Division wise detail and estimated ABC requirement is shown in Table 2-5 below

Table 2-5: Division wise work of Replacement of LT naked lines by ABC

Division wise work of Replacement of LT Naked Lines by Aerial Bunch Conductors			
S No.	Name of Division	No of Transformers	LT Line (in Kms)
1	Phool Bagh	65	99.5
2	Nawab Ganj	32	23
3	Kalyan Pur	27	120
4	Zarib Choki	39	64.7
5	Electricity House	86	81.7
6	Sarvodaya Nagar	34	35.1
7	Dada Nagar	13	41.25
8	Ratanpur	13	43.1
9	Gumti	38	49.5
10	Govind Nagar	77	272.15
11	World Bank	17	16.6
12	Jajmau	88	88.1
13	Harrisganj	78	43.2
14	Kidwai Nagar	70	95.1
15	Naubasta	123	117
	Total	800	1190

The above project is estimated to cost Rs 71.39 crores and Power Finance Corporation has agreed to fund the project to the tune of 80% of the project cost. Balance would be funded by GoUP through equity. It is expected that after completion of all the proposed works, technical losses will be reduced by at least 11% overall in KESCO

2.3.2 Meter Checking and Meter Replacement Abhiyaan

In the ensuing year, KESCO has major thrust for improvement in metering system. Under this programme following activity has been planned:

1. Replacement of all electro-mechanical meters
2. Large scale checking of metering systems of consumers
3. Double metering of 25KW and above capacity consumers

Massive feeder wise consumers' meter checking abhiyaan will be followed by GIS based consumer indexing. This will give basic infrastructure for feeder wise energy accounting and auditing and reduction of losses. This will also generate internal sources of finance by recovery against irregularities in meter and katiya as it will help in identifying the major loss making consumers/pockets. The project has been taken up to entrust the responsibility of increasing collection efficiency and reduction of line losses on a feeder by creating a separate level of hierarchy named as a feeder manager. The feeder wise Improvement will be carried out by feeder managers and the feeder manager will be responsible for further reduction of losses; and to maintain the minimum level maintained and handed over to them.

In the first phase, 5 feeders have been covered under this project. If the project goes through as envisaged another 10 feeders will be taken up into this programme in the next phase. KESCO will target to improve 60 feeders every year which will be selected on the study of area to maximize revenue realization and reduction of losses in priority.

2.3.3 Raid Drives

Considering the level of high AT&C losses the petitioner has identified the need for the strengthening the enforcement set up within the organisation. To strengthen the enforcement the petitioner has deployed the large no. of work force at various levels for the purpose of carrying out enforcement related activities. The main function of such enforcement cell is to curb the practices of illegal/excess load and meter tampered cases to reduce the line losses and to ensure proper surveillance to prevent theft of electricity in theft prone area and to increase the assessment of the consumers. Not only this, the raids were also conducted for the recovery of arrears and dues, which has helped the petitioner to improve the collection efficiency. All the Executive Engineers for the Urban Distribution Divisions of KESCO have been made responsible, if there is any large scale theft of electricity.

Table 2-6: Raids Conducted in FY 2006-07

Particulars	No./Amt
Total Raids Conducted	1,787
Electricity Thefts Detected	585
Detection of Illegal Connections and Other Irregularities	395
Revenue Processed (in Rs lakhs)	489.91
Revenue Recovered (in Rs lakhs)	387.55
No of Disconnections	1,855
Reconnections plus Regularisation of Connections	8,433
No of FIR's	43
No of Court Cases	161
No of Arrests	12

For the ensuing year FY 2007-08 a roadmap has been formulated by KESCO to check electricity theft. The main thrust points of the roadmap are as follows:

- Double Metering for all Consumers whose installed load is greater than 500 KVA followed by monthly inspection of such meters
- Double metering for all cold storage and ice factory connections
- Double metering of suspicious consumers whose installed load is greater than 25KW and subsequent monthly monitoring of such consumers
- Energy Auditing in Multi storey buildings and complexes at the transformers installed therein
- Ensuring that no LT line/transformer is situated within the premises of any industrial/HV-2 consumer
- Regular Monitoring of Metering systems
- Conducting workshops and imparting proper training to employees to conduct effective meter checking and tampering
- Minimum target of 50 power theft detection for each Assistant Engineer
- Junior Engineer to be responsible for detecting theft cases and lodging of FIR
- Installing of Aerial Bunch Conductors in areas where power theft by katiya connections is pre dominant

The progress of the above measures has been very encouraging. The summary of the progress for the first six months from April to September 2007 is enumerated in the Table 2-7 below:

Table 2-7: Raids Conducted in FY 2007-08 (April 07 to September 07)

Particulars	No./Amt
Total Raids Conducted	13,183
Electricity Thefts Detected	677
Detection of Illegal Connections and Other Irregularities	863
Revenue Processed (in Rs lakhs)	330.55
Revenue Recovered (in Rs lakhs)	137.54
No of Disconnections	4,174
Reconnections plus Regularisation of Connections	475
No of FIR's	412
No of Court Cases	412
No of Arrests	133

2.3.4 Camps organized for Revenue Realisation

KESCO has conducted over 2000 camps in the year FY 2006-07 at different places in an endeavour to intensify the revenue collection activity and for redressal of customer grievances. The activities of the camps were monitored from the Head Office centrally by Managing Director KESCO. In addition to this, one time settlement scheme and self-disclosure schemes were also introduced. The licensee seeks to continue these activities in the ensuing year also.

Highlights of the Camps initiatives in the FY 2006-07 are illustrated in Table 2-8 below:

Table 2-8: Highlights of the Camps Initiatives organised in FY 2006-07

Particulars	Rs Lakhs/No.
No of Camps Organised	2,009
No of Consumers turning up for Disconnected Cases (Nos)	16,031
Revenue Realised against Disconnection Cases (Rs lakh)	3,025.50
No of Consumers paying up regular bills (Nos)	57,921
Revenue Realised against Regular Consumers (Rs Lakh)	2,528

2.3.5 MIS System

KESCO has a very large consumer base. In absence of any integrated system across the KESCO, the flow of information to the management is very slow and erratic. Further the format in which the information is available is not amenable for further analysis and therefore cannot yield actionable and effective targeting of consumers for focused action on theft prevention, arrear recovery etc. The activity of streamlining MIS would be undertaken in the ensuing year. KESCO is planning to develop a GIS (Geographical Information System) through which database of consumers of all the divisions with regard to assessment; collection etc. will be centrally controlled. Necessary steps have been initiated on priority by KESCO.

2.3.6 Input Based Franchisee

KESCO is also planning to introduce input based franchisee model. KESCO is planning the model on Input based assured revenue model to achieve the following objectives:

- Improve the operational efficiency of distribution system
- To minimize aggregate AT&C losses
- To bring improvement in metering, billing and revenue collection
- To minimize billing arrears
- To enhance customer satisfaction by improving quality and reliability of service.

2.3.7 Special Drive for checking of disconnected Consumers

Special drive has been initiated by KESCO for issue of Section 3 notices against 100% defaulter consumers having arrear more than Rs. 5,000. In cases of non payment of arrears and non compliance of Section 3 notices, RC's will be issued against such defaulters.

Disconnected consumers are frequently checked even after their supply has been disconnected and in cases where disconnected consumers have illegally reconnected the connection, action under Section 138 of Electricity Act 2003 is initiated against them.

Consumer awareness against Electricity theft is being generated among the masses by making wide publicity through newspaper advertisements, loud speaker announcements and camps.

2.3.8 Loss Levels

T&D Losses

The Commission had set a target of 30.47% for overall T&D losses during FY 2006-07. The target beside all-out efforts and efficiency measures by the Licensee could not be achieved. The actual T&D loss during FY07 is 37.62%. For the ensuing year the T&D loss level has been projected at 30% keeping in view the heavy capital expenditure being incurred in the current and ensuing year under APDRP, ABC and other system improvement measures for improving the distribution system.

In general, from the experience of other reforming utilities, it has been found that during transition periods of reform, the targeted level of losses could not be achieved because of various constraints due to the reform. This applies especially in the case of the current situation in the UP power sector. In addition, the increase in hours of supply as desired by the UP government has further exasperated what is already a difficult situation as noted above.

Collection Efficiency

The Honorable Commission in its Tariff Order for FY 2006-07 had fixed a Collection of 95%. KESCO had achieved a Collection Efficiency of 82.2% in FY 2006-07. This has largely been achieved through the proactive measures undertaken by the utility in drawing the consumers to the collection centers by organising camps for redressal of consumer grievances, correction and adjustment of disputed bills, regularisation of illegal connections, one time settlement scheme, self-disclosure schemes, etc.

KESCO plans to pursue the above measures with greater vigor in the ensuing year and projects to achieve a Collection Efficiency of 87.0%.

2.4 Investments Plan Details

The following Tables 2-9 to 2-11 detail the physical and financial outlays of capital expenditure made by KESCO under APDRP, System Improvement and Deposit works in FY 2006-07. Also the Investment Plans for FY 2007-08 are detailed in Tables 2-12 to 2-14 below.

Investment program broadly envisages up- gradation & strengthening of Distribution System with the objective to reduce AT&C losses, improving customer satisfaction & increasing reliability and quality of power supply. This will also cater increasing demand of various categories of consumer.

2.4.1 Capital Investment in FY 2006-07

The list of Capital Expenditure incurred by the licensee in the current year FY 2006-07 and the Capital investment plans for the ensuing year are detailed in Tables 2-9 to Table 2-14 below. Since the scheme of laying Aerial Bunch Conductors has already been discussed in detail in Chapter 2.3.1, hence it has not been repeated here.

The Capital Expenditure has been broadly classified into the following categories:

- System Improvement through Internal Resources
- Capital Expenditure under APDRP Scheme
- Capital expenditure through Deposit Works

Table 2-9: HV works/Improvement of 11KV and 6.6 KV distribution network and other works under System improvement in FY 2006-07

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2006 का प्रारम्भिक अवशेष	वर्ष 2006-07 में व्यय	वर्ष 2006-07 में कुल व्यय	वर्ष 2006-07 में पूर्ण कार्य	31.03.2007 को अन्तिम अवशेष
1	33 के०वी० उपसंस्थान					
क	33/11 के०वी० उपसंस्थान बेनाझाबर		0.10	0.10		0.10
ख	33/11 के०वी० उपसंस्थान आर०टी०ओ० सर्वोदय नगर		0.45	0.45		0.45
2	33/11/6.6 के०वी० उपसंस्थान की क्षमता वृद्धि					
क	33के०वी० उपसंस्थान शास्त्री नगर 8 एम०वी०ए० से 10 एम०वी०ए०		0.27	0.27	0.27	
ख	33के०वी० उपसंस्थान शास्त्री नगर 10 एम०वी०ए० से 18 एम०वी०ए०		0.30	0.30		0.30
ग	33के०वी० उपसंस्थान साईकिल मार्केट 15एम०वी०ए० से 20एम०वी०ए०		0.50	0.50	0.50	
घ	33के०वी० उपसंस्थान दबौली 20एम०वी०ए० से 25एम०वी०ए०		0.56	0.56	0.56	
च	33के०वी० उपसंस्थान एच-ब्लाक किदवई नगर 10एम०वी०ए० से 15एम०वी०ए०		0.48	0.48		0.48
3	33के०वी० सबस्टेशन पर एम०ओ०सी०बी० कन्ट्रोल पैनल स्थापित करना		0.45	0.45		0.45
4	33के०वी० ओवरहेड लाइन					
क	33के०वी० ओवरहेड लाइन सिंगिल सर्किट से डबल सर्किट विजय नगर से शास्त्री नगर		0.06	0.06	0.06	
ख	रिग्रुपिंग ऑफ 33के०वी० फीडर 220/33के०वी० सबस्टेशन नौबस्ता से पोषित		0.06	0.06		0.06
5	33के०वी० भूमिगत केबिल					
क	33के०वी० जी-7 फीडर से ओ०एफ०सी० यार्ड तक		0.02	0.02	0.02	
ख	33के०वी० जी-9 ओ०एफ०सी० फीडर पनकी गेट		0.05	0.05	0.05	
ग	132के०वी० उपसंस्थान कृष्णा नगर पर बाईफरकेशन हेतु 33के०वी० केबिल डालना		0.09	0.09		0.09
घ	220/33के०वी० उपसंस्थान नौबस्ता से निकलने वाले 33के०वी० गोविन्द नगर फीडर का सुदृढीकरण		0.05	0.05		0.05
6	रिनोवेशन एवं मार्टनाइजेशन 11के०वी० स्विच गियर, छबीलेपुरवा एवं वाजिदपुर		0.12	0.12		0.12
7	एच०टी०/एल०टी० लाइन का निर्माण कार्य ओवरहेड एवं अण्डर ग्राउण्ड	0.11	0.28	0.39		0.39
8	एल०टी० सबस्टेशन का निर्माण कार्य	0.12	0.10	0.22		0.22
9	एल०टी० लेस प्रणाली हेतु कार्य	0.38	0.14	0.52	0.52	
	कुल योग	0.62	4.07	4.68	1.98	2.70

Table 2-10: Capital Expenditure made in FY 2006-07 through APDRP

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2006 का प्रारम्भिक अवशेष	वर्ष 2006-07 के लिए पुनरीक्षित अनुमानित व्यय	वर्ष 2006-07 में कुल व्यय	वर्ष 2006-07 में पूर्ण कार्य
1	मे० सिक्वोर मीटर्स लि०, श्री फेज एनर्जी मीटर की आपूर्ति एवं संस्थापना का कार्य	4.90	4.84	9.74	9.74
2	फीडर मीटर की आपूर्ति एवं संस्थापना का कार्य	-	-	-	-
3	मे० सिक्वोर मीटर्स लि०, डी०टी० मीटर्स की आपूर्ति एवं संस्थापना का कार्य	0.96	5.59	6.55	6.55
4	मे० ए०बी०बी० लि०, 33के०वी० वी०सी०बी० की आपूर्ति एवं संस्थापना का कार्य	2.86	1.78	4.64	4.64
5	मे० सन्चेम् इंजीनियर्स प्रा० लि०, 11के०वी० वी०सी०बी० की आपूर्ति एवं संस्थापना का कार्य	3.09	2.06	5.15	5.15
6	मे० दीक्षित कन्स्ट्रक्शन कम्पनी, वितरण परिवर्तको की जी०आई० पाइप अर्थिंग का कार्य	0.68	0.32	1.00	1.00
7	मे० इनफाइनाइट कम्प्यूटर सैल्यूशन प्रा० लि०, केस्को के कम्प्यूटरआईजेश-प्रथम चरण का कार्य	0.52	1.25	1.77	
8	33के०वी० ओवरहेड लाइन का निर्माण कार्य				
क	मे० दीक्षित कन्स्ट्रक्शन कम्पनी, 33के०वी० ओवरहेड लाइन 220 के०वी० उपसंस्थान आ०पी०एच० से 33के०वी० उपसंस्थान बी०एस० पार्क	0.63	0.05	0.68	0.68
ख	मे० आर वी ट्रेडिंग कम्पनी, 33के०वी० ओवरहेड लाइन गोल चौराहा से डिप्टी का पड़ाव (चीना पार्क)	0.41	0.03	0.44	0.44
ग	मे० वी के फ़ैब्रीकेटर्स एण्ड एरेक्टर्स, 33के०वी० ओवरहेड लाइन 220के०वी० उपसंस्थान पनकी से विजय नगर चौराहा	0.69	0.03	0.72	0.72
9क	मे० बी आर कम्पनी, 11के०वी० नयी लाइनों का निर्माण	3.15	3.50	6.65	6.65
9ख	मे० खान ट्रेडर्स एण्ड इलेक्ट्रिकल वर्क्स, 11के०वी० शारदा नगर फीडर का बाईफरकेशन				
9ग	मे० कामदगिरी ट्रेडर्स, पी-ब्लाक फीडर का बाईफरकेशन				
9घ	मे० डी कन्ट्रोल एण्ड इलेक्ट्रिक प्रा० लि०, 11के०वी० एच०टी० एवं एल०टी० लाइन के रिकन्डक्टरिंग का कार्य	1.16	0.90	2.06	2.06
10	मे० डी कन्ट्रोल एण्ड इलेक्ट्रिक प्रा० लि०, एरियल बन्चड केबिल बिछाने का कार्य	3.88	5.20	9.08	9.08
11	मे० 33के०वी० उपसंस्थान का निर्माण कार्य				
क	मे० आर वी ट्रेडिंग कम्पनी, 33के०वी० उपसंस्थान जवाहर नगर	0.50	0.00	0.50	0.50
ख	मे० आर वी ट्रेडिंग कम्पनी, 33के०वी० उपसंस्थान चीना पार्क	0.17	0.11	0.28	0.28
ग	मे० सन्चेम् इंजीनियर्स प्रा० लि० 33के०वी उपसंस्थान इन्द्रा नगर 33के०वी उपसंस्थान मण्डीपरिसर	1.01	3.16	4.17	4.17
घ	मे० सन्चेम् इंजीनियर्स प्रा० लि० 33के०वी उपसंस्थान पशुपति नगर 33के०वी उपसंस्थान मेडिकल कालेज	0.52	2.69	3.21	3.21
12	33के०वी० उपसंस्थान की क्षमता वृद्धि 5एम०वी०ए० से 10एम०वी०ए० में कल्याणपुर बी०एस० पार्क एच-ब्लाक, किदवई नगर	1.05	0.01	1.06	1.06
13	मे० आनन्द ट्रान्सफार्मर्स प्रा० लि०, 400के०वी०ए० एल०टी० सबस्टेशन के निर्माण कार्य हेतु सामग्री की आपूर्ति एवं संस्थापना का कार्य	3.72	5.08	8.80	8.80
14	मे० आनन्द ट्रान्सफार्मर्स प्रा० लि०, 250के०वी०ए० एल०टी० सबस्टेशन के निर्माण कार्य हेतु सामग्री की आपूर्ति एवं संस्थापना का कार्य	1.98	2.72	4.70	4.70
15	उपसंस्थानों के 6.6के०वी० से 11के०वी० में विभव प्रणाली के उच्चोकरण का कार्य सर्वोदय नगर बी०एस० पार्क हार्समैन बाग जरीब चौकी	3.54	0.21	3.75	3.75
कुल योग		35.42	39.52	74.94	73.17

Table 2-11: Investments in System Improvement through Deposit Works (FY 2006-07)

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2006 का प्रारम्भिक अवशेष	वर्ष 2006-07 में व्यय	वर्ष 2006-07 में कुल व्यय	वर्ष 2006-07 में पूर्ण कार्य
1	नगर निगम				
क	जी०एम० जल संस्थान, दयानन्द विहार, जोनल पम्पिंग स्टेशन, डबलू-4	0.02	-	0.02	0.02
ख	जी०एम० जल संस्थान, इन्दा नगर, जोनल पम्पिंग स्टेशन, डबलू-3	0.02	-	0.02	0.02
ग	सचिव, जल संस्थान, आजाद पार्क, आजाद नगर, 36 एच०पी० भार के संयोजन हेतु निर्माण कार्य		0.03	0.03	0.03
2	एम० ई० एस०				
क	गैरिसन इन्जीनियर (ई/एम) एयर फोर्स स्टेशन चकरी, 132 के०वी० सबस्टेशन कृष्णा नगर से अहिरावां तक 33के०वी० भूमिगत केबिल बिछाने का कार्य		0.27	0.27	
ख	गैरिसन इन्जीनियर, (आर एण्ड डी) डी०एम०आर०डी०ई० कैम्पलेक्स, जी०टी० रोड, कानपुर 33के०वी० विद्युत आपूर्ति को 33के०वी० एम०ई०एस० सबस्टेशन से डी०एम०एस०आर०डी०ई० तक जोड़ने का कार्य		0.23	0.23	
3	गंगा बैराज				
क	अधिशाषी अभियन्ता, बैराज निर्माण खण्ड-प्रथम, फूलबाग, हिन्दूपुर गांव में 11के०वी० बिदूर सिंहपुर फीडर पर वितरण परिवर्तक/हाईटेन्सन एवं लोटेन्सन लाइन को हटाने का कार्य	0.09	-	0.09	0.09
ख	सहायक अभियन्ता, चतुर्थ, बैराज निर्माण खण्ड, कानपुर, हिन्दूपुर गांव में लोटेन्सन लाइन को हटाने का कार्य		0.00	0.00	0.00
4	ब्रिज कारपोरेशन यूनिट				
क	डि०टी० पोजेक्ट मैनेजर, ब्रिज कारपोरेशन यूनिट, झकरकटी, जी०टी० रोड, कानपुर, टाटमिल चौराहा पर एच०टी० एवं एल०टी० लाइन के हटाने का कार्य		0.02	0.02	0.02
ख	एन०एच०-91, अधिशाषी अभियन्ता, ब्रिज कारपोरेशन यूनिट, पी०डब्लू०डी०, कानपुर सिफिटिंग ऑफ लाइन झकरकटी से रामादेवी (जी०टी० रोड) तक वितरण परिवर्तक एवं एच०टी०/एल०टी० लाइन के हटाने का कार्य		0.25	0.25	
5	राष्ट्रीय राजमार्ग प्राधिकरण				
क	एन०एच०-25, रामादेवी से गंगा पुल तक लाइन एवं परिवर्तक हटाने का कार्य		0.89	0.89	
6	यू०पी०एस०आई०डी०सी०				
क	33/11 के०वी० उपसंस्थान एवं 33 के०वी० लाइन का निर्माण कार्य, यू०पी०एस०आई०डी०सी०, रुमा में	1.60	0.14	1.74	
7	परियोजना प्रबन्धक, एल०आई०सी० हाऊसिंग सोसाइटी शारदा नगर, 100के०वी०ए० वितरण परिवर्तक की संस्थापना एवं लाइन के निर्माण का कार्य		0.02	0.02	0.02
8	सहायक निदेशक (आर) एच०ओ०ओ०एच०आर० सेन्टर, हैन्डीकैपड, ए०टी०आई० उद्योग नगर, 100कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.02	0.02	
9	जी०एम०, बी०एस०एन०एल०, 130/294, अजीतगंज, कानपुर, 12 कि०वा० भार के संयोजन हेतु निर्माण कार्य		0.02	0.02	
10	सहायक अभियन्ता, फोन्स, कृष्णा नगर, साइट-76/65-20-बी, रसूलाबाद, जाजमऊ, 15 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.01	0.01	

-Continued-

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2006 का प्रारम्भिक अवशेष	वर्ष 2006-07 में व्यय	वर्ष 2006-07 में कुल व्यय	वर्ष 2006-07 में पूर्ण कार्य
11	बी०एस०एन०एल० देलही सुजानपुर, प्लाट नं० 1427 देलही सुजानपुर में 15 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.01	0.01	0.01
12	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०)				
क	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०) प्लाट नं० 137, 137-ए, कालपी रोड, कानपुर, एच०टी०/एल०टी० पोल के हटाने का कार्य		0.01	0.01	0.01
ख	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०) प्लाट नं० 137, 137-ए, ब्लाक-एच, यू०पी०एस०आर०टी०सी० फजलगंज, कानपुर, 50 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.03	0.03	0.03
ग	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०) यू०पी०एस०आई०डी०सी० कैम्पलेक्स ए-1/4, लखनपुर, स्टे हटाने का कार्य		0.00	0.00	0.00
घ	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०), सी-1, हरीकृष्णा नगर, मकड़ीखेड़ा, 33के०वी० लाइन के पाले को हटाने का कार्य		0.00	0.00	0.00
च	सेन्ट्रल यू०पी० गैस लि०, (सी०एन०जी०), सी-1, हरीकृष्णा नगर, मकड़ीखेड़ा, 40 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.04	0.04	0.04
13	क्षेत्रीय प्रबन्धक, यू०पी० स्टेट इण्डस्ट्रीयल डवलपमेन्ट, बी-29, पनकी, साइट नं०-5 पर 33के०वी० आवेरहेड लाइन को हटाने का कार्य		0.03	0.03	
14	श्रीमती मीरा अग्रवाल, 15/11ए, सिविल लाइन्स, कानपुर, 65 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.02	0.02	0.02
15	रोहित तलवार, 4/276, (i), पार्वती बंगला रोड, कानपुर		0.00	0.00	0.00
16	जी०एम०, आर्डिनेन्स फ़ैक्ट्री कालपी रोड कानपुर ओ०एफ०सी० मे 33/11के०वी उपसंस्थान एवं लाइन का निर्माण कार्य		0.10	0.10	
17	जी०एम०, आर्डिनेन्स फ़ैक्ट्री कालपी रोड कानपुर एस०ए०एफ० मे 33/11के०वी उपसंस्थान एवं लाइन का निर्माण कार्य		0.10	0.10	
18	जी०एम०, आर्डिनेन्स फ़ैक्ट्री कालपी रोड कानपुर अर्मापुर स्टेट मे 33/6.6के०वी उपसंस्थान एवं लाइन का निर्माण कार्य		0.09	0.09	
19	श्री दिलीप मेहरोत्रा, अनूप मेहरोत्रा एवं आत्माराम खत्री 6.6के०वी ओवरहेड लाइन बनाने का कार्य 122/735, शास्त्रीनगर कानपुर		0.15	0.15	
कुल योग		1.73	2.48	4.20	0.31

2.4.2 Capital Investment Plan for FY 2007-08

Table 2-12: Capital Expenditure made in FY 2007-08 through APDRP

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2007 का प्रारम्भिक अवशेष	वर्ष 2007-08 में	वर्ष 2007-08 में	वर्ष 2007-08 में
1	मे० हार्बीटेक इण्टरप्राइजेज प्रा० लि०,				
क	220के०वी० उपसंस्थान पनकी से कालपी रोड़ तक 33/11के०वी० डबल सर्किट ओवरहेड लाइन का निर्माण कार्य (जी-4 फीडर)		1.40	1.40	1.40
ख	220के०वी० उपसंस्थान पनकी से 33/11के०वी० दबौली उपसंस्थान तक 33/11के०वी० डबल सर्किट ओवरहेड लाइन का निर्माण कार्य (जी-1 एवं जी-2 फीडर)		3.62	3.62	3.62
ग	220के०वी० उपसंस्थान पनकी से 33/11के०वी० उपसंस्थान बर्रा तक वाया गुजैनी उपसंस्थान 33/11के०वी० डबल सर्किट ओवरहेड लाइन का निर्माण कार्य (जी-8 फीडर)		2.55	2.55	2.55
2	एरियल बन्चड केबिल विछाने का कार्य टर्नकी आधार पर		4.50	4.50	4.50
3	मे० इनफाइनाइट कम्प्यूटर सैल्यूशन प्रा० लि०, केस्को के कम्प्यूटराईजेशन-प्रथम चरण का कार्य	1.77	3.47	5.24	5.24
4	सिगिल फेज एनर्जी मीटर्स की आपूर्ति		1.70	1.70	1.70
5	33/6.6केवी हैरिशगंज उपसंस्थान की अतिभारिता कम करने एवं उक्त उपकेन्द्र से निकलने वाले 6.6केवी हार्डिंग रोड फीडर के		1.14	1.14	1.14
6	अन्य सम्भावित कार्य		1.35	1.35	1.35
	कुल योग	1.77	19.72	21.49	21.49

Table 2-13: HV works/Improvement of 11KV and 6.6 KV distribution network and other works under System improvement in FY 2007-08

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2007 का प्रारम्भिक अवशेष	वर्ष 2007-08 में व्यय	वर्ष 2007-08 में कुल व्यय	वर्ष 2007-08 में पूर्ण कार्य
1	33 के०वी० उपसंस्थान				
क	33/11 के०वी० उपसंस्थान आर०टी०ओ० सर्वोदय नगर	0.45	1.51	1.96	1.96
ख	33/11 के०वी० उपसंस्थान बेनाझाबर	0.10	0.90	1.00	1.00
ग	33/11 के०वी० उपसंस्थान जाजमऊ		3.50	3.50	3.50
घ	33/11 के०वी० उपसंस्थान अहिरावा, जी०टी० रोड		4.00	4.00	4.00
च	33/11 के०वी० उपसंस्थान कैनाल रोड नियर शनिदेव मन्दिर		1.50	1.50	1.50
छ	33/11 के०वी० उपसंस्थान सी०एस०ए० नवाबगंज		4.00	4.00	4.00
2	33/11 के०वी० उपसंस्थान की क्षमता वृद्धि				
क	33/11 के०वी० उपसंस्थान शास्त्री नगर 10एम०वी०ए० से 18एम०वी०ए०	0.30	0.19	0.49	0.49
ख	33/11 के०वी० उपसंस्थान भगवतदास, सरसेय्या घाट 1x5 एम०वी०ए० से 2x5 एम०वी०ए०		0.40	0.40	0.40
ग	33/11 के०वी० उपसंस्थान एच-ब्लाक किदवई नगर 10एम०वी०ए० से 15एम०वी०ए०	0.48	0.30	0.78	0.78
3	33के०वी० सबस्टेशन पर एम०ओ०सी०बी० कन्ट्रोल पैनल स्थापित करना छबीले पुरवा	0.45	0.05	0.50	0.50
4	33के०वी० ओवरहेड लाइन				
क	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० बी.एस.-1 एवं बी.एस.-2 पोषकों के सुदृढीकरण(डाग कण्डक्टर से पैथर कण्डक्टर में बदलने हेतु)		0.50	0.50	0.50
ख	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० आलूमण्डी-1 एवं आलूमण्डी-2 पोषकों के सुदृढीकरण(डाग कण्डक्टर से पैथर कण्डक्टर में बदलने हेतु)		0.80	0.80	0.80
ग	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० सर्वोदय नगर-1 एवं सर्वोदय नगर-2 पोषकों के सुदृढीकरण(डाग कण्डक्टर से पैथर कण्डक्टर में बदलने हेतु)		0.60	0.60	0.60
घ	33के०वी ओवरहेड लाइन 220के०वी उपसंस्थान नौबस्ता से हैरिशगंज फीडर		0.11	0.11	0.11
च	फूलबाग से दालमण्डी तक सिंगल सर्किट 33के०वी ओवरहेड लाइन को डबल सर्किट में करने हेतु		0.09	0.09	0.09
छ	बेनाझाबर से साइकिल मार्केट तक सिंगल सर्किट 33के०वी ओवरहेड लाइन को डबल सर्किट में करने हेतु		0.18	0.18	0.18
ज	पनकी से रतनपुर तक सिंगल सर्किट 33के०वी ओवरहेड लाइन को डबल सर्किट में करने हेतु		0.15	0.15	0.15
5	33के०वी० भूमिगत केबिल				
क	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० बी०एस०-1 एवं बी०एस०-2 पोषकों के सुदृढीकरण(भूमिगत केबिल बिछाने का कार्य)		4.15	4.15	4.15
ख	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० आलूमण्डी-1 एवं आलूमण्डी-2 पोषकों के सुदृढीकरण (भूमिगत केबिल बिछाने का कार्य)		3.10	3.10	3.10
ग	132/33/11के०वी० आजाद नगर उपकेन्द्र से निर्गत 33के०वी० सर्वोदय नगर-1 एवं सर्वोदय नगर-2 पोषकों के सुदृढीकरण (भूमिगत केबिल बिछाने का कार्य)		2.00	2.00	2.00
घ	रिगुपिंग ऑफ 33के०वी फीडर 220/33के०वी सबस्टेशन नौबस्ता से पोषित	0.06	0.06	0.12	0.12
च	132के०वी उपसंस्थान कृष्णा नगर पर बाइफरकेशन हेतु 33के०वी केबिल डालना	0.09	0.02	0.11	0.11
छ	220/33के०वी उपसंस्थान नौबस्ता से निकलने वाले 33के०वी गोविन्द नगर का सुदृढीकरण	0.05	0.06	0.11	0.11
ज	132के०वी उपसंस्थान कृष्णा नगर से पोषित 33के०वी फीडर दहेली सुजानपुर के रिन्वूवेशन का कार्य		1.15	1.15	1.15
झ	132के०वी उपसंस्थान कृष्णा नगर से निकलने वाले 33के०वी फीडर एक अतिरिक्त फीडर के रूप में 33के०वी लाइन बनाकर आपातकालीन ब्रेकडाउन से निजात पाने हेतु		0.28	0.28	0.28
इ	रिन्वूवेशन एण्ड मार्डनाइजेशन आफ 11के०वी स्विच गियर, छबीलेपुरवा एवं वाजिदपुर	0.12	0.09	0.20	0.20
6	एच०टी०/एल०टी० लाइन का निर्माण कार्य ओवरहेड एवं अण्डरग्राउण्ड	0.39	0.22	0.61	0.61
7	एल०टी० सबस्टेशन का निर्माण कार्य	0.22	5.39	5.61	5.61
8	एल०टी० लेस प्रणाली हेतु कार्य		0.35	0.35	0.35
	कुल योग	2.70	35.64	38.34	38.34

Table 2-14: Investments in System Improvement through Deposit Works in FY 2007-08

क्र० सं०	कार्यवार/योजनावार विवरण	01.04.2007 का प्रारम्भिक अवशेष	वर्ष 2007-08 में व्यय	वर्ष 2007-08 में कुल व्यय	वर्ष 2007-08 में पूर्ण कार्य
1	एम० ई० एस०				
क	गैरिसन इन्जीनियर (ई/एम) एयर फोर्स स्टेशन चक्रेरी, 132 के०वी० सबस्टेशन कृष्णा नगर से एअर फोर्स कैम्पस अहिरावां तक 33के०वी० भूमिगत केबिल बिछाने का कार्य	0.27	1.27	1.54	1.54
ख	गैरिसन इन्जीनियर, (आर एण्ड डी) डी०एम०आर०डी०ई० कैम्पलेक्स, जी०टी० रोड, कानपुर 33के०वी० विद्युत आपूर्ति को 33के०वी० एम०ई०एस० सबस्टेशन से डी०एम०एस०आर०डी०ई० तक जोड़ने का कार्य	0.23	0.30	0.53	0.53
2	एन०एच०-91, अधिशाषी अभियन्ता, ब्रिज कारपोरेशन यूनिट, पी०डब्लू०डी०, कानपुर सिपिटंग ऑफ लाइन झकरकटी से रामादेवी (जी०टी० रोड) तक वितरण परिवर्तक एवं एच०टी०/एल०टी० लाइन के हटाने का कार्य	0.25	0.14	0.39	0.39
3	राष्ट्रीय राजमार्ग प्राधिकरण				
क	एन०एच०-25, रामादेवी से गंगा पुल तक लाइन एवं परिवर्तक हटाने का कार्य	0.89	2.18	3.07	3.07
4	निदेशक, एच०बी०टी०आई०, कानपुर, 33/11 के०वी० उपसंस्थान का निर्माण कार्य एवं 33के०वी० भूमिगत केबिल बिछाने का कार्य		1.87	1.87	1.87
5	जी०एम०, आर्डिनेन्स एक्यूपमेन्ट फ़ैक्ट्री भगवतदास घाट कालोनी, कानपुर, 11के०वी० ओ०ई०एफ० स्वतन्त्र फीडर द्वारा संयोजन अवमुक्त करने हेतु निर्माण कार्य		0.27	0.27	0.27
6	जी०एम०, आर्डिनेन्स फ़ैक्ट्री, कालपी रोड, कानपुर, ओ०एफ०सी० में 33/11के०वी० उपसंस्थान एवं लाइन का निर्माण कार्य	0.10	5.03	5.13	5.13
7	जी०एम०, आर्डिनेन्स फ़ैक्ट्री, कालपी रोड, कानपुर, एस०ए०एफ० में 33/11के०वी० उपसंस्थान एवं लाइन का निर्माण कार्य	0.10	3.30	3.40	3.40
8	जी०एम०, आर्डिनेन्स फ़ैक्ट्री, कालपी रोड, कानपुर, अर्मापुर स्टेट में 33/6.6के०वी० उपसंस्थान एवं लाइन का निर्माण कार्य	0.09	1.09	1.18	1.18
9	जी०एम०, आर्डिनेन्स फ़ैक्ट्री, कालपी रोड, कानपुर, एस०ए०एफ० में 0.433के०वी० उपसंस्थान एवं 11के०वी० भूमिगत केबिल बिछाने का कार्य		3.25	3.25	3.25
10	सर्वश्री दिन्दीप मेहरोत्रा, अनुप मेहरोत्रा एवं आत्माराम काठारी 6.6के०वी० ओवरहेड लाइन बनाने का कार्य 122/735, शास्त्री नगर में।	0.15	0.05	0.20	0.20
11	श्रीमती मंजू अग्रवाल, सर्वश्री दीपक कोठारी, संजय कोठारी को ऊपर वर्णित जी०एम० आर्डिनेन्स एक्यूपमेन्ट फ़ैक्ट्री, भगवतदास घाट पर 11के०वी० स्वतन्त्र फीडर बनाकर संयोजन अवमुक्त करने हेतु		0.05	0.05	0.05
12	यू०पी०एस०आई०डी०सी०				
क	33/11 के०वी० उपसंस्थान एवं 33 के०वी० लाइन का निर्माण कार्य, यू०पी०एस०आई०डी०सी०, रुमा में	1.74	0.10	1.84	1.84
13	सहायक निदेशक (आर) एच०ओ०ओ०एच०आर० सेन्टर, हैन्डीकैपड, ए०टी०आई० उद्योग नगर, 100कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य	0.02	0.01	0.03	0.03
14	जी०एम०, बी०एस०एन०एल०, 130/294, अजीतगंज, कानपुर, 12 कि०वा० भार के संयोजन हेतु निर्माण कार्य	0.02	0.00	0.02	0.02
15	सहायक अभियन्ता, फोन्स, कृष्णा नगर, साइट-76/65-20-बी, रसूलाबाद, जाजमऊ, 15 कि०वा० भार पर संयोजन अवमुक्त करने हेतु निर्माण कार्य	0.01	0.00	0.02	0.02
16	क्षेत्रीय प्रबन्धक, यू०पी० स्टेट इण्डस्ट्रीयल डवलपमेन्ट, बी-29, पनकी, साइट नं०-5 पर 33के०वी० आवेरहेड लाइन को हटाने का कार्य	0.03	0.03	0.06	0.06
कुल योग		3.89	18.94	22.83	22.83

3 Forecast of Retail Sales and Revenue Assessment:

The methodology for calculation of projected sales is essentially the same as was used in the FY 2006-07 ARR petition and the same was approved by the Commission. The actual load forecast for the first quarter of FY 2007-08 i.e., the months of April to June have been used as base for determining the consumer and load growth. The cyclical trends of the previous years have been used to extrapolate the actual load growth of the first quarter of FY 2007-08 to determine the load forecast of whole year. The Load Forecast model first prepares for each of the Divisions the forecast of the number of customers in each of the tariff sub-categories. This forecast is developed mainly upon the available population data, the expected conversion of unauthorized connections and a number of category specific growth factors.

The forecast model next projects the specific consumption level (consumption per customer) appropriate for each customer sub-category. This forecast is based on expected growth relationships to income and price, the effect of Demand Side Management and the impact of extended hours of service. The specific consumption level along with the number of customers in each category gives the sales figure for that particular sub-category. The final detailed calculations estimate the connected load by tariff sub-category.

The division level forecasts are Consolidated and losses, both technical and non-technical, are added to the sales estimates to determine energy generation requirements.

3.1 Forecast Drivers

The forecasts are based on a set of forecast drivers/assumptions, principal among these are:

- Actual consumer and load profile of the first quarter of FY 2007-08
- Consumer growth due to development of housing colonies, commercial establishments and new projects etc.
- Normative growth in the specific consumption of the existing consumers in the billing net
- Replacement of burnt/ defective/ tampered meters and transformers
- Better vigilance and enforcement
- Increase in number of existing consumers (presently indulging in unauthorised abstraction of power) falling into billing net due to various system improvement measures
- Increase in the Hours of Supply

Considering the above factors, the demand projection for the ensuing Financial Year 2007-08 presumes actual status of the previous year and current year and first three months of the ensuing year. The projections have been made separately for number of consumers, specific consumption and connected load of consumers.

3.2 Category Wise Sales Results and Assumptions:

This section provides further details with respect to assumptions made in estimating numbers of consumers, specific consumption per consumer and total sales in MU for each consumer category.

3.2.1 Domestic Light, Fan and Power [LMV-1]

In FY 2006-07 the annual average numbers of consumer were 3.67 lakh. The number of consumers under this category is forecasted to grow as about 5% driven by urban population growth and expected change of household size. The increase also reflects effect of the regularization drive undertaken in the current year. The licensee is upbeat in carrying out the revenue improvement drive and hence has assumed this growth rate.

With respect to the specific consumption of the Domestic category consumers, annual consumption is expected to increase due to various improvement measures (installation of ABC's, raids, etc) undertaken by the licensee during the current year and other factors referred above including massive capital expenditure and also at rates reflecting the improved supply conditions. The licensee assumes an increase of 19% in the specific consumption over FY 2006-07. The specific consumption for the ensuing year hence works out to 2,412 units per annum per consumer in FY 2007-08 in comparison to 2,027 units in FY 2006-07. Hence the consumption for this category of consumer is estimated to be 928.7 MU.

The average contract load for domestic consumers was 1.69 KW in FY 2006-07 and it is expected to rise 1.74 KW in FY 2007-08.

3.2.2 Non Domestic Light, Fan and Power [LMV-2]

As in the domestic category, similar principle is being followed for this category of consumers. The increase in the consumers has been estimated by assuming an aggressive growth rate of 5% which would reflect the growth in the service sector. The no of consumers have been forecasted at 0.845 lakh.

The estimation of the specific consumption is also based on the same principles as envisaged in the domestic category. The specific consumption is estimated to be 2,536 units in ensuing year in comparison to 2,305 units in FY 2006-07 per annum per consumers. The forecast increase in specific consumption is over 10% after considering the improved supply hours and raid drives to regularize katiya connections. The total consumption for the ensuing year is 214.4 MU.

The average contract load for commercial consumers is projected to be 2.76 KW in the ensuing year, which is an increase from 2.56 KW from FY 2006-07.

3.2.3 Public Lamps [LMV-3]

In FY 2006-07 under this category there were 19 consumers having total consumption of 35.4 MU.

The total numbers of consumers under this category were 20 in the month of June 2007. As the number of consumers listed in this category reflects the number of supply points rather than the number of lamps, growth in the number of consumers has little meaning. It is therefore assumed that the growth in the number of lamps, as well as any changes with respect to operations, will be captured in the assumed growth rates for specific consumption. Thus, specific consumption is expected to grow to account for increasing numbers and intensity of use in response to extended supply hours.

Electricity sales for FY08 are forecasted to be 39.1 MU.

3.2.4 Public Institution [LMV-4A]

The category of public and private institution had been introduced in the year FY 02, these set of consumers were existing in the Domestic category, which were later on reclassified to LMV-4 in FY 03. This category has been further bifurcated by honourable commission into two categories viz. LMV 4A and LMV 4B and separate tariff rates were provided.

There were 176 consumers in the month of June 2007 and the licensee assumes it to be at this level for the remaining year. The specific consumption is estimated to rise by 5% in the ensuing year and hence the total consumption for this category of consumers is estimated at 122.2 MU.

3.2.5 Private Institution [LMV-4B]

The numbers of consumers in the month of June 2007 were 716 and similar is the projection for the ensuing year. The licensee foresees an increase of 5% in the specific consumption level for this category of consumers and hence the total consumption for this category of consumers is estimated at 17.9 MU.

3.2.6 Small and Medium Power [LMV-6A and LMV-6B]

This category comprises two main subcategories:

LMV-6(A) Small & Medium Power (for Power loom)

LMV-6(B) Small & Medium Power

A new sub-category of Power Loom LMV-6(A) is introduced under LMV-6. This specific category is introduced for Power Loom Consumers which were already running under LMV-2 and LMV-6 tariff category

Licensees' projection of Power loom consumers is 161 with specific consumption of 6678 units and average contract load of 6.94KW in the ensuing year. In the Small and Medium the expected number of consumers during the ensuing year is 7,035. Specific consumption is expected to rise from 21,490 units in FY 2006-07 to 23,209 in the ensuing year, a rise of 8% over last year. Contract load is also expected to rise by 8%.

The Electricity Sales for FY 2007-08 are projected to be 1.1 MU for LMV-6A (Power Loom Category) and 163.3 MU for LMV-6B (Small and Medium Category)

3.2.7 Public Water Works [LMV-7]

There were 333 consumers as on June 2007 and it is expected that the number would be maintained throughout the ensuing year. Regarding specific consumption, it is assumed that consumers will exhibit marginal improvement in their average consumption levels. The electricity sales are projected to be 54.2 MU.

3.2.8 Large and Heavy Power [HV-2]

The numbers of consumers in this category are expected to increase by 3% to 394 consumers' connections. Specific consumption is expected to grow by 4% following the industrial GDP growth and due to initiatives like raid drives, etc. The electricity sales for the ensuing year are expected to be 288.7 MU.

3.3 Summary of Actual Commercial Data and Sales Forecast for FY 2007-08

The detailed sub category wise data for Previous year FY 2005-06 is placed in Table 3-1 and the detailed sub category wise actual Connected Load for FY2006-07 are placed at Table 3-2. The projected figures for ensuing year FY 2007-08 are placed at Table 3-3

Table 3-1: Actual Commercial Data for FY 06

FY 2005-06 KESCO	Annual Average Customers and Connected Load, and Year End Units Sold		
	Category	Number of Consumers	Connected Load in KW
LMV-1: Domestic Light, Fan & Power	359,381	602,880	7,894
LMV-2: Non Domestic Light, Fan & Power	72,456	189,632	1,735
LMV-3 (Public Lamps)	33	7,193	294
LMV-4A (Public Institutions)	138	28,569	782
LMV-4B (Private Institution)	700	9,244	135
LMV-6A (Powerlooms)			
LMV-6B (Small & Medium Power)	6,294	114,887	1,185
LMV-7 (Public Water Works)	229	18,825	414
HV-2 (Large & Heavy)	382	164,584	3,223
Total	439,613	1,135,814	15,662

Table 3-2: Actual Commercial Data for FY 07

FY 2006-07 KESCO	Annual Average Customers and Connected Load, and Year End Units Sold		
	Category	Number of Consumers	Connected Load in KW
LMV-1: Domestic Light, Fan & Power	366,614	620,637	7,432
LMV-2: Non Domestic Light, Fan & Power	80,526	205,985	1,857
LMV-3 (Public Lamps)	19	9,961	354
LMV-4A (Public Institutions)	178	37,043	1,177
LMV-4B (Private Institution)	716	9,574	171
LMV-6A (Powerlooms)			
LMV-6B (Small & Medium Power)	6,700	123,072	1,440
LMV-7 (Public Water Works)	332	19,152	529
HV-2 (Large & Heavy)	383	108,625	2,701
Total	455,468	1,134,049	15,661

Table 3-3: Projected Commercial Data for FY 08

FY 2007-08 KESCO	Annual Average Customers and Connected Load, and Year End Units Sold		
	Category	Number of Consumers	Connected Load in KW
LMV-1: Domestic Light, Fan & Power	384,945	671,219	9,287
LMV-2: Non Domestic Light, Fan & Power	84,552	233,587	2,144
LMV-3 (Public Lamps)	20	10,800	391
LMV-4A (Public Institutions)	176	37,726	1,222
LMV-4B (Private Institution)	716	9,861	179
LMV-6A (Powerlooms)	161	1,118	11
LMV-6B (Small & Medium Power)	7,035	139,564	1,633
LMV-7 (Public Water Works)	333	19,594	542
HV-2 (Large & Heavy)	394	115,114	2,887
Total	478,332	1,238,582	18,296

Sales Forecast by KESCO

The detailed sales forecast as described in Section 3.2 and distribution losses based on the targets provided in Section 2 may be added to arrive at the Estimated Purchases required to be made by KESCO. This is shown in Table 3-8 as under.

Table 3-4: Actual and Estimated Energy Status of KESCO

KESCO ARR FY 2007-08			
Particulars	FY 06	FY 07	FY 08
Purchases Required (MU)	2,382	2,511	2,614
Line Losses(MU)	816	945	784
Sales (MU)	1,566	1,566	1,830
T&D Losses	34.25%	37.62%	30.00%

3.4 Assessment Revenue Forecast

The detailed sales forecast described in the previous sections combined with the billing determinant determined by ERC in previous tariff orders, may be used for forecasting assessment revenues at existing tariffs for FY 2007-08. The Revenue forecast presented below only includes electricity sales revenue associated with retail tariffs and excludes miscellaneous revenue, electricity duties and certain consumer rebates

Table 3-5 presents consolidated assessment revenue for FY 2005-06, which is derived based on a weighted average of 8 month revenue from the April 1, 2004 tariff and 4 month revenue from the December 1, 2004 tariff. Table 3-6 presents assessment revenues for FY 2006-07 and Table 3-7 tabulates projected revenue for FY 2007-08 assuming existing tariff prevails for whole year 2008.

Table 3-5: Assessment Revenue, Sales and Through Rate - FY 2005-06

Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	203	789	2.58
LMV-2: Non Domestic Light, Fan & Power	79	173	4.58
LMV-3: Public Lamps	7	29	2.30
LMV-4: Public Insitutions	28	78	3.63
LMV-4B: Private Insitutions	6	13	4.33
LMV-6A Powerlooms			
LMV-6B: Small and Medium Power	55	118	4.67
LMV-7: Public Water Works	21	41	4.96
HV-2: Large and Heavy Power	164	322	5.09
Consolidated Kesco	564	1566	3.60

Table 3-6: Assessment Revenue, Sales and Through Rate - FY 2006-07

Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	187	743	2.52
LMV-2: Non Domestic Light, Fan & Power	84	186	4.50
LMV-3: Public Lamps	8	35	2.37
LMV-4: Public Insitutions	35	118	2.94
LMV-4B: Private Insitutions	6	17	3.76
LMV-6A Powerlooms			
LMV-6B: Small and Medium Power	64	144	4.48
LMV-7: Public Water Works	22	53	4.19
HV-2: Large and Heavy Power	156	270	5.78
Consolidated Kesco	563	1566	3.59

Table 3-7: Projected Revenue, Sales and Through Rate - FY 2007-08 (At Existing Tariff)

Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	234	929	2.52
LMV-2: Non Domestic Light, Fan & Power	97	214	4.50
LMV-3: Public Lamps	9	39	2.37
LMV-4: Public Insitutions	36	122	2.94
LMV-4B: Private Insitutions	7	18	3.76
LMV-6A Powerlooms	0	1	3.90
LMV-6B: Small and Medium Power	73	163	4.48
LMV-7: Public Water Works	23	54	4.19
HV-2: Large and Heavy Power	167	289	5.78
Consolidated Kesco	645	1830	3.53

4 Annual Revenue Requirement for FY2007-08:

Hon'ble Commission has issued Distribution Tariff Regulations that require ARR shall separately indicate Aggregate Revenue Requirement (ARR) for wheeling & Retail supply function embedded in the distribution function.

This section provides the ARR first for Retail supply business & then for wheeling function for FY 08.

The objective of the petitioner while estimating aggregate revenue requirement has been to reduce or at least contain expenses to the extent possible, thereby reducing cost burden on consumers. At this point petitioner would like to add that all efforts are being made to control cost & continuously improving quality of supply & consumer satisfaction in spite of best effort made to control expenses, the total ARR has risen on account of uncontrollable factors.

The ARR comprises the following components which have been dealt separately in retail supply & wheeling business:-

1. Power purchase costs
2. Employee costs
3. Administration and general expenses
4. Gross fixed assets (GFA) balances and capital formation assumptions
5. Repairs and maintenance expenses
6. Provision for bad and doubtful debts
7. Interest expense
8. Depreciation expense
9. Other income
10. Return on Equity
11. Contribution to Contingency Reserve

4.1 ARR for Retail Supply Business:

Regulations provide following components in retail supply:-

- Power purchase costs

And a proportionate allocation of the following components among Retail supply business & Wheeling business.

- Operation & Maintenance charges
- Depreciation
- Interest & Financing charges

- Bad & Doubtful Debts
- Return on Equity
- Other expenses
- Contribution to Contingency Reserve

Licensee has estimated ARR of ensuing year based on un-audited account of FY 06 & expenses available till date. In order to put the various estimated amounts in proper context, the corresponding figures for FY 06 and various estimates for FY 07 & FY 08 based on year-to-date experience are also presented where it is considered appropriate. For each such major account category of expenses, an explanation of the derivation is given, along with the logic for departing from FY 06 & FY 07 values, if applicable.

4.1.1 Escalation Index/Inflation Rate

Regulation issued by Hon'ble commission provides that expenses of the base year shall be escalated at inflation rate notified by central government for different years. The inflation rate for this purpose shall be weighted average of wholesale Price Index and Consumer Price Index in the ratio of 60:40. Therefore for the purpose of this ARR licensee has used this methodology in arriving at Escalation Index/ Inflation Rate. Further to smoothen out the data series three year moving average on annual year data has been used. Calculation as tabulated below:

Inflation Rate=0.6*Inflation based on WPI + 0.4*Inflation based on CPI

Table 4-1: Escalation Index

INFLATION RATE /ESCALATION INDEX

Wholesale Price Index for All Commodities(Base 1993-94=100)				Consumer Price Index for Industrial Workers(Base 2001=100)			
Year	Index	3yr Moving Avg	Escalation Rate	Year	Index	3yr Moving Avg	Escalation Rate
1995	120.2			1995	66		
1996	125.6			1996	72		
1997	131.3	125.70		1997	77	71.67	
1998	138.9	131.93	4.96%	1998	87	78.67	9.77%
1999	143.8	138.00	4.60%	1999	92	85.33	8.47%
2000	152.8	145.17	5.19%	2000	95	91.33	7.03%
2001	160.7	152.43	5.01%	2001	99	95.33	4.38%
2002	164.7	159.40	4.57%	2002	103	99.00	3.85%
2003	173.4	166.27	4.31%	2003	107	103.00	4.04%
2004	184.9	174.33	4.85%	2004	111	107.00	3.88%
2005	193.7	184.00	5.54%	2005	116	111.33	4.05%
2006	203.0	193.87	5.36%	2006	123	116.67	4.79%
Mean			4.93%	Mean			5.58%
Inflation Rate = 0.6*WPI+0.4*CPI							
Inflation Rate = 5.18%							

Data Source: CERC web site

4.1.2 Computation of Retail Supply Business:

Licensee has computed ARR for retail supply business taking the following components into consideration:

- Power purchase costs (computed at Bulk Supply Tariff)
- Bad & Doubtful Debts
- Other expenses
- Other income

Table 4-2: ARR for Retail supply Business

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Power Purchase Cost (at BST)	451.83	476.26	629.90
Bad and Doubtful Debts	31.59	33.59	35.27
Other Expenses	7.82	9.05	9.93
Aggregate Revenue Requirement (ARR)	491.24	518.90	675.10
Less: Non Tariff Incomes	1.07	1.44	1.51
Net ARR from Tariff	490.17	517.46	673.59

4.1.3 Power Purchase Costs:

Some key issues to be considered in forecasting power purchase costs:-

1. The power purchase expenses estimated, are based on losses of 30 % in FY 08, as indicated in Table 3-4
2. KESCO is 100% subsidiary of UPPCL and sources all its power purchases from UPPCL (through Dakshinanchal Vidyut Vitran Nigam Limited).
3. The Honorable Commission in its Tariff Order of FY 2006-07 for UPPCL while computing the bulk supply rate for KESCO had considered an increase in BST from Rs. 1.897 per unit to Rs. 2.41 per unit.

Power purchase costs by KESCO are summarized in Table 4-3 for FY 2005-06 to FY 2007-08.

Table 4-3: Power Purchase Costs

Particulars	Unit	FY 2005-06	FY 2006-07	FY 2007-08
Demand for the year	MU	1,566	1,566	1,830
T&D Losses	%	34.2%	37.6%	30.0%
Power Purchase	MU	2,382	2,511	2,614
Power Purchase Cost per unit	Rs.	1.897	1.897	2.41
Power Purchase Cost per unit	Rs.Cr	451.83	476.26	629.90

4.1.4 Provision for Bad and Doubtful Debts

The Distribution Tariff Regulations provide that Bad & Doubtful Debts shall be allowed as a legitimate business expenses with the ceiling limit of 2% of the revenue receivable. Licensee had made provisions for bad-debts in its petition for FY2006-07 at 15% of incremental receivables; Commission disallowed this component due to KESCO inability to achieve the efficiency improvement trajectory it had laid in earlier tariff orders. It is further submitted that provision for bad & doubtful debts are accepted accounting principle even in sector like Banking the provisioning of uncollectible dues are considered as a normal commercial practice.

Despite the Commission's views on this component of ARR, licensee maintains that this is a legitimate ARR component. As such licensee has made provision for bad debts of Rs 35.27 Cr. for the ensuing year.

The forecast Provision for Bad and Doubtful Debts are summarized below in Tables 4-4

Table 4-4: Provision for Bad and Doubtful Debts

Details (Rs cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Revenue Receivables	1,579	1,679	1,763
Percentage of Debt Allowed	2%	2%	2%
Provision for Bad Debts	31.59	33.59	35.27

Further it is submitted that the DisComs have made significant efforts to improve collection efficiency through identification of large debtors, organizing camps for redressal of consumer grievances, correction & adjustment of disputed bills, one time settlement scheme(OTS), development of reporting systems. High loss making feeders are identified and continuous combing operation is being conducted.

Collection efficiency is projected to be 87% in FY08, following an actual collection efficiency of 80% & 82.2% in FY06 & FY07 respectively. For the purpose of this submission of ARR, the amount of bad debt expense has been estimated as 2% of revenue receivables.

4.1.5 Other Retail supply related expenses

Following additional costs are considered for retail supply related business:-

- Discount to Consumers – In the Tariff Order for FY 2006-07 the Commission had disallowed Discount to Consumers. However the Petitioner is of the view that the Discount to Consumers is a normal commercial arrangement so as to expedite receipt of payments and hence should be allowed as cost to the Petitioner
- Interest on consumer's security deposit – It has been computed at the Bank Rate of 6% as has been prescribed by the Commission in the Distribution Tariff Regulations. Consumer Security Deposits have been projected to grow in the ratio of load growth

Table 4-5: Other Retail supply Expenses

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Discount to Consumers	3.80	4.38	4.57
Interest on Consumer Security Deposits	4.02	4.66	5.36
Total	7.82	9.05	9.93

4.1.6 Other income

Forecast Other Income for the licensee is summarised below in Table 4-6, beginning with the figures from the un-audited statements for FY06. This includes other miscellaneous income from retail sources, recovery from theft of energy, excluding DPS.

Table 4-6: Summary of Other Income

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Non Tariff Income	1.07	1.44	1.51
Total	1.07	1.44	1.51

The amount for FY 2007-08 has been forecasted to grow from FY 2006-07 at the rate of escalation index.

4.2 ARR for wheeling Business

ARR for wheeling business comprising the following components which are computed for current & ensuing year:-

- Operation & Maintenance expenses.
- Interest & financing cost.
- Depreciation.
- Return on Equity.
- Contingency Reserve.

Table 4-7: ARR for wheeling Business

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Operation and Maintenance Expenses	58.01	67.09	78.05
Interest and Finance Costs	1.66	3.97	11.71
Depreciation	22.67	24.68	26.96
Return on Equity	-	9.60	12.80
Contingency Reserve			
Aggregate Revenue Requirement	82.35	105.34	129.52
Less: NonTariff Income	0.57	1.31	1.38
Net ARR from Tariff	81.77	104.03	128.14

4.2.1 Operation & Maintenance Expenses

Operation & maintenance expenses of licensee comprising Employee costs, Administrative & General Expenses and Repair & Maintenance expenses are computed as under:-

4.2.2 Employee costs

The Employees Cost for KESCO is computed in Table 4-8.

Table 4-8: Details of Employee Cost

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Salaries	21.48	32.22	35.45
Dearness Allowance	12.54	9.43	14.00
Other Allowances & Relief	2.83	3.22	3.54
Over time			
Bonus/Exgratia	0.75	0.69	0.82
Medical Expenses Reimbursement	0.58	0.69	0.77
Leave Travel Assistance	0.00	0.00	0.00
Earned Leave Encashment	1.33	1.65	1.82
Compensation	0.03	0.06	0.07
Staff Welfare Expenses	0.00	0.00	0.00
Pension and gratuity	6.51	7.95	9.43
Grand Total	46.06	55.93	65.92
Employee expenses capitalized	6.91	8.39	9.89
Net Employee Expenses	39.15	47.54	56.03

As previously mentioned, FY06 actual costs for the licensee are based on provisional balance sheet of un-audited financial data.

In each case, the evolutions of the sub-accounts of Employee Costs have been forecast from FY06 base data & actual FY07 data available to date as follows:

- Basic Salaries will increase by 10% for FY07. This increase is a result of staffing plans of KESCO for the ensuing year; projection has been made keeping in view annual increments, pay scale revision.
- Dearness Allowance (DA) is estimated to be 29.25% of basic pay in FY 07 and FY 08, it is assumed to be 39.5% (average) for the ensuing year taking into account the DA announcement by the Government. (35% from April to June 2007 and 41% from July 2007 to March 2008).
- Other allowances have been forecast to grow at 10% per year as actually increased in FY 07 over FY06.
- Likewise, Medical Expenses have been forecast to increase by 5% per year from FY07, taking 3% as contingency.
- Pension and Gratuity have been calculated at 16.7% and 2.38% (i.e., 19.08%) of Basic Salary and Dearness Allowance.

- Leave travel Assistance & compensation is assumed to be .01% & 0.2% of Basic Pay respectively. LTA is projected to be Rs. 35,446/- in the ensuing year FY08
- Staff welfare expenditure is assumed to in same ratio as actually incurred in FY07. Staff Welfare expense is projected to be Rs. 27,357/- in the ensuing year.
- Employee Expenses Capitalised has been calculated as 15% of total Employee Costs.

4.2.3 Administration and General (A&G) Expenses

Forecast A&G expenses for the licensee are summarised below in Tables 4-9, beginning with the figures from the un-audited statements of FY06.

Table 4-9: A &G Expenses

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Rent rates and taxes including FBT	1.16	0.76	0.79
Insurance	0.03	0.03	0.03
Telephone, Postage, Telegram, Internet Charges	0.92	0.96	1.01
Consultancy Charges	0.12	0.13	0.13
Travelling	0.13	0.13	0.14
Technical Fees	0.09	0.10	0.10
Other Professional Charges	0.01	0.01	0.01
UPERC License fee	0.38	0.38	0.42
Fee And Subscriptions (Books And Periodicals)	0.32	0.34	0.36
Printing And Stationery	0.26	0.27	0.29
Advertisement Expenses	0.27	0.29	0.30
Electricity Charges To Offices	7.12	6.64	6.99
Miscellaneous Expenses	0.57	0.60	0.63
Legal Charges	0.20	0.21	0.22
Auditor's Fee	0.09	0.09	0.09
Total	11.67	10.94	11.52
Expenses capitalized (Admin Gen.)	1.75	1.64	1.73
Net Administrative and General expenses	9.92	9.30	9.79

- Licensee is assuming Capitalisation of A&G expenses to be 15 % of A&G cost.
- Regulatory expenses are calculated as 0.05 % of revenue plus Rs. 10 lakh as application fee for FY07 & FY08.
- As a reflection of the continuing commitment of the licensee to keep costs under control, almost all A&G Expenses are forecast to increase by only escalation factor per year across the board to only offset the effect of inflation.
- As mandated by Distribution Tariff Regulations and accounting policy of KESCO Electricity Charge to offices, sub stations and divisions of the licensee are charged as A&G expense.

4.2.4 Repair and Maintenance (R&M) Expenses

Forecast R&M expenses for the licensee are summarized below in Tables 4-10, beginning with the figures from the un-audited statements for FY06.

The forecast R&M Expenses are estimated at 2.5% of the capital addition in FY 2007-08 with an increase by inflation escalation index. The assumption is in line with the Distribution Tariff Regulations issued by the Commission. However the licensee would like to state that the cost of R&M against feeding power lines (33KV/11KV) is not comparable with other DisComs as the distribution network of KESCO is having most of 33KV and 11KV underground and as such the maintenance cost of attending a break down in underground cable network is many times higher than that of an overhead cable network. In case of 33KV underground line breakdown cost may go up to 15 to 20 times than that of an overhead network breakdown. Moreover the licensee has inherited an aged, weak & inadequate distribution system which has outlived its normal life and due to this age old system the power breakdowns are frequent. Unfortunately due to tight financial position and heavy cash losses, system improvement and preventive maintenance are not achieved to the expected level. In addition to these planned activities there will be some unforeseen R&M expenses, which are inevitable. It can be seen in Table 4-10 that most R&M spending will be in the Plant & Machinery and Lines & Cable Network.

Table 4-10: R&M Expenses

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Plant and Machinery	2.56	3.21	3.83
Building	0.14	0.02	0.03
Civil Works	0.05	0.04	0.05
Hydraulic Works	0.00	-	-
Lines, Cables Net Works etc.	6.07	6.80	8.11
Vehicles	0.04	0.04	0.05
Furniture and Fixtures	-	0.01	0.01
Office Equipments	0.08	0.12	0.15
Total	8.94	10.26	12.23

4.2.5 O & M Cost projection for FY08

Table 4-11: O & M Expenses

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Employee Cost (Net of Capitalisation)	39.15	47.54	56.03
A&G Expenses (Net of Capitalisation)	9.92	9.30	9.79
R&M Expenses	8.94	10.26	12.23
Total O&M Expenses	58.01	67.09	78.05

4.2.6 Gross Fixed Assets (GFA) Balances and Capital Formation Assumptions

The estimated numbers of ARR component are dependent on FY08 opening balance of GFA, one of which is R&M. It is therefore appropriate at this point to provide FY07 GFA estimates, as well as estimates for other fixed asset accounts. These estimates are provided in Table 4-13 and Table 4-14 along with assumptions.

Table 4-12 shows Licensee's investment plan for both FY07 and FY08 along with the proposed funding of each component of the investment plan.

Table 4-12: Investment Plan

Fund/ Source		FY 07					FY 08				
		Loan	Grant	Equity	IR	Total	Loan	Grant	Equity	IR	Total
GoUP	APDRP		6.54			6.54		10.93			10.93
	Others					-			25.72		25.72
PFC	System Improvement					-	57.11		14.28		71.39
PFC	APDRP	39.73				39.73	19.72				19.72
Others	Deposit Works/System Improvement				7.71	7.71				29.78	29.78
Total (A)		39.73	6.54	-	7.71	53.98	76.84	10.93	40.00	29.78	157.55

Table 4-13: Capital Formation during FY 07

Rs crore	Balance 01-April-06	Investments	Cap interest	Cap expenses	To GFA	Depreciation	Balance 31-Mar-07
	(1)		(2)	(3)	(4)	(5)	
Gross Fixed Assets	311.8				57.7		369.5
Accumulated Depreciation	133.3					24.7	157.9
Work in Progress	12.7	54.0	0.3	10.0	(57.7)		19.3

Table 4-14: Capital Formation during FY 08

Rs crore	Balance 01-April-07	Investments	Cap interest	Cap expenses	To GFA	Depreciation	Balance 31-Mar-08
	(1)		(2)	(3)	(4)	(5)	
Gross Fixed Assets	369.5				138.3		507.7
Accumulated Depreciation	157.9					27.0	184.9
Work in Progress	19.3	157.5	0.8	11.6	(138.3)		51.0

Notes:

- Balances as per un-audited financial statements prepared FY06
- Capitalized expenses are from Table 4-8 to 4-9
- Transfer from WIP to GFA = Beginning of the year WIP + 70% of the total of Investments, Capitalized Interest, Capitalized Employee Costs, Capitalized A&G expenses.
- Depreciation expense has been calculated at the Depreciation rates specified in Annexure B of Distribution Tariff Regulations.

4.2.7 Depreciation expense

FY08 Depreciation Expenses may be estimated with reference to Tables 4-13 and 4-14, which has projected opening GFA balances for FY08. Applying the rate specified by the Commission in Distribution Tariff Regulations to these balances results in a Depreciation Expense of Rs. 24.7 Cr and Rs. 27 Cr for FY 07 & FY 08 respectively.

4.2.8 Interest and Financing Costs

The interest and finance cost for FY 06 & FY 07 are based on current schedule of long term debt repayment and new debt requirements.

An estimate of the evolution of KESCO debt to the end-of-year FY08 and corresponding to the investment plan shown in Table 4-12, are computed in Table 4-15.

Table 4-15: Projected Loan Balances of Licensees for FY 2007

Sr No.	Details (Rs.Cr)	As at 31st March 2006	As at 31st March 2007	As at 31st March 2008
1	From UPPCL (Balance as per transfer of KESA Zone Electricity distribution Scheme, 2000)	110.00	110.00	110.00
2	Terminal Benefit Liability as per Transfer Scheme and interest accrued and due thereon	132.25	132.25	132.25
3	GoUP APDRP (through UPPCL)	10.15	11.31	11.31
4	PFC APDRP	24.88	44.93	61.43
5	PFC Loan	0.00	0.00	57.11
	Total	277.28	298.50	372.11

The forecast Provision for Interest and Financing Costs, are summarized under Table 4-16, beginning with the FY06 un-audited figures. An explanation of the workings for the computation same are given below:

- Interest on UPPCL Loan – As per the provisions of the KESA transfer scheme read with loan agreement with UPPCL, interest on loan from UPPCL has to be provided at 17% in FY 2005, 18% in FY 2006 & FY 2007 and at 18% in FY 2008. However an agreement had been reached between KESCO and UPPCL whereby KESCO was not required to make any interest or principal repayment on UPPCL debt till it turns profitable. Even as per the un-audited accounts for FY 2006 and FY 2007, KESCO has not incurred any interest or principal on UPPCL debt. Similarly for the ensuing year the petitioner is not claiming any interest cost on UPPCL loan.
- Interest on Terminal Liability – As per the GoUP directive, the terminal benefit has been taken over by the GoUP. Hence the licensee has not made any provision for interest on the same.
- The Interest Costs to Financial Institutions, GoUP, etc have been computed at the contracted rates and existing PLR wherever the contracts are yet to be entered.
- Finance Charges are projected to be 0.5% of loan receipts.
- Interest has been capitalised at 7% of interest cost (excluding finance charges)

Table 4-16: Projected Interest & Finance Cost (Rs.Cr)

Details (Rs.Cr)	As at 31st March 2006	As at 31st March 2007	As at 31st March 2008
<i>(A) Interest and Finance Charges on Long Term Loans / Credits from the FIs/banks/organisations approved by the State Government</i>			
GoUP APDRP (through UPPCL)	1.05	1.17	1.30
PFC APDRP	0.71	2.82	6.65
PFC Loan	0.00	0.00	3.57
Sub Total (A)	1.76	3.98	11.52
<i>(B) Other Interest & Finance Charges</i>			
Other interest including OD	0.02	0.17	0.61
Finance Charges	0.00	0.10	0.38
Sub Total (B)	0.02	0.27	1.00
Grand Total Of Interest & Finance Charges: A + B	1.78	4.25	12.51
Less: Interest Capitalisation	0.12	0.28	0.81
Net Interest and Finance Cost	1.66	3.97	11.71

4.2.9 Other Income

Other income includes interest on loans and advances to employee, income from fixed rate investment deposits and interest on loans and advances to licensees. For the licensee, the amount of this account is relatively small at Rs 1.31 crores for FY07 and has been estimated to increase by escalation index in FY 2007-08 to off-set effect of inflation.

Table 4-17: Other Income

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Income from Investment	0.57	1.31	1.38

4.2.10 Reasonable return/ Return on Equity

Under provisions of the Regulations licensees are permitted a return on equity @ 16% which is worked out as under:-

- For equity base calculation debt equity ratio shall be 70:30.
- Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%.
- Equity amount more than 30% shall be considered as loan.
- Provided that in case that actual equity employed is less than 30%, actual debt and equity shall be considered for determination of tariff.

In the current petition licensee is submitting a return on equity @16 %, in accordance with regulation. The Return on Equity has been calculated in Table 4-18 as per the guidelines set out by the Commission.

Table 4-18: Return on Equity

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Opening Equity Capital	60	60	60
Addition to Equity Capital			
Closing Equity Capital	60	60	100
Average Equity	60	60	80
16% Return on Equity Base		9.6	12.8

4.2.11 Contribution to contingency reserve:

The contingency reserve creation permitted in the Regulation is up to 0.5% of opening gross fixed assets to be included in the ARR requirement of the licensee. Accordingly licensee has estimated contingency reserve to the tune of Rs. 1.56 Cr & Rs. 1.70 Cr for current year & ensuing year summarized in Table 4-19.

Table 4-19: Contingency Reserve

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Opening Balance of Gross Fixed Assets	299.37	311.80	340.64
Contingency Reserve %	0.50%	0.50%	0.50%
Contribution to Contingency Reserve		1.56	1.70

Regulation requires that contingency reserve shall be invested in Govt. securities. As there is huge revenue gap between ARR and revenue forecast as such this component will only enhance this Gap and create extra burden on the consumers so present ARR Licensee is not claiming this component.

4.2.12 Consolidated Retail & Wheeling Business ARR Summary

The FY08 Consolidated Retail & Wheeling Business ARR along with revenue gap for ensuing year at the level of current tariff is summarised below on Table 4-20 for KESCO.

Table 4-20: FY 2008 Annual Revenue Requirement: Consolidated DisCom

Details (Rs.Cr)	FY 2005-06	FY 2006-07	FY 2007-08
	Unaudited accounts	Estimated	Projection
Power Purchase (MU)	2,382	2,511	2,614
Units Sold (MU)	1,566	1,566	1,830
Power Purchase Cost (At BST)	452	476	630
Employee Cost (net of capitalisation)	39	48	56
A&G Expense	10	9	10
R&M Expense	9	10	12
Interest & Finance Charges	9	13	22
Provision for Bad and Doubtful Debts	32	34	35
Depreciation	23	25	27
Contingency Reserve			
Return of Equity	-	10	13
Other (Misc.)-net prior period credit			
Total Expenses	574	624	805
Less: Other Incomes	2	3	3
Total Annual Revenue Requirement	572	621	802
Revenue From Existing Tariffs	564	563	645
Remaining Gap	8	59	156

5 Bulk Supply Tariff

5.1 Revenue Requirement for FY 2007-08

Based on the efficiency parameters, the revenue and cost assumptions detailed in previous chapters, the cash gap has been projected in the following Table 5-1

Table 5-1- Cash Gap for FY07 and FY08

Cash Gap (Rs cr)	FY07	FY08
Income		
Assessment	562.85	645.34
Collection	462.74	561.45
Non Tariff Income	2.75	2.89
Total Income (A)	465.49	564.33
Expenditure		
<i>Cash</i>		
Employee Costs	47.54	56.03
A&G Expense	9.30	9.79
R&M Expense	10.26	12.23
Interest and Finance Charges	13.02	21.64
Other Expenses		
Sub Total (B)	80.11	99.69
<i>Non Cash</i>		
Depreciation	24.68	26.96
Provision for Bad and Doubtful Debts	33.59	35.27
Return on Equity	9.60	12.80
Sub Total [C]	67.86	75.02
Total Expenses excluding Power Purchase Costs (B+C)		
Power Purchase (D)	476.26	629.90
For Cash Break Even (A-B)	385.38	464.64
Cash Gap [D-(A-B)]	90.88	165.26

KESCO has argued cogently in the previous Tariff Petitions that given the projected Collection Efficiencies and the uncollectible arrears, a cash basis method should be adopted for computing revenue requirement. The FY01 Tariff Order of KESCO was awarded on a cash basis.

In the FY02 order for KESCO, the Commission has elaborated and discussed the rationale for adopting the approach for determination of Bulk Supply Tariff for KESCO. The Commission had observed that since KESCO is a 100% subsidiary of UPPCL and sources all its power purchase requirements from UPPCL, hence the power purchase price is in the nature of a 'Transfer Price' between a parent and a subsidiary. The Commission had observed:

“DisComs (KESCO) might pay to UPPCL the entire surplus revenue that accrues to it after meeting all costs other than power purchase (e.g employee costs, repairs and maintenance, administration and general expenses, depreciation) and after retaining a return on its capital.”

Also, given the need to maintain uniform retail tariff, the licensee cannot propose tariff hike. The cash deficit of KESCO is not accumulated with the deficit of the other Distribution entities of the state so as to get the total deficit before assuming tariff hike or subsidy.

More importantly over the years, KESCO has never been extended any kind of support in terms of equity, loans or subsidy to cover its cash gap. The only recourse it has been left with is; resort to short payment of power purchase cost to UPPCL.

Based on the above facts KESCO would request the Commission to accept the Petitioners ARR on cash basis.

5.2 Meeting the Gap

The Distribution Tariff Regulations stipulate that the licensee shall specify as to how it intends to fill the gap. Section 22.2 (b) of KESCO's license stipulates that if there is a significant difference between the expected aggregate revenues and its cost of service, the licensee shall also submit with the statement an explanation of the measures it proposes to take, including any proposal for tariff amendments to eliminate the difference.

There are three options before the Petitioner to fill the gap:-

1. Option one is retail tariff amendments. But given the need of uniform retail tariff in the state, the option of increasing the tariffs in KESCO's supply area cannot be exercised.
2. This restricts the licensee to borrow an amount equivalent to the gap where the interest on this loan would be pass through in tariff.
3. Reduction in the Bulk Supply Tariff rate – The last option available is for UPPCL to fill the gap through a reduction in the Bulk Supply Tariff.

The computations above show that the ability to pay of KESCO is Rs. 389.62 cr.

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 and allow for reasonable return to be earned in cognizance of the Distribution Tariff Regulations. Accordingly, the difference between the revenue income of Rs. 561.45 cr and the sum of aggregate expenses of Rs.161.92 cr and reasonable return of Rs.12.80 cr will be the disposable amount that can be utilized for purchase of bulk power. The residual figure of Rs.389.62 cr will thus represent the amount payable towards cost of bulk power in FY 2007-08 as given below:

Table 5-2- Cost of Power Purchase

Sr No	Details	FY 2006-07	FY 2007-08
1	Tariff Income (Rs. Cr)	462.74	561.45
2	Non-Tariff Income (Rs. Cr)	2.75	2.89
3	Expenditure excluding Cost of Power (Rs. Cr)	138.38	161.92
4	Reasonable Return (Rs. Cr)	9.60	12.80
5	Cost of Power Purchase (Rs. Cr) [5=1+2-3-4]	317.52	389.62
6	Estimated Energy Sales (MU)	1,566	1,830
7	Energy Input Required from UPPCL (MU) (1-T&D losses)	2,511	2,614
8	Input Price (Rs./kWh) [8=5/7]	1.26	1.49

PRAYER:

The petitioner prays that the Commission may be pleased to:

- a.* Condone the delay in the submission of the Annual Revenue Requirement by KESCO
- b.* Admit the accompanying Annual Revenue Requirement.
- c.* Approve the Annual Revenue Requirement for financial year FY2007-08.
- d.* Allow the petitioner to add/change / alter / modify this application at a future date.
- e.* Issue any other relief, order or direction which the commission may deem fit.