

Aggregate Revenue Requirement

FY 2010-11

&

FY 2011-12



**Dakshinanchal Vidyut Vitaran Nigam
Limited**

AGRA DisCom

MARCH 2011

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ABBREVIATIONS

A&G	- Administrative & General Expenses
CERC	- Central Electricity Regulatory Commission
CGS	- Central Generating Station
CPP	- Captive Power Plant
Cr	- Crores
EREB	- Eastern Region Electricity Board
ESO	- Energy Sent Out
FD	- Fixed Deposit
FI	- Financial Institutions
FRP	- Financial Restructuring Plan
FY	- Financial Year
GAAP	- Generally Accepted Accounting Principles
GFA	- Gross Fixed Assets
GOI	- Government of India
GOUP	- Government of Uttar Pradesh
GPF	- General Provident Fund
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
MW	- Mega Watt
NAPP	- Narora Atomic Power Plant
NHPC	- National Hydro Power Corporation
NPC	- Nuclear Power Corporation
NPCL	- Noida Power Corporation Limited
NTPC	- National Thermal Power Corporation
PF	- Provident Fund
PFC	- Power Finance Corporation
PNs	- Promissory Notes
PPA	- Power Purchase Agreement
PTW	- Private Tube Wells
R&M	- Repair & Maintenance
RAPP	- Rajasthan Atomic Power Plant
REA	- Regional Energy Accounts
REC	- Rural Electrification Corporation
SPA	- Special Purpose Advance
T&D	- Transmission & Distribution
UP	- Uttar Pradesh
UPCL	- Uttaranchal Power Corporation Limited
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
UPSEB	- Uttar Pradesh State Electricity Board
UPSIDC	- Uttar Pradesh State Industrial Development Corporation
WREB	- Western Region Electricity Board
DVVNL	- Dakshinanchal Vidyut Vitaran Nigam limited

Executive Summary:

- *Dakshinanchal Vidyut Vitaran Nigam limited (hereinafter referred to as the AGRA DisCom), is a Company incorporated under the Companies Act, 1956. Uttar Pradesh Electricity Regulatory Commission in exercise of the power conferred under section 14 of the Electricity Act 2003 granted distribution license for carrying out business of distribution of electricity in the area of supply covering the geographical limits of AGRA DisCom vide licence No 3 order dated 21 January 2010. The licence thus issued shall continue in force for a period of 25 years.*
- *In this petition licensee is submitting combined application for Aggregate Revenue Requirement for FY2010-11 & FY2011-12. The ARR for FY2010-11 was due to submit on 30 Nov 2009 but due to inordinate delay in submission of previous petition and promulgation of Tariff order FY 2009-10 by Commission on 31 March 2010, the submission further got delayed. Meanwhile in accordance with the guidelines provided in Tariff Order FY2009-10 read with section 62 of Electricity Act 2003 licensee sought permission from Hon'ble Commission to file MYT petition for 3 years from FY2010-11 onward but Commission did not issued necessary guidelines/regulations for want of certain information. Therefore to cope up with further delay in submission of ARR FY2010-11 & future ARR, licensee sought permission from the Commission to file combined ARR for FY2010-11 & FY2011-12 together before 30 Nov 2010. Commission vide order dated 14th October 2010 allowed simultaneous submission of ARR for FY 2010-11 & FY 2011-12 to regulate the regulatory synchronism. Further petitioner sought time extension as GoUP has not intimated amount of subsidy for various categories of consumer, thereby petitioner was unable to submit a new tariff structure for ensuing years. This petition contains combined ARR for FY2010-11 & FY2011-12 and is submitted before the UP Electricity Regulatory Commission in accordance with the section 62 of Electricity Act 2003. Section 64 of Electricity Act 2003 mandates that an application for determination of Tariff under section 62 shall be made by a licensee in such a manner and accompanied by such fee, as may be determined by the regulations. In this context the commission in exercise of its power conferred under clause (zd), (ze) and (Zf) of section 181(2) read with Section 61 and 62 of Electricity Act 2003 issued Term & Conditions of Distribution Tariff Regulation 2006. The Regulation applies to all the Distribution Licensees in the State. In the Regulation the Commission has laid out the principles for determination of Aggregate Revenue Requirement (ARR) for (a) Distribution Business and (b) Retail Supply Business of the licensees. The ARR so determined for each of the businesses will form the basis for fixation of wheeling tariff/charges and charges for retail sale of electricity. This ARR has been*

prepared in accordance with the Policy directions laid down in the regulation and Tariff orders issued by the Hon'ble Commission.

- *The ARR include past performance analysis of tariff filing, estimation of retail sales and revenue assessment at current tariff, Capital expenditure plan for ensuing years.*
- *The Retail Tariff across the DisComs has been kept same till the allocation of the PPAs among DisComs by GoUP are made, this is in line with the guiding factor provided in Tariff Policy issued by Govt of India.*
- *The Bulk Supply Tariff for DisComs has been kept same and has been computed based on pooled power purchase expense and total energy sale to DisComs. The Commission in its previous order has approved this methodology as such Petitioner has adopted the same in this Petition.*
- *The layout of this petition among other thing includes back ground, proposed capital expenditure for FY2010-11 & FY2011-12, status of directive issued by Commission, estimation of retail sales and revenue assessment at current tariff, estimation of Aggregate Revenue Requirement and revenue gap at current tariff with proposal to meet out the revenue gap.*
- *The objective of the petitioner in this filing has been to reduce or at least contain the expenses to a reasonable level, in spite of inflationary pressure prevailing in the market scenario thereby minimising burden on the consumers to the maximum possible extent. For current year petitioner has endeavoured to limit most of the expenses within the budget approved by the Hon'ble Commission. For ensuing years also the petitioner has taken up the challenge to control most of the operating expenses to reasonable level in order to minimise cost burden to consumers. The petitioner would like to assure the consumers and stakeholders that the intention has been to ensure fair deal to consumers while promoting working of the utility in an efficient, economical and equitable manner.*
- *The Petitioner in the ensuing years has proposed to undertake major capital improvement project for creating adequate capacity in the distribution network to match the demand growth, creating adequate capacity for reducing over loading of the feeders, transformers & providing electric service to previously un-served area. The petitioner has proposed a capital expenditure of **Rs 781.66 Cr** for FY2010-11 and **Rs 1383.94 Cr** for FY2011-12, details of major capital investment plan have been provided in subsequent section with the proposed funding mechanism.*
- *The petitioner while estimating expenses for current & ensuing year has taken actual expenses incurred in previous years as per its audited /un audited balance sheet to derive the expenses at a reasonable level.*

- *The petitioner has endeavoured to control the employee expenses to maximum possible extent to offset inflation and keep the expenses to the approved level. However due to mandatory annual increment, 3rd time scale order & instalment of arrear of 6th pay commission, the employees expenses are bound to increase from the level of un-audited balance sheet of FY2009-10, this fact has been explained at the subsequent section. While projecting the expenses for ensuing year petitioner has considered a marginal increase over the estimated amount for the current year mainly due to increase in DA, basic salary and inflationary pressure. Further at the same time employees have been made accountable toward the consumer satisfaction and development works. Targets have been fixed for development work as well as retail business especially revenue realization and employees have been made responsible toward speedy redressal of consumers' problem.*
- *The petitioner while projecting A&G expenses for ensuing year has proposed a marginal increase in the A&G expenses to off-set inflationary pressure. However in real term it can be termed as reduction in expenses as expenses virtually remained at same level in spite of creation of additional Division & Circle in DisCom.*
- *The petitioner has projected R&M expenses for current year taking into account actual expenses as per un-audited balance sheet and for ensuing year R&M expenses has been estimated as per methodology adopted by the Commission in its last Tariff Order & as per guidelines laid down in Tariff Regulation. The petitioner has tried to optimize the R&M expenses despite steep rise in input cost. The proactive preventive maintenance initiatives and capital expenditure under various schemes have been proposed for improvement in distribution network which would result in reduction of transformer failure, ensuring improvement in quality of supply and reduction in number of break down.*
- *The petitioner has estimated sales demand for the ensuing year taking in to account economic and demographic driver such as per capita GDP, population growth & contribution of primary, secondary & tertiary sector of economy to GDP. For large & heavy consumer categories past trend has also been considered in estimation of demand.*
- *The detailed Aggregate Revenue Requirement and Tariff proposal for Dakshinanchal Vidyut Vitaran Nigam Limited is being presented for consideration and approval before the Hon'ble Commission in the following sections of the petition.*

1 Introduction:

1.1 Background of UP Power sector:

Reforms in the power sector of Uttar Pradesh were initiated in the year 1999 with the enactment of Uttar Pradesh Electricity Reforms Act, 1999. Subsequently, Uttar Pradesh Electricity Reforms Transfer Scheme, 2000 was notified vide notification No. 149/P-1/2000-24, Lucknow, dated January 14, 2000. The Transfer Scheme unbundled the erstwhile Uttar Pradesh State Electricity Board (UPSEB) into three different entities, Uttar Pradesh Power Corporation Limited (UPPCL), Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) and Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL). UPPCL was assigned the role of procurement, transmission and retail supply of electricity in the state of Uttar Pradesh.

Another Transfer Scheme for transfer of assets and liabilities of Kanpur Electricity Supply Authority (KESA) zone of UPPCL to Kanpur Electricity Supply Company (KESCO) was made effective under the companies Act, 1956 on 15th January 2000.

Further on 10th June 2003 the Electricity Act 2003 was notified, under provisions of section- 131 of EA 2003 and section 23 of Uttar Pradesh Electricity Reforms Act, 1999, UPPCL was further unbundled vide the Uttar Pradesh Transfer of Distribution Undertaking Scheme, 2003 ,notified on August 12, 2003.

The Uttar Pradesh Transfer of Distribution Undertaking Scheme 2003 notified creation of following distribution companies viz.

Dakshinanchal Vidyut Vitaran Nigam Limited : (Agra DisCom),

Madhyanchal Vidyut Vitaran Nigam Limited : (Lucknow DisCom)

Pashchimanchal Vidyut Vitaran Nigam Limited : (Meerut DisCom)

Purvanchal Vidyut Vitaran Nigam Limited : (Varanasi DisCom)

The responsibility of Dakshinanchal Vidyut Vitaran Nigam Limited was outlined as distribution and supply of electricity in the geographical areas specified in the scheme.

The GoUP further created a new company in 2006 under the provisions of Companies Act, 1956 by the name of Uttar Pradesh Power Transmission Company Limited (UPPTCL) with an objective of handling the transmission function of State of

Uttar Pradesh. With creation of UPPTCL the responsibility of transmission/wheeling has been vested with UPPTCL and UPPCL, the holding company, left with responsibility of bulk purchases & supplies of electricity.

One important aspect of the structure of the unbundled and newly created organizations is that UPPCL remains the holding company for all the organizations viz. Dakshinanchal Vidyut Vitaran Nigam Limited (DVVNL), Madhyanchal Vidyut Vitaran Nigam Limited (MVVNL), Pashchimanchal Vidyut Vitaran Nigam Limited (PVVNL) and Purvanchal Vidyut Vitaran Nigam Limited (PuVVNL) and KesCo.

On January 21st, 2010 U P Electricity Regulatory Commission in exercise of the power conferred under section 14 of Electricity Act 2003 issued separate Distribution License to Dakshinanchal Vidyut Vitaran Nigam Limited.

1.2 Distribution Tariff Regulations:

UPERC on 6th October 2006 issued Terms & Conditions for determination of Distribution Tariff (Regulation 2006) specifying the principles and procedures of filing for the Annual Revenue Requirement (ARR) and Tariff proposals for the ensuing year. Accordingly, the Petitioner has filed this ARR and Tariff proposal in line with the provisions of the regulation.

In this petition the petitioner is submitting the following as part of the ARR and Tariff filings for FY 2010-11 & FY 2011-12.

- Investment Plan for FY2010-11 and FY2011-12.
- Allocation statement to segregate expenses among retail supply business and distribution business.
- Annual Revenue Requirements for FY2010-11 & FY2011-12.
- ARR and Tariff Proposals (“Wheeling Charges”) for the Distribution business of the petitioner.

1.3 Procedural History

1.4 ARR Petition FY 2009-10:

Under section 64 of Electricity Act, 2003, and the provisions of Distribution Tariff Regulations 2006 Dakshinanchal Vidyut Vitaran Nigam Limited (hereinafter referred to as AGRA DisCom) had submitted its ARR & Tariff Petition for FY 2009-

10 on 30th July 2009. The Hon'ble Commission accepted the ARR & Tariff Petition on 10th Nov 2009 and finally issued tariff order for FY2009-10 on 31.03.2010.

1.5 Public Notice of the Petition

The Commission while admitting ARR & Tariff petition FY 2009-10 on 10th Nov 2009 directed the Licensee to publish public notice with salient features of ARR and Tariff in at least two daily news papers (English and Hindi) for two successive days for inviting comments, objections and suggestions by all stakeholder and public at large within 3 days from the issue of admittance order. In compliance to the admittance order the Public Notice dealing the salient features of ARR & Tariff were published in various Hindi and English language daily newspapers as detailed below:-

Hindustan on 13-11-2009

Hindustan times on 14-11-2009

1.6 Public Hearing:

The Commission invited comments from consumers and all stake holders on ARR & Tariff proposals submitted by the Licensee and to provide an opportunity for comments, objection and suggestion to all section of the population. Public hearings were also conducted at various places in the area of Distribution Licensees by the Hon'ble Commission.

Details of places of public hearing and date of hearing are as under:-

Jhansi	23-11-2009
Allahabad	26-11-2009
Noida & Greater Noida	19-12-2009
Saharanpur	20-12-2009
Lucknow	22-12-2009
Saharanpur	20-12-2009

1.7 Tariff Order FY 2009-10:

Consequent to acceptance of Annual Revenue Requirement and Tariff application, the Hon'ble Commission had issued Tariff Order for FY 2009-10 on 31st, March 2010

and directed the licensee to publish the salient features of ARR with the implementation of revised Tariff with effect from 15th April 2010 in the area of Distribution Companies of State of UP. As such a wide publicity through following news papers were made in the larger interest of public and other stake holders.

Dainik Jagran-(Hindi)	Lucknow ,Bareilly and Gorakhpur
Aaj-(Hindi)	Varanasi
Amar Ujala-(Hindi)	Meerut, Agra and Jhansi
In Dino-(Urdu)	Lucknow
Hindustan Times	Lucknow ,Delhi
Hindustan	Lucknow
Times of India	Lucknow
Swatantra Bharat	Kanpur
Dainik Jagran (Hindi)	Kanpur
Amar Ujala (Hindi)	Moradabad
Rastriya Sahara (Hindi)	Lucknow

1.8 ARR FY 2010-11 & FY 2011-12:

Dakshinanchal Vidyut Vitaran Nigam Ltd. scheduled to submit their ARR and Tariff Petition for the ensuing year (FY 2010-11) by 30th November 2009 before the Regulatory Commission under section 62 & 64 of Electricity Act, 2003 and the Regulations framed there under UPERC Terms and Conditions for Determination of Distribution Tariff, Regulations-2006.

The Licensee submitted a petition before the Hon'ble UPERC seeking time extension up to 31st March 2010, for submission of the ARR & Tariff petition as the ARR & Tariff petition of FY 2009-10 were under consideration before Hon'ble Commission for approval and as such in the absence of approved Tariff & other data for FY 2009-10, expenses and revenue gap as stipulated in regulations may not be truly worked out for FY2010-11. The Hon'ble Commission vide their order dated 16th February 2010 allowed time extension for filing ARR & Tariff Petition up to 31st March, 2010.

The Commission issued Tariff Order for FY 2009-10 on 31st March 2010, with the directives for implementation of retail Tariff w.e.f. 15th April 2010 in the area of distribution of energy of Dakshinanchal Vidyut Vitaran Nigam Ltd.

Licensee implemented the new rate schedule and directed different billing agencies for generating the bills as per approved rate schedule for FY 2009-10. To ascertain the correct revenue assessment as per approved Tariff and to work out the true value of estimated gap for designing the new Tariff for FY 2010-11. Licensee sought further time extension up to 31st July 2010. The Hon'ble Commission vide order dated 30.04.2010 allowed requested time extension.

Further in accordance with the Electricity Act 2003 and guide lines provided under Multi Year Tariff Framework of section-10.6 in Tariff Order FY 2009-10, licensee sought permission for filing MYT petition for 2010-11 to FY 2012-13. Though Hon'ble Commission has already issued MYT regulation as well as Tariff Order for Generation Licensees but for distribution licensees MYT regulation is still awaited.

As per section- 2.1 of Tariff Regulations 2006, the ARR & Tariff petition for FY 2011-12 was scheduled to be filed before the Commission on 30th Nov.2010. As such Licensee submitted a petition before the Hon'ble Commission for simultaneous submission of ARR & Tariff Petition for FY2010-11 & FY 2011-12 in order to maintain regulatory time frame mechanism and requested for time extension up to 30th Nov 2010.

The Hon'ble Commission admitted the petition filed by the licensee and granted time extension up to 30th November 2010 for filing ARR & Tariff Petition for FY 2010-11 and also allowed the simultaneous submission of ARR & Tariff Petition FY 2010-11 & FY 2011-12.

Petitioner further sought time extension as GoUP has not intimated the amount of subsidy for various subsidized categories of consumers; as such the petitioner was not in a position to design a new Tariff structure for various categories of consumers.

The structure of this ARR & Tariff Petition FY 2010-11 & FY 2011-12 are as under:

Section 1. Introduction: This contains a brief background and rationale used for the submission; major issues that describe the structure of the submission.

Section 2. Performance Analysis of ARR FY2009-10 Filing: This includes:

- a) A review of FY 2009-10 UPERC Tariff Order;
- b) Comparison of approved ,estimated cost and actual figures to-date

- c) An action plan undertaken by AGRA DisCom for various efficiency improvement measures.
- d) Investments plan details.
- e) Compliance of Commission's directives.

Section 3. Load Forecast and Revenue Assessment: This includes actual sales for FY 10 estimates for FY 11 and forecasts for FY 12, both on a consolidated basis as well as for AGRA DisCom. This also includes actual billing determinants for base year FY 10, estimated for FY 11 and projected FY 12 by consumer category. Forecast revenues for FY 11 & FY 12 under existing tariff have also been provided.

Section 4. ARR for Wheeling & Retail supply Business FY 2010-11 & FY 2011-12: This includes ARR forecast for FY 11 & FY 12, both on a consolidated basis and for AGRA DisCom. The consolidated ARR forecast provides the extent that the uniform state-wide tariffs need to increase on an average basis to meet Cost of service. The ARR also includes the revenue gap figures for FY11 & FY 12.

Section 5. Bulk Supply Tariff. In this section Bulk Supply Tariff is derived for Distribution licensees.

Section 6. Tariff Design: Licensee is not proposing any hike in present tariff. In some categories only minor changes in general terms and conditions of time of day billing structure has been proposed and a new category HV-5 for "Arc/induction furnace, rolling /rerolling mills and mini steel plants" has been created by separating these consumers from HV-2.

Annexure (A) Power Procurement Plan

Annexure (B) Rate Schedule

2 Performance Analysis of ARR FY2009-10:

As previously mentioned, this section contains the following:

- a) Review of UPERC Tariff Order FY 2009-10.**
- b) Comparison of Approved items & Estimated/Actual updates**
- c) Investments plan details.**
- d) Compliance of Commission's directives.**

In accordance with section 62 - 64 of Electricity Act, 2003, and enabling provisions of Distribution Tariff Regulations Dakshinanchal Vidyut Vitaran Nigam Limited (*hereinafter referred to as AGRA DisCom*) submitted their ARR & Tariff Petition for FY 2009-10 on 30th July 2009. This submission was in accordance with the provision provided in Terms & Conditions for determination of Distribution Tariff Regulation 2006. UPERC in exercise of power vested under section 61,62,64 & 86 of Electricity Act 2003 issued Tariff Order for FY 2009-10 on 31st March 2010 with an average Tariff hike of about 13%. In this Order Commission retained the rates of the life line category and Private Tube well category of consumers at existing level.

In pursuit of achieving the mandate of 100% metering of un-metered consumers, Commission has increased the rates of un-metered category in non-domestic rural by about 10% where as tariffs for metered category has been retained at existing levels.

Since any increase in maximum demand over and above the contracted demand is taken care of by penal provision, Commission in this Order has removed the additional surcharge on the use of Air Conditioners.

Regarding performance improvement, it may be noted that Dakshinanchal Vidyut Vitaran Nigam Ltd, had registered notable improvement in almost all performance parameters, although not fully meeting the expectations of the Commission. It may be acknowledged that the pace of improvement has slowed down which could be attributed to the continuing load growth and inadequate generating capacity to meet this growth. The situation shall improve in FY 2011 with additional Hydro generation capacity of 218 MW, thermal generation capacity of 800 MW & in FY 2012 further

additional hydro capacity of 800MW, thermal 1600 MW. In addition to this upcoming generation some small cogeneration projects(about 900MW) are also connected to Licensee's distribution system(at 11kV & 33 kV)and further projects of around 223 MW capacity are under construction and expected to be commissioned during FY 11 & FY 12.

2.1 Comparison of Approved & Estimated items:

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

2.2 Sales Forecast –Tariff Order & Actual FY 2009-10:

Table 2-1 provides a summary of Sales figure for AGRA DisCom. In order to depict the trend of approved sale of Tariff Order FY 10 & actual FY 10 figures are given as under:-

Table 2-1: Tariff Order and Actual Energy Sale FY 2010: AGRA DisCom (MU)

Consumer Category	Tariff Order FY 2009-10	Actual FY 2009-10	% Difference
LMV-1: Domestic Light, Fan & Power	3372	3,056	9%
LMV-2: Non Domestic Light, Fan & Power	629	611	3%
LMV-3: Public Lamps	84	76	9%
LMV-4: Insitutions	310	306	1%
LMV-5: Private Tube Wells	1515	1,616	-7%
LMV-6: Small and Medium Power	621	552	11%
LMV-7: Public Water Works	182	187	-3%
LMV-8: S T W and Pumped Canals	377	433	-15%
LMV-9: Temporary Supply	13	7	50%
LMV-10: Deptt. Emp. And Pensioners	128	90	30%
HV-1: Non Industrial Bulk Loads	185	190	-3%
HV-2: Large and Heavy Power	1579	1,439	9%
HV-3: Railway Traction	198	184	7%
HV-4: Lift Irrigation Works	83	95	-14%
SUB TOTAL	9,276	8,840	5%
Bulk & Extra State	2774	2,722	2%
GRAND TOTAL	12,049	11,562	4%

Table 2-2 provides the same information on a CONSOLIDATED basis as with the AGRA DisCom specific data provided as above.

Table 2-2: Tariff Order and Actual Energy Sale FY 2010: Consolidated DisCom (MU)

Consumer Category	Tariff Order FY 2009-10	Actual FY 2009-10	% Difference
LMV-1: Domestic Light, Fan & Power	15084.4	14,878	1%
LMV-2: Non Domestic Light, Fan & Power	2818.4	2,901	-3%
LMV-3: Public Lamps	523	530	-1%
LMV-4: Insitutions	1350	1,270	6%
LMV-5: Private Tube Wells	4476.4	4,903	-10%
LMV-6: Small and Medium Power	2171	2,008	8%
LMV-7: Public Water Works	820	920	-12%
LMV-8: S T W and Pumped Canals	1586	1,733	-9%
LMV-9: Temporary Supply	43	59	-38%
LMV-10: Deptt. Emp. & Pensioners	379.4	329	13%
HV-1: Non Industrial Bulk Loads	1194	1,322	-11%
HV-2: Large and Heavy Power	7819	6,777	13%
HV-3: Railway Traction	626	647	-3%
HV-4: Lift Irrigation Works	610	681	-12%
SUB TOTAL	39,501	38,958	1%
Bulk & Extra State	3161	3,107	2%
GRAND TOTAL	42,661	42,065	1%

Table 2-3 summarizes the results of hour of supply to different category consumers. In this table the average supply hours are from feeders supplying various types of communities/area i.e. Tehsil, District, Commissionaire, Mahanagar, Major cities and Bundelkhand.

Table 2-3: Supply Hours Summary: FY 2009 - FY 2011

Area of Supply		2009	2010	2011
		Hours of Service		
All	Rural	10:22	9:13	12:13
Tehsil	Urban	10:22	9:13	12:00
District	Urban	15:20	18:22	18:00
Commissionary	Urban	18:07	19:25	20:00
Bundelkhand	Urban	15:05	17:56	18:00
Maha Nagar	Urban	20:11	20:42	22:00
Industrial	Urban	20:49	22:14	24.00

Local Interruptions not included
Source: Flash Report Dec 2010

In FY 2009-10 Tariff petitions, a supply hour function was included in the load forecasting methodology that derived energy consumption as a function of supply hours. This function was, to some extent, based on an estimated relationship between supply hours and consumption for rural un-metered customers. For FY11 &

FY 12, this relationship has been refined based on the rostering schedule applicable to various rural feeders.

2.3 FY 10 Approved and Actual FY 10 Expense items:

Tables 2-4 and 2-5 provide a comparative summary of expense items of Tariff Order FY 10 and Actual FY 10 for AGRA DisCom and Consolidated DisCom respectively.

Table 2-4: Approved and Actual Expenses FY 10: AGRA DisCom

Expense Items (Rs. Cr)	FY 2009-10 Tariff Order	FY 2009-10 Actual	Difference
Power Purchase expenses	3949	4475	13%
Transmission charges	153	197	29%
Employee cost	209	213	2%
A&G expenses	37	40	7%
R&M expenses	109	167	54%
Interest charges	154	158	2%
Depriciation	203	196	-3%
Provision for Bad and Doubtful Debts	0	32	
OTS Waivers	20		
Gross Expenditure	4834	5479	13%
Expenses capitalisation			
<i>Employee cost capitalised</i>	31	82.13	165%
<i>Interest capitalised</i>	18	0	-100%
<i>A&G expenses capitalised</i>	5	11	130%
Net expenditure	4780	5385	13%

Table 2-5: Approved and Actual Expenses FY 10: Consolidated DisCom

Expense Items (Rs. Cr)	FY 2009-10 Tariff Order	FY 2009-10 Actual	Difference
Power Purchase expenses	14282	16094	13%
Transmission charges	641	710	11%
Employee cost	1119	1149	3%
A&G expenses	130	150	16%
R&M expenses	495	525	6%
Interest charges	603	1120	86%
Depriciation	901	468	-48%
Provision for Bad and Doubtful Debts	0	90	
OTS Waivers	55		
Gross Expenditure	18226	20305	11%
Expenses capitalisation			
<i>Employee cost capitalised</i>	167	239	43%
<i>Interest capitalised</i>	73	47	-36%
<i>A&G expenses capitalised</i>	19	32	66%
Net expenditure	17967	19988	11%

2.4 Distribution losses:

In FY 2009-10 Tariff Order Commission has noted that the performance of Meerut DisCom and AGRA DisCom is better than that of the other two DisComs on comparison of the approved distribution losses for FY 2008-09. Further, the Commission feels there is still room for further reduction in distribution losses. Considering this UPERC approved the overall Distribution loss of 21.27 % in FY 2009-10.

Licensee with all out efforts could not achieve targets set by the Commission. For FY 2010-11 & FY 2011-2012 petitioner on consolidated basis has set a target of reducing loss level by about 2% in each year from actual loss of FY 2009-10.

Table 2-6: Distribution loss: FY 2010-FY 2011-12.

Distribution Loss (%)	FY 2009-10	FY 2009-10	FY 2009-10	FY 2010-11	FY 2011-12
	Petition	Approved	Actual	Projected	Estimated
AGRA DisCom	24.70%	24.00%	31.74%	30.80%	28.00%
LUCKNOW DisCom	20.02%	18.00%	22.64%	22.00%	21.00%
MEERUT DisCom	24.31%	24.00%	27.27%	24.50%	23.24%
VARANASI DisCom	24.49%	22.50%	24.44%	23.66%	22.00%
Sub-Total	22.32%	21.27%	25.37%	23.89%	22.37%

2.5 Efficiency Improvement Activities being undertaken:-

As per the directives and guidelines specified by the Hon'ble Commission towards efficiency improvement, the Licensee has made concerted efforts to improve its operations and is committed to implement a number of technical and commercial measures in this direction in FY2010-11 & FY2011-12. The objective of efficiency improvement programs would be to ensure a reliable Distribution system and enhance the quality of supply to consumer as well as to reduce technical & commercial losses of the petitioner. The initiatives undertaken are:

2.5.1 System Improvement Initiative:

The initiatives undertaken by the petitioner for system improvement & collection efficiency improvement involve following activities:

2.5.2 Enhancement of capacity of existing 33kV substation:

At some grid substations ,existing Power transformesr are of lesser capacity and loaded beyond their rating .Hence it is required to augment these Power Transformers so that loading can be reduced. Augmentation will help in:

- a. Reliability improvement.
- b. Prevention of frequent failures.
- c. Reduction of overloading in existing system.
- d. Reduction of technical losses.
- e. Down time reduction.
- f. Load growth.

2.5.3 Construction of new 33/11 kV s/s:

In order to meet bulk load requirement & continuous increase in load demand in particular area new substation are commissioned. The voltage is tapped at 33kV level and is step down to 11kV with the use of power Transformer. From Power Transformer numbers of 11kv feeders are taken depending upon the capacity of the transformer. On Commissioning of new 33kV substation at suitable location, the length of the 11kV feeder is reduced and the network is optimally loaded.

2.5.4 Addition of New Transformer:

At those grid substations where existing Power Transformer are loaded beyond their capacity and these transformer cannot be upgraded to higher capacity, hence it is required to install new power transformer to share the load and relieve the loaded Transformer. Addition of new transformer at various grid substation will reduce over loading at the substation & consequently improve the system reliability.

2.5.5 Other Initiatives:

- a. Capacity enhancement of Distribution substation and strengthening the distribution system to be compatible to load growth.
- b. Distribution Automation: It is envisaged that 33kV and 11kV feeders shall be automated through distribution SCADA system in phases to monitor automatically the operation of feeders for over loading of feeders, tripping etc.
- c. Replacement of old conductors.
- d. Replacement of damaged poles.

2.5.6 Commercial Process improvement:

- a. Appointment of Input Based Distribution Franchisee:** In an endeavor to improve operational efficiency of the distribution system and quality of service to its consumers, DVVNL sought to bring in management expertise through public-private participation, in distribution of electricity. Based on this approach DVVNL decided to appoint an Input Based Distribution Franchisee through a transparent bidding process for urban division of district Agra. Petitioner's objectives of appointing a distribution franchisee, inter alia, are: I. to minimize Aggregate Distribution and Commercial losses II. To bring improvement in Metering, Billing and Revenue Collection III. To minimize Current Assets on account of arrears IV. To enhance customer satisfaction level by improving quality of service The Electricity Act has opened new avenues for bringing in private participation in the distribution sector. The 7th proviso to Section 14 of the Electricity Act, 2003 states that: "*...in a case where a distribution licensee proposes to undertake distribution of electricity for a specified area within his area of supply through another person, that person shall not be required to obtain any separate license from the concerned State Commission and such distribution licensee shall be responsible for distribution of electricity in his area of supply*" Accordingly, a person who undertakes the distribution of electricity for a specified area on behalf of the Distribution Licensee will not be required to obtain separate license from the concerned State Electricity Regulatory Commission. After a transparent bidding process, M/s Torrent Power Ltd was appointed as Input Based Distribution Franchisee for urban district of Agra. Distribution Franchisee shall provide for capital expenditure to improve efficiencies, augment and upgrade infrastructure, reduction in T&D Losses and improvement in quality of supply.
- b. Collection based Franchisee:** Collection efficiency is one of the major areas of concern for petitioner as it impacts the amount of receivables against supply of power. Therefore to increase the revenue collection from rural areas, collection based franchise have been appointed. The performance of these initiatives has been found satisfactory for rural areas.
- c.** For proper accounting of energy & reducing chances of theft, double metering system is being implemented & thus yielding encouraging results.

- d.** For speedy redressal of consumer grievances, call centre has been established at Lucknow, and Control rooms have been set up in all major cities & DisCom HQ.
- e.** In all theft prone areas overhead conductor are being replaced with ABC (Aerial Bundled Conductor) .This helps in reduction of line losses and break down which results in better quality of supply & consumer satisfaction .This ultimately enhance revenue of the petitioner.
- f.** Provision of periodic checking through Accuchecks of all static and trivector meters installed in high value consumers premises.
- g.** Special drive to check the cases of theft/unauthorized use of electricity/checking of excess load being carried out in different districts by sending teams of officers from DisCom headquarter.
- h.** Special camps are organized to collect revenue from the consumers to solve their problems on the spot.
- i.** Regularization of illegal connections and ledgerisation of unledgerised connections is being monitored to arrest revenue loss.
- j.** Special team of headquarter engineers and vigilance teams comprising of Police personnel have been formed in each zone. With these teams surprise raids are conducted for direct theft of energy/Katiya connections.
- k.** NA/NR/IDF/ADF meters are being monitored and defective meters are being changed. Timely efforts are being made to install meters on all distribution transformers.
- l.** Works of hand held billing, disconnection and reconnection works are being done with the help of external agencies. The system coverage has improved with the implementation of hand held metering /billing devices.
- m.** Further petitioner is planning to use various Information Technology (IT) initiatives to drive operational efficiency improvement. Web based billing /payment is one of the initiatives. In this facility consumer can log on the designated web site of the service provider and by punching a key word provided in the bill consumer can view their complete bill and payment can be made accordingly. This web based payment facility initially would be available

to selected city consumers and later on will be extended to all consumers of the licensee.

- n. In the urban areas work of shifting of over head line by laying underground cable are being carried out. This will not only improve the operational efficiency but also reduce the chances of theft.

- o. **Capital Expenditure Plan:**

Large investments have been planned in order to reduce T&D losses, maintaining reliable supply and to achieve rural electrification targets. In past the desired results could not be obtained due to severe fund constraints. To achieve the desired objective an aggressive investment plan has been envisaged. While in most of the schemes the objective is to strengthen/up-grade the Distribution system, some scheme will also help in reducing AT&C losses, the full benefit of the capital expenditure incurred in respect to the reduction of AT&C losses will however accrue over a period of next few years. The proposed expenditure plan has been aimed with following objective:

- o Strengthening and refurbishment of system to improve the reliability of supply.
- o Undertaking system improvement to meet the distribution system demand growth.
- o For reducing the distribution losses.
- o Carry out automation and other improvement work to enhance customer service.
- o Undertake investment to cater social need such as electrification in left over area of villages.
- o Carry out Customer deposit work.

2.5.7 Capital Expenditure:

The petitioner has proposed capital expenditure for laying down the basic infrastructure, system augmentation, improvement in metering and billing system. Therefore the capital expenditure schemes are divided into two categories namely, Government Schemes and Schemes funded from financial institutions. The State Government is primarily providing funds for implementing schemes of rural electrification. The various schemes under which the capital expenditure programs are envisaged are detailed below:

a. Ambedkar Gram Sabha Vikas Yojana:

This scheme has been envisaged by the State Government with a view to achieve 100% rural electrification in the State. Under this scheme some majras (hamlets) of each Gram- Sabha are selected each year for electrification. GoUP provide equity for execution of these projects. For AGRA DisCom the equity distribution of Rs 15.32 Crs in FY2010-11 & Rs 19.15 Cr for FY2011-12 has been proposed under this scheme.

b. Rural Electrification Programme – RGGVY

Rural Electrification Program- RGGVY contemplates electrification of villages and strengthening the existing network in the rural areas to achieve universal access to electricity for all households. Under this scheme following work is performed:

- Electrification of un-electrified hamlets
- Strengthening of Distribution system under RGGVY for providing electricity to all BPL household
- Electrification of villages electrified as per CEA
- Conversion of villages/hamlets electrified from LT mains to HVDS
- Providing electricity to all rural households including free connection to BPL households
- Strengthening of Rural electricity Distribution backbone
- Electrification of remote villages (Stand alone)

Under the RGGVY programme the central government provides a grant of 90% of the project cost for each scheme of village electrification and the balance 10% of the fund is provided by the State Government. However, the GoUP provides entire fund required for schemes under the RGGVY programme in the form of equity to the DisCom.

c. Energisation of Private Tube Wells (PTW).

To cope up with the growing demand of agriculture in the State, electrification of private tube wells has always been of much importance. The GoUP provide support for this scheme. Under this scheme GoUP allot target for energisation of PTW & accordingly allocate fund for this purpose.

d. R-APDRP:

Ministry of Power, Govt. of India, has launched the Restructured Accelerated Power Development and Reforms Programme (R-APDRP) in the XI Five year Plan. Power Finance Corporation Limited (PFC) has been designated by GoI as the Nodal Agency

for the programme. The programme spans from data acquisition at distribution level till monitoring of results of steps taken to provide an IT backbone and strengthening of the Electricity Distribution system across the Country under the programme. The objective of the programme is reduction of AT&C losses to the extent of 15% in project areas.

The project under the scheme shall be taken up in two parts. Part-A shall include the project for establishment of base line data and IT application for energy accounting /auditing and IT based consumer service centre. Part-B shall include regular distribution strengthening projects. The activities covered under each part are as follows:

Part -A of the scheme essentially covers the application of information technology in distribution utilities across the country. The scheme shall involve implementation of IT modules for data acquisition, new connections/disconnection, energy accounting & audit, network analysis management, Maintenance management, Asset management, MIS, metering, billing, collection etc. The programme also encompasses implementation of SCADA/DMS, GIS based Consumer Indexing & Asset mapping etc. This entire exercise is being aimed to establish Base line Data collection system for the distribution utilities through which they are able to capture AT&C losses in a precise manner without manual intervention and also to plan & implement corrective measures in Part B

Part-B of the scheme covers system strengthening, improvement and augmentation of distribution system. This shall involve:-

- Identification of high loss areas
- Preparation of investment plans for identified areas
- Implementation of plan
- Monitoring of Losses

e. Other Schemes:

A large part of the distribution network is very old and needs major overhauling or replacement. Petitioner has identified some major assets that are in dire need of replacement. Major items covered under the requirement of replacement are poles, overhead conductors, wires, and switchgears.

Apart from replacement of the old and dilapidated assets there are ongoing requirement of network and infrastructure augmentation to cater load growth occurring due to regular increase in load in existing set-up as well as due to large-scale electrification of rural areas. Also, there is a significant requirement of improving the systems and processes of the distribution business of the petitioner to achieve better efficiency of operations, e.g. billing accuracy and procedure, material and financial management etc. Therefore the petitioner has also planned to invest significantly in IT systems for achieving such objectives.

f. Replacement and Strengthening of worn-out poles and conductors:

In the distribution area large scale replacement of worn out poles and conductors are urgently needed. Under this worn out conductors and damaged poles have been planned to be replaced. This is important for reducing losses and in reduction of occurrence of accidents. DisCom wise detail is provided in following table:

Table 2-7: Replacement Plan (Poles & Conductor)

Detail	Qty	Agra		Lucknow		Meerut		Varanasi	
		FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12
		Physical	Physical	Physical	Physical	Physical	Physical	Physical	Physical
Replacement of Damged Poles	No	14000	18000	7980	8300	16437	23660	30000	25000
Replacement of old conductor	Km	2656	3300	1624	1750	5348	8022	5000	5000

g. Replacement of Switchgears

The switchgears installed at most of the 33/11kV substations are aged old and are prone to frequent failure and need replacement. Therefore petitioner in the capital expenditure plan has proposed to replace the old switchgears, which have lived beyond their economic life and need replacement. These replacements are necessary to ensure safety and proper operation of protection systems. In the FY2010-11 it has been planned to replace about 20% of the switchgear in the distribution system of the State. Thereafter, on a continual basis the petitioner plans to replace all the old switchgears of systems in a phased manner. For the FY2010-11 & FY2011-12 DisCom wise detail of plan has been provided below:

Table 2-8: Replacement Plan (Old Switchgears)

Detail	Qty	Agra		Lucknow		Meerut		Varanasi	
		FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12
		Physical	Physical	Physical	Physical	Physical	Physical	Physical	Physical
Replacement of 11kV switchgear	No	250	175	381	400	722	1100	400	300

h. Augmentation of Distribution Network

For any distribution system it is important to augment the network on a continual basis to cater the load growth and achieving optimal operating efficiency of the distribution equipment. With the increasing demand of power in particular area and to balance the load 33kV sub-stations are commissioned. On commissioning new 33kV substation at suitable location the length of 11 kV feeders are reduced and network loading is optimized.

At some 33kV substation existing Power Transformer are of lesser capacity and are loaded beyond their rated capacity. In such a situation to cope up with load growth it is required to augment existing Transformer so that loading of transformer is reduced and extra demand of power can be met with lesser investment. Augmentation of existing power Transformer at various 33kV sub-station will reduce the over loading ,frequent breakdown, load shedding and improve reliability and provide redundancy in existing substation for future load growth in the area.

In some substation where existing Power Transformer are loaded beyond their rated capacities and these transformer cannot be upgraded to a higher capacity ,in such a situation it is required to installed new Power Transformer to share the load & relieve the existing over loaded Transformer. Petitioner has planned for commissioning of new 33kV substation & augmentation of existing substation as per detail given below:

Table 2-9: Augmentation of Distribution network.

Detail	Qty	Agra		Lucknow		Meerut		Varanasi	
		FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12	FY2010-11	FY2011-12
		Physical	Physical	Physical	Physical	Physical	Physical	Physical	Physical
Construction of new 33/11 Kv S/S	No	80	60	13	14	173	125	40	40
Capacity Enhancement of 33/11 Kv S/S	No	63	85	81	90	143	190	75	70
Construction of 33 Kv Line	Km	103	220	53	55	1331	1550	130	150
Bifurcation& strengthening of 33 Kv Lines	Km	91	260	343	350		870		

i. Bifurcation of Industrial Feeders:

At present most of the industrial consumers and consumers of other categories are connected to the same feeder. To ensure uninterrupted supply to consumers and better energy auditing, the petitioner has planned to segregate the industrial consumer feeders & PTW consumers from other category consumers.

j. Metering of Consumers:

Large numbers of meters are required for providing new connections as well as for replacement of defective meters for effective energy accounting .At present large section of the consumers are not correctly metered due to defective metering .This need immediate replacement. Further rural consumers have largely been un-metered and even amongst urban consumers there are several defective meters. Presently the Petitioner is releasing all the new connections with meter. In ensuing year (FY 2011-12) there is a plan to install about 2.55 lakh new meters on Consolidated DisCom basis.

k. Double metering:

Petitioner is planning to install double metering at the premises of consumer having load more than 10kVA .This will reduce the probability of tampering of metering system by the consumer which was a frequent phenomenon previously. AGRA DisCom has planned to install 4000 nos. double meter in FY2011-12.This will result in an investment of Rs 5.50 Cr .

l. Installation of Aerial Bunched Conductor:

Unauthorized consumption of electricity is the most important area of concern for the petitioner. The major component of losses in distribution is commercial losses, which is primarily due to theft. In order to reduce the same the existing over head lines are envisaged to be replaced by Aerial Bunched Conductors (ABC) which is less prone to theft. DisComs on consolidated basis have planned an investment of Rs. 189.18 Cr & Rs 351.82 Cr for FY 2010-11, FY2011-12 respectively by way of equity from Go UP and loan from financial institution. Further this scheme has been planned to continue in future also for further increasing the reach of ABC to reduce theft

m. Distribution Scheme:

Strengthening of HV/LV Distribution network with the following criteria:

- Reliability Improvement.
- Prevention of frequent failure
- Continuous load growth
- Reducing overloading of existing system
- Reduction of technical losses
- Reducing load shedding
- Reducing down time
- Reduction of theft

n. Addition of New Transformer:

At some location the existing distribution transformer are over loaded to their capacities and these transformer cannot be upgraded to higher capacity. Hence it is required to install new Distribution Transformer to share the load of the existing Transformer and relieve them from over loading. New transformer are also required as additional transformer in existing substation where existing transformer are loaded beyond 80% to cater load growth and avoid failure of Transformer. Hence DisComs have planned to invest Rs 69.37 Cr in FY2010-11 & Rs 98.05 Cr in FY2011-12 on consolidated basis.

o. Revamping of 11kV substation:

A large number of 11kV substation and outdoor pole mounted substation are presently not in a sound condition. For indoor substation repairing of floor, defective gate and plastering etc is required and in some cases it is required to raise the floor level to prevent inundation.

The work to be taken up for outdoor substation are primarily providing fencing for existing substation, repairing of Transformer plinths, Repairing of transformer, leveling painting etc.

p. LT Works:

At some places of licensees existing LT system is aged old & it is required to revamp the LT system at these places. This will help in smooth functioning of the equipment. LT work includes revamping and augmentation of LT feeders, cables, Panels etc.

Majority of these are beyond repair. Hence provision has been made in investment plan for revamping & augmentation of the LT network.

q. Capacitors:

In FY2010-11 petitioner has been implementing capacitor addition/Repairing program. The system power factor is influenced by the power factor of the consumer load. The petitioner also pays reactive energy charges in addition to active energy charges which burdens the ARR. Thus to improve power factor of the system and reduce reactive energy drawl, it is proposed to install capacitors at various distribution substation. Capacitor is the equipment which supplies reactive energy locally and improve power factor of the system. Further installation of capacitors facilitates in improving voltage and thereby improving quality of power supply to consumers.

r. Consumer Deposit Work:

The quantum of funds towards the deposit work to be carried is dependent on the request of the consumers. Such requests of execution of deposit work are expected from various Government Department and privates entities.

s. RE works under RGGVY Program:

RE work under RGGVY programme contemplates creation of rural infrastructure, electrification of rural household and hamlets. The scheme is to be implemented through funds from GoUP as equity. The scheme provides for free of cost connection to all rural households living below poverty line, for which GOI will provide grant. Objective of this program are as under:-

- To extend supply to all villages and hamlets.
- Intensive electrification of already electrified areas.

The progress under this scheme up to 31st Dec 2010 is tabulated as under:

Table 2-10: Status of Rajiv Gandhi Gramin Vidhutikaran Yojna:

Sl. No.	Name of Distt./Discom	Scheme Code No.	Village Electrification						Gram Pradhan Cert. obtained	B.P.L. connections released		New S/s construction		S/s Augmentation		Financial Progress (Rs.Cr)		Total No. of villages		
			No. of villages As per revised sanctione by REC	No. of villages freezed by Discom.	VEI created during 05-10	VEI created during 10-11	Total VEI created during 05-10 (6+7)	%age VEI created w.r.t. Target (8/5*100)		Target	Progress	Target as reported by Discom	Work complete	Target	Work complete	Funds available	Prog. Expend	Inspected by Third Party	Energised	Handedover
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
DVVNL, Agra																				
1	Aligarh	790035	320	334	334	0	334	100	334	6230	6624	5	5	11	11	42	43	334	334	334
2	Hathras	790041	147	115	115	0	115	100	115	1794	2216	2	2	0	0	12	12	115	115	115
3	Mathura	790039	29	29	29	0	29	100	29	526	707	1	1	3	3	4	4	29	29	29
4	Agra	790034	141	139	139	0	139	100	139	3326	4145	1	1	4	4	16	16	139	139	139
5	Farrukhabad	790048	513	323	323	0	323	100	323	8638	8638	2	2	6	6	33	33	323	323	323
6	Kannauj	790038	387	244	244	0	244	100	244	3344	5424	2	2	0	0	35	28	244	244	244
7	Etawah	790043	216	207	207	0	207	100	207	11855	6002	2	2	4	4	12	13	207	207	207
8	Auraya	790042	305	292	292	0	292	100	292	14458	11376	2	2	3	3	38	38	292	292	292
9	Firozabad	790045	324	269	269	0	269	100	269	6539	6933	5	5	5	5	31	31	254	269	269
10	Mainpuri	790044	310	279	279	0	279	100	279	16715	12340	3	3	0	0	35	34	244	279	279
11	Etah	790040	751	741	741	0	741	100	741	21373	12125	3	3	15	15	54	53	600	741	741
12	Kanpur Ngr.	790037	156	156	156	0	156	100	156	1352	3554	2	2	0	0	17	43	152	156	156
13	Kanpur Dehat	790036	319	334	334	0	334	100	334	12781	10256	3	3	0	0	29		326	334	334
14	Jhansi	790046	188	185	185	0	185	100	185	1554	3925	1	1	2	2	21	20	185	185	185
15	Lalitpur	790047	275	270	270	0	270	100	270	7346	7388	3	3	1	1	35	34	252	270	270
16	Jalaun	790049	111	110	110	0	110	100	110	835	2035	1	1	4	4	16	16	110	110	110
17	Hamiirpur	790050	165	147	147	0	147	100	147	1407	2293	1	1	3	3	22	19	137	147	147
18	Mahoba	790051	193	193	193	0	193	100	193	2920	2920	2	2	2	2	25	24	188	193	193
19	Banda	790052	150	144	144	0	144	100	144	3078	3078	2	2	0	0	17	14	109	144	144
20	Chitrakoot	790053	238	217	217	0	217	100	217	6128	6016	3	3	5	5	33	31	186	217	217
Total			5238	4728	4728	0	4728	100	4728	132199	117995	46	46	68	68	528	507	4426	4728	4728

2.6 Compliance of UPERC Directives:

The Commission had issued a number of directives to the Utilities in Tariff order FY 2009-10 with the objective of attaining operational efficiency and streamlining the flow of information, which would be beneficial for the sector both in short term and long term.

The Licensee is submitting the compliances in the following Table: 2-11

Table 2-11: Compliance of UPERC Directives:

S. No.	Ref.	Description of Directive for DISCOM	Compliance of the Directives
1	1.4.2.5	Commission directs UPPCL and the four DISCOMS to take appropriate measures with regards to metering facilities in consumer's premises.	Action is being taken to install meters on consumers premises & consequently bill generated on meter reading
2	2.2.5	The Commission directs DISCOMS / UPPTCL to expedite the process of finalization of audited accounts and submit the same for true-up exercise.	The accounts of DisCom for the year 2006-07 has been finalized and audited. The audit of account for the year 2007-08 is under progress.
3	4.7.7	Commission directs the DISCOMS to explore the innovative modes of payment and keep the Commission updated on a monthly basis.	Hand held billing process have been in forced in big towns. However action is being taken to introduce this system in phases in smaller towns to facilitate the payment form consumers at door to door level.
4	4.10.3	The Commission directs the DISCOMS to initiate steps to procure more long term power at reasonable rates to mitigate the demand supply gap.	Action is being taken at UPPCL level
5	4.12.6	The Commission directs the DISCOMS to adopt steps to create awareness & explore means to improve power factor in the State.	The process of providing capacitors of suitable capacities and replacing the defective units of Capacitor Banks have been taken up in R-APDRP scheme.
6	4.14.3	The Commission directs DISCOMS to substantiate its stand on TOD rebate with more data for each DISCOM and consumers at various voltages of HV-2 rather adopt a general assumption across all voltage levels as has been done in its present filing.	Efforts are being made at DISCOM level to find out consumption history of HV-2 consumers at various voltage levels along with off-peak & peak periods. Data are being compiled and shall be submitted before the Commission
7	4.18.3	The Commission directs the DISCOMS to review the cases related to additional charges for LMV-2 category consumers and take necessary action in line with the provisions of the Tariff Order. Further the DISCOMS are directed to submit a status report on KVAH metering of LMV - 2 category consumers.	Additional charges for LMV-2 category consumers are being taken up as per Tariff order 2009-10 & Rate schedule issued by UPERC. Billing of LMV-2 consumers are being done on basis of KWH metering only & not on KVAH metering.
8	4.24.12	The Commission redirects the DISCOMS to submit voltage - wise cost of service study report.	Action is being taken under R-APDRP
9	4.27.3	The Commission re directs the DISCOMS to install electronic meters in the residential premises of the employees as well as in their offices.	Employees who opt for metered supply, electronic meters are installed at their residences. However in the offices of DisComs, electronic meters are installed & mechanical meters, are being replaced with electronic meters
10	6.3.5	The Commission directs the DISCOMS to carry out the energy audit / estimation study with voltage wise break up of distribution losses into technical loss and commercial loss.	This work has been covered under R-APDRP scheme.
11	6.3.6	The Commission directs the DISCOMS to report the status of the metering at the mentioned interfaces along with the proposed plan to undertake the metering for the remaining points. The licensees shall also report the status of the progress on this front on a monthly basis along with reasons for deviation from the plan, if any.	Special Class meters with high accuracy have been installed at all the interface points.

S. No.	Ref.	Description of Directive for DISCOM	Compliance of the Directives
12	6.12.6	The Commission directs the licensees to submit details of power procured below 49.2 Hz between 1st August 2009 and 31st March 2010 along with costs during the submission of next ARR/ Tariff petition.	Details are under compilation, shall be submitted to UPERC separately
13	6.12.8	The Commission redirects the DISCOMS to adopt a transparent procedure based on competitive bidding for procuring power on short term basis.	Action is to taken at UPPCL level.
14	6.19.9.8	The Commission directs DISCOMS to suggest an appropriate policy on capitalization of salaries & wages.	Action is being taken for Capitalization of salaries & wages on employees for FY 2009-10 as approved by UPERC.
15	6.19.9.9	The Commission directs DISCOMS to submit the Fresh Actuarial Valuation Study Report in respect to employee expenses.	This matter has been taken up in R-APDRP Project.
16	6.19.10.3	The Commission directs DISCOMS to capitalise the expenditure based on the actual A&G expenses incurred/ projected to be incurred and based on the past audited accounts. Further DISCOMS should have proper accounting system to capture the expenses related to capital schemes rather than assuming a standard capitalisation % age.	15% of A&G expenses is being capitalized in DISCOM regularly as was also approved by the Board of directors in its meeting held on 30-05-2006. The Company is trying its level best to update the accounts duly audited. However due to practical difficulties the accounts up to the financial year 2006-07 have been finalized till date. The Company is going ahead for computerized accounting system under R-APDRP scheme and after implementation of the same the scheme wise capital expenditure will be identifiable easily.
17	6.21.5	The Commission reiterates its direction to the DISCOMS to ensure proper maintaining of detailed fixed assets registers to work out the depreciation expense as specified in the Distribution Tariff Regulations and directs the DISCOMS to submit a report to the Commission citing clearly as to how they are maintaining fixed assets registers.	Instructions have been issued to the field officers for maintaining Fixed asset Registers at each Distribution s/s & offices.
18	6.22.6.1	The Commission directs DISCOMS to develop a system whereby the actual interest accrued/ incurred till the capital scheme is completed and put to use gets captured in separate account typically called as 'Interest during Construction' (IDC) rather than assuming a standard capitalisation %age.	As already explained in reference No. 6.19.10.3., the Co., is trying to implement the computerization of accounts and after that the identification of scheme wise capital expenditure will be possible.
19	6.23.4	The Commission directs the DISCOMS to submit DISCOM-wise 10 sample cases of LT consumers where orders have been issued for writing of bad debts clearly depicting the procedure adopted for writing off bad debts alongwith a policy framework for approval.	Action is being taken regularly in cases by way of P.D. and writing of the fictitious arrears. At the Distribution Level.
20	6.29.7	The Commission redirects the DISCOMS to submit for approval the methodology and formula to be adopted for automatic recovery of the Fuel Cost changes.	A Petition is submitted before the Commission, directives in this regard are awaited, to implement the same.

S. No.	Ref.	Description of Directive for DISCOM	Compliance of the Directives
21	6.32.4	The Commission redirects the DISCOMS to submit the expenses with a proportionate allocation towards wheeling and retail supply business in the next ARR filing.	Expenses with proportionate allocation towards wheeling and retail supply business in being submitted.
22	10.2.6	The Commission directs the UPPCL/ DISCOMS to submit the status on development of the Trading Desk.	Action is being taken up by UPPCL
23	10.5.10	The Commission directs the DISCOMS to forward the DPR of at least four or five DSM measures it intends to take up initially, for approval of the Commission.	DSM measures for all DISCOM's are being taken up by UPPCL.
24	10.6.5	The Commission directs DISCOMS to undertake benchmarking studies such as Incentive - disincentive mechanism for distribution utilities, energy audit, assessment of Cost of Supply, agricultural norms study, Load Forecasting Study, 400 / 765 kV Transmission line capital cost benchmarking, O&M expenditure study, Actuarial Valuation study for employee expenses etc. for determination of desired performance standards and submit the same to the Commission. Further, DISCOMS are directed to submit the Terms of Reference of study for approval of the Commission.	This work is included in R-APDRP scheme.
25	10.7.4	The Commission directs all DISCOMS to compute the AT&C loss figures considering differential analysis of technical losses, non-technical losses and collection efficiency.	This work has been covered under R-APDRP scheme
26	10.7.7	The Commission directs all DISCOMS to undertake loss studies for proper segregation of technical and commercial losses on a sample basis for at least 2 urban and 2 rural divisions of one / two circles. Further, DISCOMS are directed to submit Terms of Reference of the study for approval of the Commission.	This work is included in R-APDRP scheme.

3 Load Forecast and Revenue Assessment:

3.1 Study for Long Term Sales & Load Forecasting

Regression analysis was used as the method of first choice for long term forecasting of sales of consumer categories whose demand is believed to be driven by economic and demographic factors. For the rest, sales projections were made on the basis of past trends except where consumption showed no clear trend or it showed a declining trend. For such consumer categories the energy demands were pegged at the existing levels. The analysis was based perforce on commercial data upto the year 2007-08 since economic and demographic data for the year 2008-09 and later was not available at the time of the study and is still not available.

The consumer category wise sales projections yielded by the above study are attached as section-3.11. The method is based on determining **unrestricted energy** requirement of a given consumer group by first adding commercial loss to **billed energy** to **estimate energy supplied** and then adding **unserved energy** (owing to load shedding) to **energy supplied** to obtain **unrestricted energy** requirement. Year-wise unrestricted energy requirement of each consumer group in each zone so calculated constitute dependent variables while the economic and demographic parameters constitute independent variables in the regression analysis. Regression analysis yielded values of coefficients and intercepts which when applied to projected values of dependent variables (economic and demographic parameters in the present case) yielded corresponding values of independent variables (unrestricted energy requirement of each consumer group in each zone). Wherever regression analysis showed no meaningful relationship between the independent and dependent variables, the method was not used.

Estimated category wise energy sales (billed energy) were calculated back from unrestricted energy requirements projected in the following manner. *The total energy available at the input points of the DisComs* was calculated by subtracting estimated *technical losses* from the *total energy available at source power plant busbars*, taken as around 65000 MU in the year 2010-11 and around 77000 MU in the year 2011-12. Since certain zones and certain consumer categories are not subjected to load shedding, the *net energy supplied to the general consumer*

categories and areas was determined by subtracting *unrestricted energy requirement* of special consumer categories and areas from the *total energy available at the input points of the DisComs*. *Billed energy* was calculated by subtracting commercial loss from *supplied energy*.

The methodology used is described in detail in section 3.11.

Year 2010-11

3.2 Sales Forecast:

As mentioned in the first paragraph, while category wise sales projections are available from the study, actual figures for the first six months of 2010-11 (cumulative figures of September 2010) are also now available. It is logical to assume that the trend for the remaining part of the year cannot be too different from the first half of the year. Therefore we have based sales projections for the year 2010-11 on the current actual September 2010 data, rather than the results of the study for long term forecasting.

3.3 Energy Sales (Billed Energy):

The estimated energy projected for each consumer sub-category has been calculated by applying 10% growth rate on cumulative energy billed for consumers of the given sub-category till September 2010. Growth in energy sales is due to natural load growth, increased energy availability and lower distribution losses.

3.4 Connected Load:

Since energy consumption is a function of connected load, it will be the lowest in the first month of a year and highest in the last month, if connected load shows a rising trend with all other factors influencing energy consumption remaining the same. Since energy sales is a cumulative figure for the whole year, it is logical to adopt the connected load at the mid year rather than the figure at the end of the year. Accordingly the actual connected load figures of September 2010 have been used in the sales projections.

3.5 Number of Consumers:

The logic for using mid- year (September 2010) figures is equally valid for consumer numbers and the same has been adopted in projecting these numbers for the year 2010-11.

Billing Determinants: Annual Average Consumer Numbers, Connected Load & Total Sale: FY 2010-11 has been presented at Table-3.10.

3.6 Load Forecast: FY2010-11

The load forecast corresponding to the projected sales has been worked out as follows:

- **Estimated Energy sales** : **9282MU**
(Excluding bulk supply of 3027 MU to KesCo)
- **Projected distribution loss** : **30.80%**
- **Input Energy Required at DVVNL input points** : **13414 MU**
- **Corresponding value of energy required**
(At Source power plant bus bars) : **14218 MU**

Year 2011-12

3.7 Sales Forecast:

The year 2011-12 is expected to see a substantial jump in the total availability of energy at the source power plant bus bars at around 77000 MU when compared to around 65000 MU in 2010-11 for Uttar Pradesh as a whole. The demand of most consumer categories and zones is presently constrained by availability which falls substantially short of demand. Hence, with increased availability of energy, the projected sales are expected to rise not only on account of natural load growth but also because of easing of supply constraints.

The sales projections of 2011-12 have therefore been arrived at by applying sub-category wise percentage growth in sales in the year 2010-11 (estimated) over the corresponding figures of 2009-10 (actual). 7% has been generally added to the sales projections calculated on the basis of natural load growth. The factor of 7% is the number that results in the total input energy availability of around 77000 MU at the power plant busbars matching the total energy billed plus technical and commercial losses across the whole distribution and transmission network of the state. A lower figure (<7%) would result in a negative gap between energy required and available while a higher figure (>7%) would result in a positive gap between energy required and available.

The percentage increases in sales of various consumer categories used in the calculations are as follows:

Sl. No.	Consumer sub-category		Growth Rate
1	DOMESTIC LIGHT FAN & POWER (LMV-1)		
	(A)	Consumer getting supply as per "Rural Schedule"	
		(i) Un-metered	15.6%
		(ii) Metered	15.6%
	(B)	Supply at Single Point for Bulk Load	15.6%
	(C1)	Other Metered Domestic Consumers	15.6%
	(C2)	Life Line Consumers/BPL	15.6%
	SUB TOTAL		15.6%
2	NON DOMESTIC LIGHT FAN & POWER (LMV-2)		
	(A)	Consumer getting supply as per "Rural Schedule"	
		(i) Un-metered	9.1%
		(ii) Metered	9.1%
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	9.1%
	(C)	Other Metered Non-Domestic Supply	9.1%
	SUB TOTAL		9.1%
3	PUBLIC LAMPS (LMV-3)		
	(A)	Un-metered Supply	
		(i) Gram Panchyat	7.0%
		(ii) Nagar Palika & Nagar Panchyat	7.0%
		(iii) Nagar Nigam	7.0%
	(B)	Metered Supply	
		(i) Gram Panchyat	7.0%
		(ii) Nagar Palika & Nagar Panchyat	7.0%
		(iii) Nagar Nigam	7.0%
	SUB TOTAL		7.0%
4	LIGHT, FAN & POWER FOR PUBLIC/PRIVATE INSTITUTION (LMV-4)		
	(A)	Public Institution(4 A)	7.0%
	(B)	Private Institution(4 B)	7.0%
	SUB TOTAL		7.0%
5	PRIVATE TUBE WELL/PUMPING SETS (LMV-5)		
	(A)	Rural Schedule	
		(i) Un-metered	12.7%
		(ii) Metered	12.7%
	(B)	Urban Schedule	
		12.7%	12.7%
	SUB TOTAL		12.7%
6	SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)		
	(A)	Small & Medium Power (Power Loom)	
		(i) Rural Schedule	7.0%
		(ii) Urban Schedule	7.0%

7	PUBLIC WATER WORKS(LMV-7)	
(A)	7.0%	
	(i) Jal Nigam	13.7%
	(ii) Jal Sansthan	13.7%
	(iii) Others (Water Works)	13.7%
(B)	Urban Schedule	
	(i) Jal Nigam	13.7%
	(ii) Jal Sansthan	13.7%
	(iii) Others (Water Works)	13.7%
	SUB TOTAL	13.7%
8	STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	
(A)	13.7%	22.8%
(B)	13.7%	
	(i) STW, Panchayat Raj, WB, I.Duch, P.Canals, LI upto 100 BHP	22.8%
	(ii) Laghu Dal Nahar above 100 BHP	22.8%
	SUB TOTAL	22.8%
9	TEMPORARY SUPPLY (LMV-9)	
(A)	Metered Supply	
	(i) Individual Residential Consumers	7.0%
	(ii) Others	7.0%
(B)	Un-metered Supply	
	(i) Ceremonies	7.0%
	(ii) Temporary Shops	7.0%
	SUB TOTAL	7.0%
10	DEPARTMENTAL EMPLOYEES (LMV-10)	
(A)	Serving	
	(i) Class IV Employees	7.0%
	(ii) Class III Employees	7.0%
	(iii) Junior Engineers & Equivalent	7.0%
	(iv) Assistant Engineers & Equivalent	7.0%
	(v) Executive Engineers & Equivalent	7.0%
	(vi) Deputy General Manager & Equivalent	7.0%
	(vii) CGM/GM & Equivalent posts and above	7.0%
(B)	Total Pensioner & Family Pensioner	7.0%
	SUB TOTAL	0.0%
11	NON INDUSTRIAL BULK LOADS (HV-1)	
(A)	Urban Schedule	
	(i) For supply at 11kV	7.1%
	(ii) For supply at 33 kV & above	7.2%
(B)	Rural Schedule	
	(i) For supply at 11kV	0%

12	LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	
	(A)	Urban Schedule
		(i) For supply at 11kV
		7.1%
		(ii) For supply above 11kV and upto & Including 66kV
		7.1%
		(iii) For supply above 66kV and upto & Including 132kV
		7.1%
		(iv) For supply above 132kV
		7.1%
	(B)	Rural Schedule
		(i) For supply at 11kV
		7.1%
		(ii) For supply above 11kV and upto & Including 66kV
		7.1%
	SUB TOTAL	
		7.1%
13	RAILWAY TRACTION (HV-3)	
	(A)	For supply at the above 132kV
		0.0%
	(B)	For supply below 132kV
		0.0%
	(C)	For Delhi Metro Rail
	SUB TOTAL	
		0.0%
14	LIFT IRRIGATION & P. CANAL ABOVE 100 BHP (75kW) (HV-4)	
	(A)	For supply at 11kV
		15.1%
	(B)	For supply above 11kV and upto 66kV
		15.1%
	(C)	For supply above 66kV and upto 132kV
		15.1%
	SUB TOTAL	
		15.1%
15	EXTRA STATE CONSUMERS	
	(A)	EXTRA STATE CONSUMERS
		0.0%
16	BULK SUPPLY	
	(A)	NPCL
		3.4%
	(B)	KESCO
	(C)	Others
	SUB TOTAL	
		3.4%
	GRAND TOTAL	
		10.0%

3.8 Connected Load:

Connected loads of unmetered consumers have been calculated by applying the following consumption norms:

Sl. No.	Consumer category	Area: Urban/Rural	Consumption norms
1	Private tube well	Rural	91.66 kWh/kW/m
2	Domestic rural consumers	Rural	72 kWh/kW/m
3	Rural commercial consumers	Rural	72 kWh/kW/m
4	Rural state tube well	Rural	3562.35 kWh/pump/month
5	Street light	Rural	300 kWh/kW/month
6	-Ditto-	Urban	360 kWh/kW/month

Mid- year connected loads of metered consumers have been calculated by applying the same mid -year Connected load (kW) /Annual billed energy (kWh) ratio as prevailed in September 2010.

3.9 Number of Consumers:

Number of consumers under each sub-category in the mid year of 2011-12 has been calculated by applying the same number of consumers: connected load (kW) ratio as prevailed in March 2010.

Billing Determinants: Annual Average Consumer Numbers, Connected Load & Total Sale: FY 2011-12 have been presented in Table- 3.11.

3.10 Load Forecast: FY2011-12

The load forecast corresponding to the projected sales has been worked out as follows:

- **Estimated Energy sales
(Excluding bulk supply of 3131MU to KESCO) : 10408 MU**
- **Projected distribution loss (within DVVNL network) : 28 %**
- **Input Energy Required at DVVNL input points : 14456MU**
- **Corresponding value of energy required
(At source power plant busbars) : 15283 MU**

CONSUMER CATEGORY-WISE SALE PROJECTIONS: 2010-11

3.11 Sales Projections by Regression Analysis:

As detailed in previous section, regression analysis has been used as the method of first choice for forecasting sales of consumer categories whose demand is driven by economic and demographic factors. For the rest, sales projections have been made on the basis of past trends except where consumption showed no clear trend or it showed a declining trend. For such consumer categories the energy demands has been pegged at the existing levels. The calculation procedure used for regression analysis is described below.

Unrestricted energy requirement has been calculated by multiplying the projected population and per capita GDP by their respective coefficients and adding the intercept - the coefficients and intercept have been determined by regression analysis .Unrestricted energy requirement can be expressed asunder:

$$\text{Energy Requirement (in MU)} = p * P + gdp * GDP + \text{Intercept}$$

Where P = population of the zone(x 10³), GDP = per capita GDP of the zone in Rs. per annum and *p*= coefficient for population(x 10³), and *gdp* = coefficient for per capita GDP and Intercept is a number to be added to the sum on the right hand side.

Zone-wise regression coefficients & intercept and, the values of unrestricted energy requirement of each consumer category in each zone are tabulated under respective consumer categories. From the *Unrestricted Energy Requirement, Energy Supplied* and *Billed Energy* have been calculated in the manner described at Section 3.1.

The projected population and per capita GDP have been taken from the Table-1 below:

Table 1: 2010-11 Projections		
Zone	Population (x 103)	Per Capita GDP (Rs.)
Agra	11,465	18,053
Aligarh	8,354	17,720
Kanpur	8,144	12,698
Banda	4,732	11,448
Jhansi	4,921	16,094

LMV- 1 Consumer:

The coefficients and intercepts yielded by regression analysis of energy requirement of LMV-1 consumers from 2000-01 to 2007-08 and the calculated values of energy based thereon are tabulated below:

Table 2: Consumer Category LMV 1							
Zone	Method Used	Unrestricted Energy Requirement: No Supply Constraints			Calculated Value (MU)	With Availability of 65000 MU at source power plant busbars	
		Regression Coefficients & Intercept				Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 103)	GDP per capita			
Agra	Regression	- 7,424.1	0.9533	- 0.0	3,007	3,007	2,282
Aligarh		- 1,696.1	0.1828	0.1	1,248	715	543
Kanpur		- 6,295.5	1.0717	- 0.1	1,148	658	499
Banda		- 1,274.1457	0.2601	0.0	372	213	162
Jhansi		- 4,579.6	1.3714	- 0.1	879	504	382
Total					6,654	5,096	3,868

LMV- 2 Consumers:

While regression analysis has been used to project unrestricted energy requirement of LMV-2 consumers in Agra, Kanpur, Banda and Jhansi zones, the same could not be applied to project the energy requirement of LMV-2 consumers in Aligarh zone as the *Significance F* value was found unacceptably high (0.068) in that case, signifying that the relationship between the supposed driving parameters (population and per capita GDP) was not statistically meaningful. The difficulty arose from the fact that the past trend showed ups and downs from year to year. Zero growth has therefore been applied in this case.

Zone-wise regression coefficients & intercept and, the values of unrestricted energy requirement of LMV-1 consumers calculated there from for each zone are tabulated at Table- 3 below except in case of Aligarh zone, as mentioned above.

Table 3: Consumer Category LMV 2							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 103)	GDP per capita			
Agra	Regression	-416.1017	0.1509	-0.0415	565	565	429
Aligarh	Zero Growth				185	106	80
Kanpur	Regression	-522.3269	0.0648	0.0112	148	84	64
Banda		-362.7733	0.1077	-0.0055	84	48	37
Jhansi		-392.5203	0.1416	-0.0116	118	67	51
Total					1,098	870	661

LMV-3 Consumers:

Across zones the sale of energy to LMV-3 consumers shows no growth and even negative growth sometimes. Hence zero growth has been considered for this consumer category in all zones except Kanpur, where a positive growth is seen and regression analysis results show acceptable results.

The projections are tabulated below:

Table 4: Consumer Category LMV 3							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 103)	GDP per capita			
Agra	Zero Growth				39	39	39
Aligarh	Zero Growth				21	12	12
Kanpur	Regression	-90.9619	0.0165	-0.0019	19	11	11
Banda	Projection of Past Trend				11	6	6
Jhansi	Zero Growth				9	5	5
Total					99	73	73

LMV- 4 Consumers:

While regression analysis has been used to project unrestricted energy requirement of LMV-4 consumers in Aligarh, Kanpur, Banda and Jhansi zones, the same could not be applied to project the energy requirement of LMV-4 consumers in Agra zone as the Significance F value was found unacceptably high (0.139) in that case, signifying that the relationship between the supposed driving parameters

(population and per capita GDP) was not statistically meaningful. It is explained by the fact that the past trend showed ups and downs from year to year. Hence no growth has been considered under this consumer category in Agra zone.

Table 5: Consumer Category LMV 4							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 103)	GDP per capita			
Agra	Zero Growth				174	174	132
Aligarh	Regression				139	80	61
Kanpur	Regression	-844.0748	0.1339	-0.0112	104	60	45
Banda		-557.4884	0.1943	-0.0235	93	53	41
Jhansi		-917.6162	0.1746	0.0186	241	138	105
Total					751	505	383

LMV-5 Consumers:

While regression analysis has been used to project unrestricted energy requirement of LMV-5 consumers in Agra, Aligarh and Kanpur zones, the same could not be applied to project the energy requirement of LMV-5 consumers in Jhansi zone as the Significance F value was found unacceptably high (0.89) in that case, signifying that the relationship between the supposed driving parameters (Population and per capita GDP) was not statistically meaningful. The energy requirement of LMV-5 consumers in Jhansi zone was therefore projected based on past trend. In case of Banda zone, the past trend showed ups and downs from year to year. Hence no growth has been considered under this consumer category in Banda zone.

Table 6: Consumer Category LMV 5							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ⁵)	GDP per capita			
Agra	Regression	-3500.1308	0.7017	-0.1972	985	985	748
Aligarh		-4684.7816	0.8699	-0.1066	692	692	526
Kanpur		-2128.6679	0.4044	-0.0563	449	449	341
Banda	Zero Growth				75	75	57
Jhansi	Projection of Past Trend				46	46	35
Total					2,249	2,249	1,707

LMV-6 Consumers:

Energy requirement of LMV-6 consumers in each zone has been projected by regression analysis. The results are tabulated below.

Table 7: Consumer Category LMV 6							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ⁵)	GDP per capita			
Agra	Regression	287.3758	-0.0365	0.0234	291	291	221
Aligarh		-1385.0146	0.1829	0.0150	409	234	178
Kanpur		-756.1163	0.1055	0.0044	159	91	69
Banda		-811.7940	0.2200	-0.0058	163	93	71
Jhansi		-666.8018	0.2308	-0.0210	131	75	57
Total					1,153	785	596

LMV- 7 Consumers:

Energy requirement of LMV-7 consumers in each zone has been projected by regression analysis except in case of Banda, where the value of Significance F was unacceptably high, and the energy requirement was therefore projected on the basis of past trend, the results are tabulated below:

Table 8: Consumer Category LMV 7							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Regression	-223.3708	0.0361	-0.0048	103	103	103
Aligarh		-97.7221	0.0142	0.0012	42	24	24
Kanpur		-207.0368	0.0370	-0.0041	42	24	24
Banda	Projection of Past Trend				41	24	24
Jhansi	Regression	-156.0751	0.0413	-0.0004	41	24	24
Total					270	199	199

LMV- 8 Consumers:

While the energy requirement of LMV-8 consumers in Aligarh and Banda zones could be projected by regression analysis, it could not be done in case of other zones. In case of Kanpur zone there is a sharp drop in energy billed to this consumer category after the year 2006-07. Hence the energy requirement of LMV-8 consumers in Kanpur zone has been pegged at 2007-08 level. In case of Agra zone, the trend of energy billed to these consumers' shows a flat trend, whence zero growth in energy requirement has been considered in this case. In case of Jhansi zone, regression analysis throws up an unacceptably high value of Significance F ,hence the energy requirement of LMV-8 consumers in Jhansi zone has been projected based on past trend.

Table 9: Consumer Category LMV 8							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 65000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Zero Growth				50	50	50
Aligarh	Regression	-175.4894	-0.0030	0.0220	190	109	109
Kanpur	Zero Growth				117	67	67
Banda	Regression	-494.4583	0.1919	-0.0193	193	110	110
Jhansi	Projection of Past Trend				63	36	36
Total					613	372	372

LMV-9 Consumers:

The energy requirement of LMV-9 consumers in the year 2010-11 has been calculated by extrapolating the cumulative billed energy figures available for the month of August 2010. The projected figures for the year 2010-11 for DVVNL is: 5.5 MU.

LMV-10 Consumers:

This category of consumers exhibits little growth in energy requirement as there has been no net increase in number of consumers owing to the fact that new employees are not being inducted for last several years. Also no significant change in lifestyle, that could lead to increased energy requirement has been observed. Hence the projected energy requirement has been pegged at 2009-10 level. The zone-wise and total figures are tabulated below.

Table 10: Consumer Category LMV 10			
Zone	Unrestricted Energy Requirement: No Supply Constraints	With Availability of 65000 MU at source power plant busbars	
		Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	18	18	18
Aligarh	18	10	10
Kanpur	18	10	10
Banda	18	10	10
Jhansi	18	10	10
Total	90	59	59

HV-1 & HV-2 Consumers:

HV-1 and HV-2 consumers were earlier bracketed together, have been bifurcated recently. Since the sales projections are based on past trends from 2000-01 onward during most of which period HV-1 and HV-2 constituted one single group, these projections are for the two groups together.

In case of Agra, Aligarh and Kanpur zones, the projections are based on past trends. Banda and Jhansi zones showed decline in energy billed to HV-1+ HV-2 consumers, energy requirement of these consumers was pegged at the 2007-08 levels.

The projected energy requirement of HV-1 and HV-2 taken together has been split in the same ratio as the cumulative billed energy figures of 2010-11 available till September 2010. The figures so calculated are tabulated in the last two columns of Table-11 below:

Table11 : Consumer Category HV 1+ HV 2						
Zone	Unrestricted Energy Requirement: No Supply Constraints		With Availability of 65000 MU at source power plant busbars		Billed Energy: MU	
	Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU	HV1	HV2
Agra	Projection of Past Trend	779	779	591		
Aligarh		666	666	505		
Kanpur		827	827	628		
Banda		181	181	137		
Jhansi		289	289	220		
Total		2,742	2,742	2,081	160	1921

HV-3 Consumers:

Of the five zones in DVVNL, Aligarh and Banda do not have any HV-3 consumers. The energy requirement of HV-3 consumers in Agra and Jhansi zones has been projected on the basis of past trends. Kanpur zone showed no clear trend, having seen a sharp decline in 2002-03 and slow growth thereafter, the energy requirement of HV-3 consumers in Kanpur zone has been pegged at 2007-08 level.

Table 12: Consumer Category HV 3				
Zone	Unrestricted Energy Requirement: No Supply Constraints		With Availability of 65000 MU at source power plant busbars	
	Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	Projection of Past Trend	173	173	173
Aligarh		-	-	-
Kanpur		65	65	65
Banda		-	-	-
Jhansi		36	36	36
Total		274	274	274

HV-4 Consumers:

Of the five zones in DVVNL, Aligarh and Kanpur do not have any HV-4 consumers. The energy requirement of HV-4 consumers in Agra and Banda zones has been projected on the basis of past trends. In case of Jhansi zone, the past trend showed ups and downs from year to year. Hence no growth has been considered under this consumer category in that zone

Table 13: Consumer Category HV 4				
Zone	Unrestricted Energy Requirement: No Supply Constraints		With Availability of 65000 MU at source power plant busbars	
	Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	Projection of Past Trend	41	41	41
Aligarh		-	-	-
Kanpur		-	-	-
Banda	Projection of Past Trend	47	27	27
Jhansi	Zero Growth	6	3	3
Total		93	71	71

CONSUMER CATEGORY-WISE SALES PROJECTIONS: 2011-12**3.12 Sales Projections by Regression Analysis:**

Consumer category-wise projections for sale of energy for the year 2011-12 have been made in exactly the same manner as for FY 2010-11. In case of projections based on regression analysis, the regression coefficients and intercept values have remained the same. Changes in projected values of econometric drivers, namely, population and per capita GDP have led to corresponding changes in Unrestricted Energy Requirement. Supplied Energy and Billed Energy have been determined taking into account availability of energy at the source power plant busbars (77000 MU) on the one hand and the technical and commercial loss trajectories on the other.

Zone-wise population and per capita GDP projected for the year 2011-12, which constitute the drivers determining energy requirement of consumer categories discussed in previous section are given below:

Consumer category-wise sales forecasts are tabulated below:

Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Regression	-7424.0966	0.9533	-0.0276	3,222	3,222	2,454
Aligarh		-1696.1031	0.1828	0.0799	1,338	898	684
Kanpur		-6295.5478	1.0717	-0.1011	1,253	841	640
Banda		-1274.1457	0.2601	0.0363	401	269	205
Jhansi		-4579.6023	1.3714	-0.0801	953	640	487
Total					7,167	5,869	4,471

Table 16: Consumer Category LMV 2							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 103)	GDP per capita			
Agra	Regression	-416.1017	0.1509	-0.0415	571	571	435
Aligarh	Zero Growth				185	124	94
Kanpur	Regression	-522.3269	0.0648	0.0112	158	106	81
Banda		-362.7733	0.1077	-0.0055	91	61	46
Jhansi		-392.5203	0.1416	-0.0116	124	83	63
Total					1,128	945	720

Table 17: Consumer Category LMV 3							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Zero Growth				39	39	39
Aligarh	Zero Growth				21	14	14
Kanpur	Regression				20	14	14
Banda	Projection of Past Trend				15	10	10
Jhansi	Zero Growth				9	6	6
Total					103	82	82

Table 18: Consumer Category LMV 4							
Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Zero Growth				174	174	133
Aligarh	Regression				146	98	75
Kanpur	Regression	-844.0748	0.1339	-0.0112	117	79	60
Banda		-557.4884	0.1943	-0.0235	102	68	52
Jhansi		-917.6162	0.1746	0.0186	265	178	135
Total					804	597	455

Table 19: Consumer Category LMV 5

Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Regression	-3500.1308	0.7017	-0.1972	1,013	1,013	771
Aligarh		-4684.7816	0.8699	-0.1066	728	728	554
Kanpur		-2128.6679	0.4044	-0.0563	484	484	369
Banda	Zero Growth				75	75	57
Jhansi	Projection of Past Trend				49	49	37
Total					2,349	2,349	1,789

Table 20: Consumer Category LMV 6

Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Regression	287.3758	-0.0365	0.0234	300	300	228
Aligarh		-1385.0146	0.1829	0.0150	447	300	228
Kanpur		-756.1163	0.1055	0.0044	173	116	88
Banda		-811.7940	0.2200	-0.0058	178	119	91
Jhansi		-666.8018	0.2308	-0.0210	140	94	71
Total					1,237	928	707

Table 21: Consumer Category LMV 7

Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Regression	-223.3708	0.0361	-0.0048	109	109	109
Aligarh		-97.7221	0.0142	0.0012	45	30	30
Kanpur		-207.0368	0.0370	-0.0041	46	31	31
Banda	Projection of Past Trend				47	32	32
Jhansi	Regression	-156.0751	0.0413	-0.0004	44	30	30
Total					291	231	231

Table 22: Consumer Category LMV 8

Zone	Unrestricted Energy Requirement: No Supply Constraints				With Availability of 77000 MU at source power plant busbars		
	Method Used	Regression Coefficients & Intercept			Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
		Intercept	Population (x 10 ³)	GDP per capita			
Agra	Zero Growth				50	50	50
Aligarh	Regression	-175.4894	-0.0030	0.0220	190	139	139
Kanpur	Zero Growth				117	78	78
Banda	Regression	-494.4583	0.1919	-0.0193	193	136	136
Jhansi	Projection of Past Trend				63	43	43
Total					613	446	446

Table 23: Consumer Category LMV 10

Zone	Unrestricted Energy Requirement: No Supply Constraints	With Availability of 77000 MU at source power plant busbars	
		Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	18	18	18
Aligarh	18	12	12
Kanpur	18	12	12
Banda	18	12	12
Jhansi	18	12	12
Total	90	66	66

Table 24 : Consumer Category HV 1+ HV 2

Zone	Unrestricted Energy Requirement: No Supply Constraints	With Availability of 77000 MU at source power plant busbars			Billed Energy: MU	
		Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU	HV1
Agra	Projection of Past Trend	863	863	658		
Aligarh		848	848	646		
Kanpur		999	999	761		
Banda		181	181	138		
Jhansi		289	289	220		
Total		3,180	3180	2423	186	2237

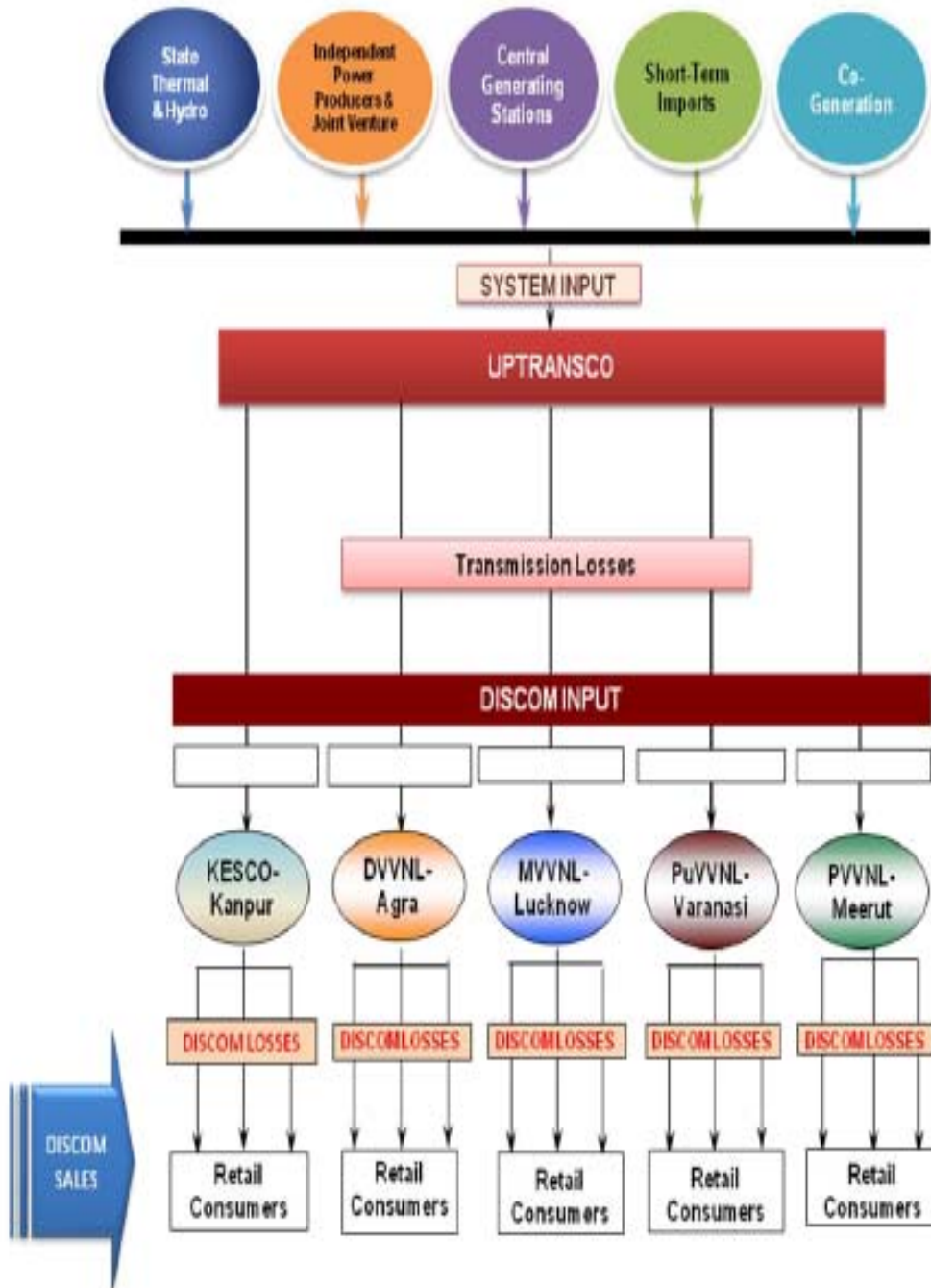
Table 25: Consumer Category HV 3

Zone	Unrestricted Energy Requirement: No Supply Constraints		With Availability of 77000 MU at source power plant busbars	
	Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	Projection of Past Trend	178	178	178
Aligarh		-	-	-
Kanpur		65	65	65
Banda		-	-	-
Jhansi		36	36	36
Total		279	279	279

Table 26: Consumer Category HV 4

Zone	Unrestricted Energy Requirement: No Supply Constraints		With Availability of 77000 MU at source power plant busbars	
	Method Used	Calculated Value (MU)	Energy Supplied (= Energy Billed + Commercial Loss): MU	Billed Energy: MU
Agra	Projection of Past Trend	40	40	40
Aligarh		-	-	-
Kanpur		-	-	-
Banda	Projection of Past Trend	47	31	31
Jhansi	Zero Growth	6	4	4
Total		92	75	75

Table 3-1: The schematic diagram for Energy flow in state of UP:



3.13 Summary of Sales Projections:

The consolidated category wise sales growth rate for Consolidated DisCom is presented in Table 3-2 which depict the growth rate of FY 2010-11 over FY 2009-10, likewise in Table 3-3, it represent growth rate of FY 2011-12 over FY 2010-11.

Table 3-2: Category wise Sales growth rate Consolidated DisCom: FY 2010-11

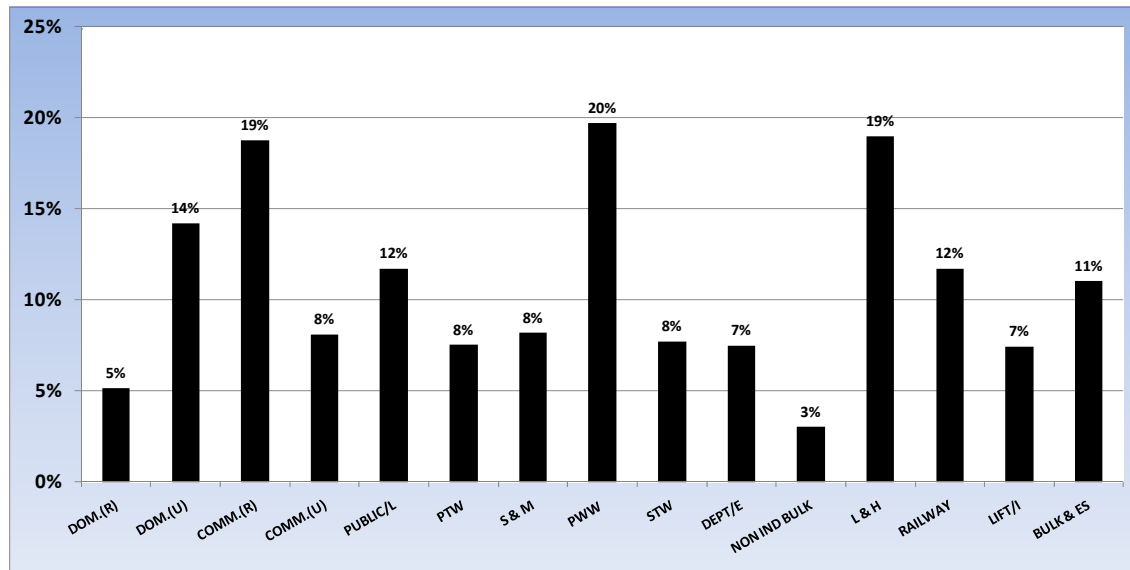
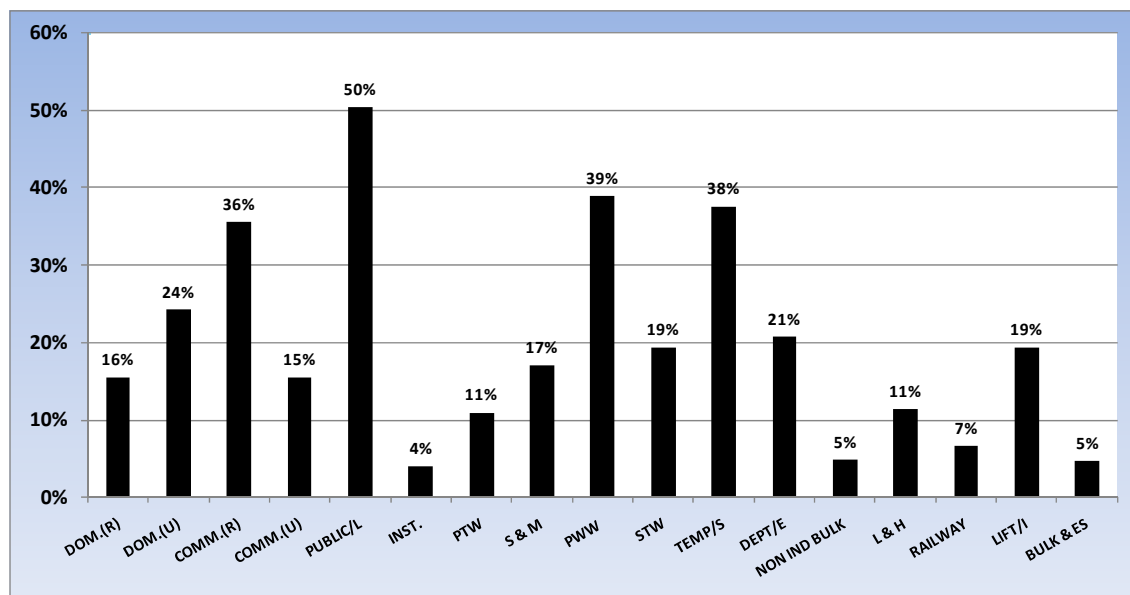


Table 3-3: Category wise Sales growth rate Consolidated DisCom: FY 2011-12



3.14 Norms and Refinement of Billing Determinants:

In compliance with Commission directive, FY 2010-11 & FY 2011-12 ARR submission includes estimated revenue in category and subcategory wise for current year FY10 and forecast years FY11 & FY 12. The key steps in calculation of revenue is deriving and forecasting Billing Determinants. To achieve as much accuracy as possible, FY10 consolidated CS3 reports and detailed divisional CS3 reports, based on the original CS3 reports prepared at the divisional level, are reconciled and “normalized” as per Commission’s approved consumption norms established in UPPCL order No.2649-CUR/L, dated 20-07-2001. These norms, specifying specific consumption levels for un-metered customers, are summarized on Table 3-4. The CS3 reports provide information on number of consumers, connected loads and kWh sales data for about 90 retail consumer categories and subcategories with detailed break-up of urban/rural, metered/un-metered and other pertinent information.

Table 3-4: Consumption Norms for Un-metered Categories

S'No	Category Un-metered Consumer	Area Rural/Urban	Consumption Norms
1	Private Tube Well	Rural	68.38 kWh/BHP/M or 91.66 kWh/kW/M
2	Domestic Rural Consumers	Rural	72 kWh/kW/M
3	Rural Commercial Consumers	Rural	72 kWh/kW/M
4	Rural State Tube Well	Rural	3562.35 kWh/Pump/M
5	Street Light	Rural	300 kWh/kW/Month
		Urban	360 kWh/kW/Month

As described above, the “normalization” process is developed at Divisional level to modify the divisional CS3 report obtained in electronic form from all distribution divisions to ensure the consistency between divisional CS3 data and consolidated CS3 data. The original CS3 data is processed in order to:

- Ensure that the year end number of customers and connected load are consistent with the number reported in the consolidated CS3/CS4 report as published by UPPCL by major tariff category level;
- Adjust the number of consumers and connected load to represent annual averages in order to estimate expected annual tariff revenue;

3.15 Billing frequency analysis:

As in the past submissions to the Commission, billing agent data are used to capture slab wise breakdowns of energy consumption, customer number and connected loads as required for Domestic (LMV-1), Commercial (LMV-2), Private Tube Wells (LMV-5) and Small & Medium Power (LMV-6). Subcategory breakdowns of the HV-2 category (Large & Heavy Power) at different voltage levels have been derived based on actual monthly bills for consumers served at 11 kV and above.

As per the Commission's directives, the sales and revenue forecast in this petition includes estimated revenue for all consumers who are expected to pay minimum charges.

In the current tariff schedule for load factor rebates in LMV-6 (Small and Medium Power) and HV-2 (Large and Heavy Power) consumers, billing agent's data are used to estimate distribution of sales in relation to various slabs of specific consumption in kWh/kW as stipulated in the tariff structure. For HV-2 consumers, the load factor related data and detailed breakdown of consumer information by voltage level has been estimated based on invoice bills for consumers at 11 kV and above.

Time-of-Day (ToD) tariffs were adopted for HV-2 consumers based on actual metering data and should result in more accurate HV-2 consumers' revenue estimates.

The detailed sub category wise data of Consolidated DisCom for FY 2009-10 is placed in Table 3-5 and the detailed sub category wise parameter estimated and projected for FY 2010-11 & FY 2011-12 are placed in Table 3-6 & Table 3-7 respectively based on the forecast are tabulated below.

Table 3-5: Actual Billing Determinants for FY 10: Consolidated DisCom

SUPPLY TYPE	CATG.	CONSOLIDATED DISCOM FY 2009-10	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	UNIT SOLD (MU)
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"			
	(i)	Un-metered	3653389	5737668	4715.7
	(ii)	Metered	1007954	1388627	1400.1
	(B)	Supply at Single Point for Bulk Load	31472	159100	268.3
	(C1)	Other Metered Domestic Consumers	3836982	6755550	8443.7
	(C2)	Life Line Consumers/BPL	79283	61193	50.5
SUB TOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	8609080	14102138	14878.2
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"	0	0	0.0
	(i)	Un-metered	77649	148326	121.8
	(ii)	Metered	205119	422845	528.6
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	11576	21619	25.3
	(C)	Other Metered Non-Domestic Supply	723140	1742939	2225.7
SUB TOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	1017484	2335728	2901.4
LMV--3	(A)	Un-metered Supply	0	0	0.0
	(i)	Gram Panchyat	875	9278	32.3
	(ii)	Nagar Palika & Nagar Panchyat	5603	36065	125.2
	(iii)	Nagar Nigam	571	35731	131.2
	(B)	Metered Supply	0	0	0.0
(i)	Gram Panchyat	15	661	2.4	
(ii)	Nagar Palika & Nagar Panchyat	336	23156	93.4	
(iii)	Nagar Nigam	238	36683	145.1	
SUB TOTAL		PUBLIC LAMPS (LMV-3)	7639	141595	529.6
LMV--4	(A)	Public Institution(4 A)	26593	333064	1040.0
	(B)	Private Institution(4 B)	15032	112842	230.0
SUB TOTAL		LIGHT FAN & POWER FOR PUBLIC/PRIVATE INSTITUTION (LMV-4)	41626	445906	1270.1
LMV--5	(A)	Rural Schedule	0	0	0.0
	(i)	Un metered Supply	708349	3708215	3892.9
	(ii)	Metered Supply	21986	124058	284.2
	(B)	Urban Schedule	0	0	0.0
	(i)	Metered Supply	51239	324273	726.1
SUB TOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	781574	4156545	4903.2
LMV--6	(A)	Small & Medium Power (Power Loom)	0	0	0.0
	(i)	Rural Schedule	18868	139212	174.5
	(ii)	Urban Schedule	22977	188707	244.1
	(B)	Small & Medium Power	0	0	0.0
	(i)	Rural Schedule	28783	212710	259.9
(ii)	Urban Schedule	77971	899724	1329.2	
SUB TOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	148599	1440352	2007.6
LMV--7	(A)	Rural Schedule	0	0	0.0
	(i)	Jal Nigam	1673	41713	146.2
	(ii)	Jal Sansthan	433	16933	61.5
	(iii)	Others (Water Works)	462	10254	36.0
	(B)	Urban Schedule	0	0	0.0
(i)	Jal Nigam	810	28813	124.3	
(ii)	Jal Sansthan	1845	70889	320.9	
(iii)	Others (Water Works)	2027	64104	231.2	
SUB TOTAL		PUBLIC WATER WORKS(LMV-7)	7250	232706	920.2
LMV--8	(A)	Metered Supply	1876	45238	180.1
	(B)	Un-metered Supply	0	0	0.0
	(i)	STW, Panchayat at Raj, WB, LDuch, P. Canals, LI upto 100	26562	446711	1499.4
	(ii)	Laghu Dal Nahar above 100 BHP	236	13862	53.5
	SUB TOTAL		STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	28673	505810
LMV--9	(A)	Metered Supply	0	0	0.0
	(i)	Individual Residential Consumers	294	1739	4.3
	(ii)	Others	2485	16764	40.1
	(B)	Un-metered Supply	0	0	0.0
	(i)	Ceremonies	78	4270	11.9
(ii)	Temporary Shops	78	1076	3.1	
SUB TOTAL		TEMPORARY SUPPLY (LMV-9)	2936	23850	59.4
LMV--10	(A)	Serving	0	0	0.0
	(i)	Class IV Employees	14568	53374	41.8
	(ii)	Class III Employees	19903	65780	78.5
	(iii)	Junior Engineers & Equivalent	2984	11333	19.3
	(iv)	Assistant Engineers & Equivalent	2236	7330	14.4
	(v)	Executive Engineers & Equivalent	1180	4503	7.8
	(vi)	Deputy General Manager & Equivalent	87	417	1.0
	(vii)	CGM/GM & Equivalent posts and above	512	1562	11.5
(B)	Total Pensioner & Family Pensioner	30737	78984	154.7	
SUB TOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	72207	223285	328.9
HV--1	(A)	Urban Schedule	0	0	0.0
	(i)	For supply at 11kV	807	270076	621.0
	(ii)	For supply at 33 kV & above	167	247497	648.9
	(B)	Rural Schedule	0	0	0.0
	(i)	For supply at 11kV	53	14897	39.0
(ii)	For supply at 33 kV & above	23	5044	13.2	
SUB TOTAL		NON INDUSTRIAL BULK LOADS (HV-1)	1050	537513	1322.1
HV--2	(A)	Urban Schedule	0	0	0.0
	(i)	For supply at 11kV	5900	1559261	3683.3
	(ii)	For supply above 11kV and upto & Including 66kV	457	566991	2040.9
	(iii)	For supply above 66kV and upto & Including 132kV	141	127128	474.7
	(iv)	For supply above 132kV	23	57606	229.6
(B)	Rural Schedule	0	0	0.0	
(i)	For supply at 11kV	403	89318	189.9	
(ii)	For supply above 11kV and upto & Including 66kV	62	37872	158.2	
SUB TOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	6986	2438176	6776.6
HV--3	(A)	For supply at the above 132kV	5	108421	372.4
	(B)	For supply below 132kV	3	124164	274.6
	(C)	For Metro Traction	0	0	0.0
SUB TOTAL		RAILWAY TRACTION (HV-3)	8	232585	646.9
HV--4	(A)	For supply at 11kV	80	83845	365.5
	(B)	For supply above 11kV and upto 66kV	21	60731	289.9
	(C)	For supply above 66kV and upto 132kV	1	9631	25.2
SUB TOTAL		LIFT IRRIGATION & P. CANAL ABOVE 100 BHP (75kW) (HV-4)	102	154207	680.6
EXTRA STATE	(A)	EXTRA STATE & OTHERS	4	7909	32.9
SUB TOTAL		EXTRA STATE CONSUMERS	4	7909	32.9
BULK	(A)	NPCL	1	45000	352.5
	(B)	KESCO	1	1465618	2721.9
SUB TOTAL		BULK SUPPLY	2	1510618	3074.4
SUB TOTAL		GRAND TOTAL	10725220	28488922	42065

Table 3-6: Estimated Billing Determinants for FY 11: Consolidated DisCom

SUPPLY TYPE	CATG.	CONSOLIDATED DISCOM FY 2010-11	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	ESTIMATED BILLED ENERGY (MU)	
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"				
	(i)	Un-metered	3719747	5942597	5017.6	
	(ii)	Metered	1045854	1427716	1413.1	
	(B)	Supply at Single Point for Bulk Load	25347	154751	309.9	
	(C)	Other Metered Domestic Consumers	3904610	7374045	9477.9	
	(C2)	Life Line Consumers/EPL	249655	213110	219.1	
SUB TOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	8945212	15112219	16438	
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"				
	(i)	Un-metered	78788	145385	134.0	
	(ii)	Metered	205338	477823	638.5	
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	9290	18648	24.7	
	(C)	Other Metered Non-Domestic Supply	764453	1863392	2408.4	
SUB TOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	1057869	2505248	3206	
LMV--3	(A)	Un-metered Supply				
	(i)	Gram Panchyat	1060	6164	27.0	
	(ii)	Nagar Palika & Nagar Panchyat	5336	39513	124.0	
	(iii)	Nagar Nigam	141	15606	87.0	
	(B)	Metered Supply				
	(i)	Gram Panchyat	23	480	4.4	
	(ii)	Nagar Palika & Nagar Panchyat	327	17804	85.0	
	(iii)	Nagar Nigam	1240	73309	264.2	
SUB TOTAL		PUBLIC LAMPS (LMV-3)	8127	152876	592	
LMV--4	(A)	Public Institution(4 A)	31786	327746	986.7	
	(B)	Private Institution(4 B)	15001	101917	226.4	
SUB TOTAL		LIGHT, FAN & POWER FOR PUB./PRIV. INST.(LMV-4)	46787	429662	1213	
LMV--5	(A)	Rural Schedule				
	(i)	Un metered Supply	728909	3846051	4199.3	
	(ii)	Metered Supply	20752	116614	299.8	
	(B)	Urban Schedule				
	(i)	Metered Supply	51522	330951	772.9	
SUB TOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	801183	4293616	5272	
LMV--6	(A)	Small & Medium Power (Power Loom)				
	(i)	Rural Schedule	14858	103595	178.5	
	(ii)	Urban Schedule	20534	153331	226.9	
	(B)	Small & Medium Power				
	(i)	Rural Schedule	33755	260458	286.6	
	(ii)	Urban Schedule	82624	977873	1480.2	
SUB TOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	151771	1495258	2172	
LMV--7	(A)	Rural Schedule				
	(i)	Jal Nigam	1776	46665	150.6	
	(ii)	Jal Sansthan	475	18892	67.4	
	(iii)	Others (Water Works)	577	13605	40.7	
	(B)	Urban Schedule				
	(i)	Jal Nigam	971	27794	135.8	
	(ii)	Jal Sansthan	1937	83365	430.4	
	(iii)	Others (Water Works)	2316	73359	276.4	
SUB TOTAL		PUBLIC WATER WORKS(LMV-7)	8051	263680	1101	
LMV--8	(A)	Metered Supply	2331	49510	210.9	
	(B)	Un-metered Supply				
	(i)	STW.Panchayat Raj WB.L.Duch.P.C. L.I upto 100 BHP	29664	380422	1589.1	
	(ii)	Laghu Dal Nahar above 100 BHP	254	16785	66.8	
SUB TOTAL		STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	32249	446716	1867	
LMV--9	(A)	Metered Supply				
	(i)	Individual Residential Consumers	707.38125	12621	11.6	
	(ii)	Others	2936	17037	33.6	
	(B)	Un-metered Supply				
	(i)	Ceremonies	53	973	1.2	
	(ii)	Temporary Shops	38	220	1.3	
SUB TOTAL		TEMPORARY SUPPLY (LMV-9)	3734	30851	48	
LMV--10	(A)	Serving				
	(i)	Class IV Employees	15033	37816	42.5	
	(ii)	Class III Employees	20390	69176	80.5	
	(iii)	Junior Engineers & Equivalent	2227	8772	15.2	
	(iv)	Assistant Engineers & Equivalent	1337	4846	11.2	
	(v)	Executive Engineers & Equivalent	1235	4085	8.0	
	(vi)	Deputy General Manager & Equivalent	73	405	1.3	
	(vii)	CGM/GM & Equivalent posts and above	39	240	10.3	
	(B)	Total Pensioner & Family Pensioner	36724	98755	184.6	
	SUB TOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	77059	224095	354
	HV--1	(A)	Urban Schedule			
(i)		For supply at 11kV	953	345518	806.5	
(ii)		For supply at 33 kV & above	226	229662	439.1	
(B)		Rural Schedule				
(i)		For supply at 11kV	642	144102	87.9	
	(ii)	For supply at 33 kV & above	50	56432	28.3	
SUB TOTAL		NON INDUSTRIAL BULKLOADS (HV-1)	1870	775715	1362	
HV--2	(A)	Urban Schedule				
	(i)	For supply at 11kV	6078	1595140	4353.2	
	(ii)	For supply above 11kV and upto & Including 66kV	386	736096	2654.9	
	(iii)	For supply above 66kV and upto & Including 132kV	114	169679	272.4	
	(iv)	For supply above 132kV	8	65176	248.6	
	(B)	Rural Schedule				
	(i)	For supply at 11kV	448	107640	325.0	
	(ii)	For supply above 11kV and upto & Including 66kV	321	537882	209.8	
SUB TOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	7355	3211614	8064	
HV--3	(A)	For supply at and above 132kV	7	117846	418.4	
	(B)	For supply below 132kV	3	131928	288.3	
	(C)	For Delhi Metro Rail	1	6300	16.0	
SUB TOTAL		RAILWAY TRACTION (HV-3)	11	256074	723	
HV--4	(A)	For supply at 11kV	88	83419	379.8	
	(B)	For supply above 11kV and upto 66kV	18	62520	322.7	
	(C)	For supply above 66kV and upto 132kV	2	11834	28.8	
SUB TOTAL		LIFT IRRIGATION & P. CANAL ABOVE 100 BHP (75kW) (HV-4)	108	157773	731	
EXTRA STATE	(A)	EXTRA STATE & OTHERS	4	813	58.1	
SUB TOTAL		EXTRA STATE CONSUMERS	4	813	58	
BULK	(A)	NPCL	1	45000	365.1	
	(B)	KESCO	1	1547751	3027.0	
SUB TOTAL		BULK SUPPLY	2	1592751	3392	
GRAND TOTAL			11141392	30956258	46591	

Table 3-7: Projected Billing Determinants for FY 12: Consolidated DisCom

SUPPLY TYPE	CATG.	CONSOLIDATED DISCOM FY 2011-12	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	PROJECTED ENERGY BILLED (MU)	
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"				
	(i)	Un-metered	4257607	6710621	5798.0	
	(ii)	Metered	1145166	1569858	1632.0	
	(B)	Supply at Single Point for Bulk Load	56786	189685	371.5	
	(C)	Other Metered Domestic Consumers	4931330	8636928	11768.2	
	(C2)	Life Line Consumers/BPL	326346	263940	289.3	
SUB TOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	10717235	17371032	19859	
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"	0	0	0.0	
	(i)	Un-metered	99305	187891	165.7	
	(ii)	Metered	307336	616284	881.7	
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/	11137	20335	37.8	
	(C)	Other Metered Non-Domestic Supply	854194	2037607	2772.4	
SUB TOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	1271972	2862118	3858	
LMV--3	(A)	Un-metered Supply	0	0	0.0	
	(i)	Gram Panchyat	1179	7522	29.2	
	(ii)	Nagar Palika & Nagar Panchyat	5389	39846	137.7	
	(iii)	Nagar Nigam	271	17500	88.3	
	(B)	Metered Supply	0	0	0.0	
	(i)	Gram Panchyat	24	556	7.1	
	(ii)	Nagar Palika & Nagar Panchyat	356	19790	96.7	
	(iii)	Nagar Nigam	1734	139279	530.9	
	SUB TOTAL		PUBLIC LAMPS (LMV-3)	8952	224494	890
	LMV--4	(A)	Public Institution(4 A)	32268	332492	1019.3
(B)		Private Institution(4 B)	15541	105976	243.2	
SUB TOTAL		LIGHT, FAN & POWER FOR PUB./PRIV. INST. (LMV-4)	47809	438468	1263	
LMV--5	(A)	Rural Schedule	0	0	0.0	
	(i)	Un metered Supply	795630	4167558	4600.5	
	(ii)	Metered Supply	24582	137724	355.9	
	(B)	Urban Schedule	0	0	0.0	
	(i)	Metered Supply	60143	384223	893.7	
SUB TOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	880355	4689505	5850	
LMV--6	(A)	Small & Medium Power (Power Loom)	0	0	0.0	
	(i)	Rural Schedule	17525	123262	204.7	
	(ii)	Urban Schedule	22088	169904	247.0	
	(B)	Small & Medium Power	0	0	0.0	
	(i)	Rural Schedule	40121	293550	345.6	
	(ii)	Urban Schedule	93476	1083352	1745.3	
SUB TOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	173209	1670069	2543	
LMV--7	(A)	Rural Schedule	0	0	0.0	
	(i)	Jal Nigam	2049	52647	186.7	
	(ii)	Jal Sansthan	524	20969	80.7	
	(iii)	Others (Water Works)	674	15425	49.3	
	(B)	Urban Schedule	0	0	0.0	
	(i)	Jal Nigam	1015	32533	168.8	
	(ii)	Jal Sansthan	2770	114221	683.7	
	(iii)	Others (Water Works)	2727	86537	360.6	
	SUB TOTAL		PUBLIC WATER WORKS(LMV-7)	9759	322332	1530
LMV--8	(A)	Metered Supply	3373	72555	299.7	
	(B)	Un-metered Supply	0	0	0.0	
	(i)	STW.Panchayat Raj WB I.Duch P.C. L I upto 10	43060	566836	1840.8	
	(ii)	Laghu Dal Nahar above 100 BHP	358	20323	87.9	
SUB TOTAL		ATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	46792	659714	2228	
LMV--9	(A)	Metered Supply	0	0	0.0	
	(i)	Individual Residential Consumers	711	12641	25	
	(ii)	Others	3286	20055	36.3	
	(B)	Un-metered Supply	0	0	0.0	
	(i)	Ceremonies	55	1017	1.2	
	(ii)	Temporary Shops	47	290	3.5	
SUB TOTAL		TEMPORARY SUPPLY (LMV-9)	4099	34003	66	
LMV--10	(A)	Serving	0	0	0.0	
	(i)	Class IV Employees	15274	40367	45.8	
	(ii)	Class III Employees	21847	73336	87.9	
	(iii)	Junior Engineers & Equivalent	2245	8854	15.7	
	(iv)	Assistant Engineers & Equivalent	1448	5229	11.9	
	(v)	Executive Engineers & Equivalent	1255	4511	9.4	
	(vi)	Deputy General Manager & Equivalent	112	575	2.1	
	(vii)	CGM/GM & Equivalent posts and above	86	303	11.9	
	(B)	Total Pensioner & Family Pensioner	46057	121011	242.2	
	SUB TOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	88324	254187	427
HV--1	(A)	Urban Schedule	0	0	0.0	
	(i)	For supply at 11kV	1110	366471	855.8	
	(ii)	For supply at 33 kV & above	457	367838	443.8	
	(B)	Rural Schedule	0	0	0.0	
	(i)	For supply at 11kV	667	148112	87.9	
	(ii)	For supply at 33 kV & above	53	64302	39.7	
SUB TOTAL		NON INDUSTRIAL BULKLOADS (HV-1)	2286	946722	1427	
HV--2	(A)	Urban Schedule	0	0	0.0	
	(i)	For supply at 11kV	6289	1656193	4833.0	
	(ii)	For supply above 11kV and upto & Including 66	591	772579	2967.7	
	(iii)	For supply above 66kV and upto & Including 132	151	172075	297.3	
	(iv)	For supply above 132kV	20	66723	268.7	
	(B)	Rural Schedule	0	0	0.0	
	(i)	For supply at 11kV	484	111882	392.2	
	(ii)	For supply above 11kV and upto & Including 66	85	95283	221.6	
SUB TOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	7619	2874735	8980	
HV--3	(A)	For supply at and above 132kV	7	119783	455.8	
	(B)	For supply below 132kV	3	131928	298.6	
	(C)	For Delhi Metro Rail	1	6300	16.0	
SUB TOTAL		RAILWAY TRACTION (HV-3)	11	258011	770	
HV--4	(A)	For supply at 11kV	92	85694	412.8	
	(B)	For supply above 11kV and upto 66kV	19	72507	374.4	
	(C)	For supply above 66kV and upto 132kV	2	28693	85.9	
SUB TOTAL		LIFT IRRIGATION & P.C ABOVE 100 BHP (75kW) (HV-4)	114	186895	873	
EXTRA STATE	(A)	EXTRA STATE & OTHERS	4	15289	102.7	
SUB TOTAL		EXTRA STATE CONSUMERS	4	15289	103	
BULK	(A)	NPCL	1	45000	378.2	
	(B)	KESCO	1	1601142	3131.4	
SUB TOTAL		BULK SUPPLY	2	1646142	3510	
SUB TOTAL		GRAND TOTAL	13258543	34453717	54176	

3.16 Sales Forecast by DisCom:

DisCom wise sales forecast, Energy input into DisCom & Energy procured for each DisCom are provided in following table. In the table first distribution losses based on the targets provided may be added to arrive at the estimated kWh to be delivered by UPPTCL & then transmission losses, intra as well as interstate losses, are added up to arrive at energy procured from generators. For NPCL & KesCo which are bulk supply consumer of Meerut & Agra DisCom respectively, only transmission (intra & Interstate) losses are added.

Table 3-8: Actual and Estimated Energy Status of DisComs:

Licencsee	FY 209-10	FY 2010-11	FY 2011-12
Purchases Required & Billed Energy (MU)	61041	64888	73781
Meerut	19368	20885	24372
Agra	14025	14218	15283
Lucknow	10564	11371	13022
Varanasi	13754	14818	17394
Bulk	3329	3595	3710
Inter & Intra State Transmission Losses (%)			
Total Inter & Intra State Transmission Losses(%)	7.66%	5.66%	5.41%
Periphery Loss (Upto inter connection Point)	3.85%	1.73%	1.47%
Energy Available for Transmission(MU)	58693	63768	72696
Transmission losses%	3.97%	4.00%	4.00%
Input into DisCom(MU)	56365	61217	69788
Meerut	17884	19,703	23,053
Agra	12950	13,414	14,456
Lucknow	9755	10,728	12,317
Varanasi	12701	13,980	16,453
Bulk	3074	3,392	3,510
Consumer Sales (MU)	42065	46591	54176
Meerut	13007	14,876	17,695
Agra	8840	9,282	10,408
Lucknow	7546	8,368	9,731
Varanasi	9597	10,673	12,833
Bulk	3074	3,392	3,510
T&D Losses (%of net generation)	31.09%	28.20%	26.57%
Meerut	32.84%	28.77%	27.40%
Agra	36.97%	34.71%	31.90%
Lucknow	28.57%	26.41%	25.28%
Varanasi	30.23%	27.97%	26.22%
Distribution Losses (% of Energy Received)	25.37%	23.89%	22.37%
Meerut	27.27%	24.50%	23.24%
Agra	31.74%	30.80%	28.00%
Lucknow	22.64%	22.00%	21.00%
Varanasi	24.44%	23.66%	22.00%

3.17 Billing Determinants:

The detailed sub category wise data of AGRA DisCom for Current Year FY 2009-10 is placed in Table 3-9 and the detailed sub category wise parameter of Estimated FY 2011 and Projected FY 2012 are placed in Table 3-10 & Table 3-11 based on the above forecast are tabulated below.

Table 3-9: Billing Determinants for FY 10: AGRA DisCom

SUPPLY TYPE	CATG.	AGRA DISCOM FY 2009-10	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	UNIT SOLD (MU)	
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"				
		(i) Un-metered	510820	747935	609.5	
		(ii) Metered	356425	491019	579.7	
	(B)	Supply at Single Point for Bulk Load	4448	8369	16.9	
	(C1)	Other Metered Domestic Consumers	809108	1309566	1836.2	
	(C2)	Life Line Consumers/BPL	10621	10623	13.5	
SUB TOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	1691421	2567512	3055.9	
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"				
		(i) Un-metered	3995	6407	5.2	
		(ii) Metered	58633	129670	163.3	
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	6041	11706	14.3	
	(C)	Other Metered Non-Domestic Supply	146767	343328	427.8	
SUB TOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	215436	491111	610.6	
LMV--3	(A)	Un-metered Supply				
		(i) Gram Panchyat	157	1913	7.8	
		(ii) Nagar Palika & Nagar Panchyat	876	5558	19.6	
		(iii) Nagar Nigam	60	5010	18.3	
	(B)	Metered Supply				
		(i) Gram Panchyat	6	295	1.2	
		(ii) Nagar Palika & Nagar Panchyat	68	5232	20.3	
		(iii) Nagar Nigam	19	2080	9.0	
	SUB TOTAL		PUBLIC LAMPS (LMV-3)	1186	20087	76.2
	LMV--4	(A)	Public Institution(4 A)	6716	66143	229.5
(B)		Private Institution(4 B)	7524	37885	76.8	
SUB TOTAL		IF. FAN & POWER FOR PUBLIC/PRIVATE INSTITUTION (LMV-4)	14240	104028	306.2	
LMV--5	(A)	Rural Schedule				
		(i) Un-metered Supply	109158	815363	824.9	
		(ii) Metered Supply	12547	85828	210.5	
	(B)	Urban Schedule				
		(i) Metered Supply	37291	256454	580.4	
SUB TOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	158996	1157645	1615.8	
LMV--6	(A)	Small & Medium Power (Power Loom)				
		(i) Rural Schedule	5298	37233	53.4	
		(ii) Urban Schedule	7230	50262	66.2	
	(B)	Small & Medium Power				
		(i) Rural Schedule	4892	37002	44.5	
		(ii) Urban Schedule	28783	282769	387.8	
SUB TOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	46202	407266	551.9	
LMV--7	(A)	Rural Schedule				
		(i) Jal Nigam	491	5486	21.2	
		(ii) Jal Sansthan	288	4393	15.2	
		(iii) Others (Water Works)	116	1742	8.0	
	(B)	Urban Schedule				
		(i) Jal Nigam	310	6749	40.0	
		(ii) Jal Sansthan	663	21216	86.1	
		(iii) Others (Water Works)	219	6146	17.0	
SUB TOTAL		PUBLIC WATER WORKS(LMV-7)	2086	45732	187.4	
LMV--8	(A)	Metered Supply	1123	31994	140.0	
	(B)	Un-metered Supply				
		(i) STW. Panchayat Raj, WB, LDuch, P.Canals, LI upto	4853	97716	291.3	
	(ii) Laghu Dal Nahar above 100 BHP	13	642	1.2		
SUB TOTAL		STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	5990	130351	432.5	
LMV--9	(A)	Metered Supply				
		(i) Individual Residential Consumers	45	289	1.1	
		(ii) Others	97	1780	4.2	
	(B)	Un-metered Supply				
		(i) Ceremonies	35	608	0.8	
	(ii) Temporary Shops	10	83	0.4		
SUB TOTAL		TEMPORARY SUPPLY (LMV-9)	187	2759	6.5	
LMV--10	(A)	Serving				
		(i) Class IV Employees	3352	9486	12.1	
		(ii) Class III Employees	3810	17183	25.7	
		(iii) Junior Engineers & Equivalent	251	1146	2.0	
		(iv) Assistant Engineers & Equivalent	72	340	0.6	
		(v) Executive Engineers & Equivalent	41	230	0.4	
		(vi) Deputy General Manager & Equivalent	9	41	0.1	
		(vii) CGM/GM & Equivalent posts and above	17	120	0.7	
	(B)	Total Pensioner & Family Pensioner	7531	23201	40.0	
	SUB TOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	15083	51747	89.6
	HV--1	(A)	Urban Schedule			
(i) For supply at 11kV			168	39232	113.2	
		(ii) For supply at 33 kV & above	6	11835	56.8	
(B)		Rural Schedule				
		(i) For supply at 11kV	14	2827	10.1	
		(ii) For supply at 33 kV & above	17	3866	10.1	
SUB TOTAL		NON INDUSTRIAL BULK LOADS (HV-1)	205	57759	190.2	
HV--2	(A)	Urban Schedule				
		(i) For supply at 11kV	1265	261064	665.1	
		(ii) For supply above 11 kV and upto & Including 66kV	83	104614	470.1	
		(iii) For supply above 66kV and upto & Including 132kV	97	28677	68.9	
		(iv) For supply above 132kV	1	21250	130.6	
	(B)	Rural Schedule				
		(i) For supply at 11kV	208	34371	72.6	
		(ii) For supply above 11kV and upto & Including 66kV	44	10038	31.4	
SUB TOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	1697	460014	1438.6	
HV--3	(A)	For supply at the above 132kV	2	29996	106.8	
	(B)	For supply below 132kV	2	52613	77.2	
	(C)	For Metro Traction	0	0	0.0	
SUB TOTAL		RAILWAY TRACTION (HV-3)	4	82608	184.0	
HV--4	(A)	For supply at 11kV	23	13662	74.5	
	(B)	For supply above 11kV and upto 66kV	1	8594	1.0	
	(C)	For supply above 66kV and upto 132kV	1	9350	19.9	
SUB TOTAL		IFT IRRIGATION & P. CANAL ABOVE 100 BHP (75kW) (HV-4)	25	31607	94.9	
EXTRA STATE	(A)	EXTRA STATE & OTHERS	0	17	0.0	
SUB TOTAL		EXTRA STATE CONSUMERS	0	17	0.0	
BULK	(A)	NPCL	0	0	0.0	
	(B)	KESCO	1	1465618	2721.9	
SUB TOTAL		BULK SUPPLY	1	1465618	2721.9	
SUB TOTAL		GRAND TOTAL	2152758	7075861	11562	

Table 3-10: Billing Determinants for FY 11: AGRA DisCom

SUPPLY TYPE	CAT.	AGRA DISCOM FY 2010-11	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	ESTIMATED BILLED ENERGY (MU)
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"			
	(i)	Un-metered	505914	740751	640.0
	(ii)	Metered	365336	503294	608.7
	(B)	Supply at Single Point for Bulk Load	4559	8579	17.8
	(C1)	Other Metered Domestic Consumers	829335	1342305	1928.0
	(C2)	Life Line Consumers/BPL	10886	10889	14.1
SUBTOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	1716029	2605818	3209
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"			
	(i)	Un-metered	3971	6368	5.5
	(ii)	Metered	60099	132912	171.4
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	6192	11999	15.0
	(C)	Other Metered Non-Domestic Supply	150436	351911	449.1
SUBTOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	220698	503190	641
LMV--3	(A)	Un-metered Supply			
	(i)	Gram Panchyat	187	2274	8.2
	(ii)	Nagar Palika & Nagar Panchyat	751	4767	20.6
	(iii)	Nagar Nigam	53	4448	19.2
	(B)	Metered Supply			
	(i)	Gram Panchyat	6	302	1.3
	(ii)	Nagar Palika & Nagar Panchyat	70	5362	21.3
	(iii)	Nagar Nigam	20	2132	9.4
SUBTOTAL		PUBLIC LAMPS (LMV-3)	1087	19285	80
LMV--4	(A)	Public Institution(4 A)	6884	67797	240.9
	(B)	Private Institution(4 B)	7712	38832	80.6
SUBTOTAL		LIGHT, FAN & POWER FOR PUB./PRIV. INST. (LMV-4)	14596	106628	322
LMV--5	(A)	Rural Schedule			
	(i)	Un metered Supply	105422	787456	866.1
	(ii)	Metered Supply	12860	87974	221.1
	(B)	Urban Schedule			
	(i)	Metered Supply	38223	262865	609.4
SUBTOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	156505	1138295	1697
LMV--6	(A)	Small & Medium Power (Power Loom)			
	(i)	Rural Schedule	5430	38163	56.1
	(ii)	Urban Schedule	7410	51519	69.5
	(B)	Small & Medium Power			
	(i)	Rural Schedule	5014	37927	46.8
	(ii)	Urban Schedule	29503	289838	407.2
SUBTOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	47357	417448	579
LMV--7	(A)	Rural Schedule			
	(i)	Jal Nigam	503	5623	22.2
	(ii)	Jal Sansthan	295	4503	15.9
	(iii)	Others (Water Works)	119	1786	8.4
	(B)	Urban Schedule			
	(i)	Jal Nigam	318	6918	42.0
	(ii)	Jal Sansthan	679	21746	90.4
	(iii)	Others (Water Works)	225	6299	17.9
SUBTOTAL		PUBLIC WATER WORKS(LMV-7)	2138	46875	197
LMV--8	(A)	Metered Supply	1152	32794	147.0
	(B)	Un-metered Supply			
	(i)	STW.Panchayat Raj WB I.Duch P.C. L I upto 100 BHP	7155	48300	305.9
	(ii)	Laghu Dal Nahar above 100 BHP	13	658	1.3
SUBTOTAL		STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	8320	81751	454
LMV--9	(A)	Metered Supply			
	(i)	Individual Residential Consumers	46	296	1.1
	(ii)	Others	99	1824	4.4
	(B)	Un-metered Supply			
	(i)	Ceremonies	36	623	0.9
	(ii)	Temporary Shops	11	85	0.5
SUBTOTAL		TEMPORARY SUPPLY (LMV-9)	192	2828	7
LMV--10	(A)	Serving			
	(i)	Class IV Employees	3436	9723	12.7
	(ii)	Class III Employees	3905	17613	27.0
	(iii)	Junior Engineers & Equivalent	257	1175	2.1
	(iv)	Assistant Engineers & Equivalent	74	348	0.7
	(v)	Executive Engineers & Equivalent	42	236	0.5
	(vi)	Deputy General Manager & Equivalent	9	42	0.1
	(vii)	CGM/GM & Equivalent posts and above	17	123	9.1
	(B)	Total Pensioner & Family Pensioner	7719	23781	42.0
SUBTOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	15460	53041	94
HV--1	(A)	Urban Schedule			
	(i)	For supply at 11kV	172	40213	118.8
	(ii)	For supply at 33 kV & above	7	12130	59.7
	(B)	Rural Schedule			
	(i)	For supply at 11kV	14	2897	21.2
	(ii)	For supply at 33 kV & above	18	3962	
SUBTOTAL		NON INDUSTRIAL BULK LOADS (HV-1)	210	59203	200
HV--2	(A)	Urban Schedule			
	(i)	For supply at 11kV	1296	267591	698.3
	(ii)	For supply above 11kV and upto & Including 66kV	85	107229	493.6
	(iii)	For supply above 66kV and upto & Including 132kV	100	29394	72.3
	(iv)	For supply above 132kV	1	21781	137.1
	(B)	Rural Schedule			
	(i)	For supply at 11kV	213	35230	76.2
	(ii)	For supply above 11kV and upto & Including 66kV	45	10289	33.0
SUBTOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	1740	471515	1511
HV--3	(A)	For supply at and above 132kV	2	30746	112.1
	(B)	For supply below 132kV	2	53928	81.1
	(C)	For Delhi Metro Rail		0	0.0
SUBTOTAL		RAILWAY TRACTION (HV-3)	4	84674	193
HV--4	(A)	For supply at 11kV	24	14004	78.2
	(B)	For supply above 11kV and upto 66kV	1	8809	0.5
	(C)	For supply above 66kV and upto 132kV	1	9584	20.9
SUBTOTAL		LIFT IRRIGATION & F. CANAL ABOVE 100 BHP (75kW) (HV-4)	26	32397	100
EXTRA STATE	(A)	EXTRA STATE & OTHERS	0	0	0.0
SUBTOTAL		EXTRA STATE CONSUMERS	0	0	0
BULK	(A)	NPCL	0	0	0.0
	(B)	KESCO	1	1547751	3027.0
SUBTOTAL		BULK SUPPLY	1	1547751	3027
SUBTOTAL		GRAND TOTAL	2184363	7170696	12309

Table 3-11: Projected Billing Determinants for FY 12: AGRA DisCom

SUPPLY TYPE	CAT.	AGRA DISCOM FY 2011-12	CONSUMER (NUMBERS)	CONNECTED LOAD (KW)	PROJECTED ENERGY BILLED (MU)	
LMV--1	(A)	Consumer getting supply as per "Rural Schedule"				
		(i) Un-metered	584634	856012	739.6	
		(ii) Metered	422182	581607	703.4	
	(B)	Supply at Single Point for Bulk Load	5268	9913	20.6	
	(C)	Other Metered Domestic Consumers	958380	1551168	2228.0	
	(C2)	Life Line Consumers/BPL	12580	12583	16.4	
SUB TOTAL		DOMESTIC LIGHT FAN & POWER (LMV-1)	1983044	3011283	3708	
LMV--2	(A)	Consumer getting supply as per "Rural Schedule"				
		(i) Un-metered	4331	6946	6.0	
		(ii) Metered	65556	144979	187.0	
	(B)	Private Advertising/Sign Post/Sign Board/Glow Sign/Flex	6754	13089	16.4	
	(C)	Other Metered Non-Domestic Supply	164095	383862	489.9	
SUB TOTAL		NON DOMESTIC LIGHT FAN & POWER (LMV-2)	240736	548876	699	
LMV--3	(A)	Un-metered Supply				
		(i) Gram Panchyat	200	2433	8.8	
		(ii) Nagar Palika & Nagar Panchyat	804	5100	22.0	
		(iii) Nagar Nigam	57	4759	20.6	
	(B)	Metered Supply				
	(i) Gram Panchyat	6	323	1.4		
	(ii) Nagar Palika & Nagar Panchyat	75	5738	22.8		
	(iii) Nagar Nigam	21	2282	10.1		
SUB TOTAL		PUBLIC LAMPS (LMV-3)	1163	20635	86	
LMV--4	(A)	Public Institution(4 A)	7366	72543	257.8	
	(B)	Private Institution(4 B)	8252	41550	86.2	
	SUB TOTAL	LIGHT FAN & POWER FOR PUB./PRIV. INST.(LMV-4)	15618	114092	344	
LMV--5	(A)	Rural Schedule				
		(i) Un metered Supply	118817	887507	976.2	
		(ii) Metered Supply	14494	99151	249.2	
	(B)	Urban Schedule				
		(i) Metered Supply	43079	296264	686.8	
SUB TOTAL		PRIVATE TUBE WELL/PUMPING SETS (LMV-5)	176390	1282922	1912	
LMV--6	(A)	Small & Medium Power (Power Loom)				
		(i) Rural Schedule	5810	40835	60.0	
		(ii) Urban Schedule	7929	55125	74.3	
	(B)	Small & Medium Power				
		(i) Rural Schedule	5365	40582	50.1	
	(ii) Urban Schedule	31568	310127	435.7		
SUB TOTAL		SMALL & MEDIUM POWER UPTO 100 HP (75) (LMV-6)	50672	446669	620	
LMV--7	(A)	Rural Schedule				
		(i) Jal Nigam	572	6395	25.3	
		(ii) Jal Sanshan	335	5121	18.1	
		(iii) Others (Water Works)	135	2031	9.5	
	(B)	Urban Schedule				
		(i) Jal Nigam	361	7868	47.7	
		(ii) Jal Sanshan	773	24733	102.8	
		(iii) Others (Water Works)	256	7164	20.3	
	SUB TOTAL		PUBLIC WATER WORKS(LMV-7)	2432	53313	224
	LMV--8	(A)	Metered Supply	1414	40270	180.5
(B)		Un-metered Supply				
		(i) STW, Panchayat Raj WB I, Duch P.C. L1 upto 100 BHP	8787	59311	375.6	
		(ii) Laghu Dal Nahar above 100 BHP	17	807	1.6	
SUB TOTAL		STATE TUBE WELLS & PUMPS CANAL UPTO 100 HP(LMV-8)	10217	100389	558	
LMV--9	(A)	Metered Supply				
		(i) Individual Residential Consumers	50	316	1.2	
		(ii) Others	106	1952	4.7	
	(B)	Un-metered Supply				
		(i) Ceremonies	38	667	0.9	
	(ii) Temporary Shops	11	91	0.5		
SUB TOTAL		TEMPORARY SUPPLY (LMV-9)	205	3026	7	
LMV--10	(A)	Serving				
		(i) Class IV Employees	3677	10404	13.6	
		(ii) Class III Employees	4179	18846	28.8	
		(iii) Junior Engineers & Equivalent	275	1257	2.3	
		(iv) Assistant Engineers & Equivalent	79	373	0.7	
		(v) Executive Engineers & Equivalent	45	252	0.5	
		(vi) Deputy General Manager & Equivalent	9	45	0.1	
		(vii) CGM/GM & Equivalent posts and above	18	132	9.8	
		(viii) Total Pensioner & Family Pensioner	8260	25445	45.0	
	SUB TOTAL		DEPARTMENTAL EMPLOYEES (LMV-10)	16542	56754	101
HV--1	(A)	Urban Schedule				
		(i) For supply at 11kV	185	43068	127.3	
		(ii) For supply at 33 kV & above	7	12992	64.0	
	(B)	Rural Schedule				
		(i) For supply at 11kV	15	3103	21	
	(ii) For supply at 33 kV & above	19	4244	11.4		
SUB TOTAL		NON INDUSTRIAL BULKLOADS (HV-1)	225	63407	224	
HV--2	(A)	Urban Schedule				
		(i) For supply at 11kV	1388	286589	747.9	
		(ii) For supply above 11kV and upto & Including 66kV	91	114842	528.7	
		(iii) For supply above 66kV and upto & Including 132kV	107	31481	77.4	
		(iv) For supply above 132kV	1	23328	146.9	
(B)	Rural Schedule					
	(i) For supply at 11kV	228	37731	81.6		
	(ii) For supply above 11kV and upto & Including 66kV	48	11020	35.3		
SUB TOTAL		LARGE & HEAVY POWER ABOVE 100 BHP (75 kW) (HV-2)	1863	504990	1618	
HV--3	(A)	For supply at and above 132kV	2	30746	112.1	
	(B)	For supply below 132kV	2	53928	81.1	
	(C)	For Delhi Metro Rail				
SUB TOTAL		RAILWAY TRACTION (HV-3)	4	84674	193	
HV--4	(A)	For supply at 11kV	27	16113	90.0	
	(B)	For supply above 11kV and upto 66kV	1	10136	0.6	
	(C)	For supply above 66kV and upto 132kV	1	11028	24.1	
SUB TOTAL		LIFT IRRIGATION & P C ABOVE 100 BHP (75kW) (HV-4)	30	37277	115	
EXTRA STAT	(A)	EXTRA STATE & OTHERS				
SUB TOTAL		EXTRA STATE CONSUMERS	0	0	0	
BULK	(A)	NPCL	0	0	0.0	
	(B)	RESCO	1	1601142	3131.4	
SUB TOTAL		BULK SUPPLY	1	1601142	3131	
GRAND TOTAL			2499141	7929447	13540	

3.18 Revenue Assessment:

The detailed sales forecast described in the previous sections combined with the billing determinant information provided in section 3.14 & 3.16, may be used to work out the revenue for FY 2009-10 and for assessment year FY2010-11 and FY 2011-12 on Consolidated DisCom and AGRA DisCom are as under:-

Table 3-12 represents consolidated assessment revenue for FY2010, which is derived from tariff effective from dt.27/04/2008 from UPERC Tariff Order FY 2008-09.

Table3-13 tabulates estimated revenue for FY2011 which is derived based on weighted average tariff effective from dt. 27/04/2008 and dt. 15/04/2010 from UPERC Tariff Order FY 08, FY 09 & FY 10 of Consolidated DisCom.

Table3-14 tabulates projected revenue for FY2012 on current Tariff based on UPERC Tariff Order TO FY 2009-10 of Consolidated DisCom.

Table 3-12: Assessment Revenue, Sales & Through Rate: FY 2010(Consolidated)

Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	3062	14878	2.06
(a) Consumer getting supply as per "Rural Schedule"	647	6,116	1.06
(b) Supply at Single Point for Bulk Loads	82	268	3.05
(c) Other Metered Domestic Consumers	2324	8,444	2.75
(d) Life Line Consumers	8	50	1.68
LMV-2: Non Domestic Light, Fan & Power	1212	2901	4.18
(a) Non-Domestic (Rural)	138	650	2.12
(b) Private Advertisements/Sign Boards/Glow Signs/Flex	14	25	5.62
(c) Non-Domestic (Urban Metered)	1061	2226	4.77
LMV-3: Public Lamps	234	530	4.41
LMV-4: Insituitions	472	1270	3.71
LMV-5: Private Tube Wells	529	4903	1.08
LMV 6: Small and Medium Power	903	2008	4.50
(a): Small & Medium Power for Power Loom	166	419	3.97
(b): Small & Medium Power	737	1589	4.64
LMV-7: Public Water Works	377	920	4.10
LMV-8: State Tubewells & Pumped Canals	429	1733	2.47
LMV-9: Temporary Supply	28	59	4.75
LMV-10: Deptt. Empl. & Pensioners	43	329	1.31
HV-1: Non-Industrial Bulk Load	605	1322	4.57
HV-2: Large & Heavy Power	3128	6777	4.62
HV-3: Railway Traction	266	647	4.11
HV-4: Lift Irrigation Works	210	681	3.08
Sub Total	11498	38958	2.95
Bulk & Extra State	777	3,107	2.50
Consolidated DisCom	12275	42065	2.92

Table 3-13: Assessment Revenue, Sales & Through Rate: FY 2011(Consolidated)

Consumer Category	Assessment Revenue Rs. Cr			Electricity Sales	Through Rate
	15/04/2010	27/04/2008	Aggregated	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	4407	3859	4374	16438	2.66
(a) Consumer getting supply as per "Rural Schedule"	725	658	720	6431	1.12
(b) Supply at Single Point for Bulk Loads	107	93	106	310	3.41
(c) Other Metered Domestic Consumers	354	3076	3516	9478	3.71
(d) Life Line Consumers	32	32	32	219	1.46
LMV-2: Non Domestic Light, Fan & Power	1399	1282	1391	3206	4.34
(a) Non-Domestic (Rural)	165	164	164	772	2.12
(b) Private Advertisements/Sign Boards/Glow Signs/Flex	24	17	23	25	9.39
(c) Non-Domestic (Urban Metered)	1211	1101	1204	2408	5.00
LMV-3: Public Lamps	297	249	294	592	4.97
LMV-4: Insituitions	595	529	591	1213	4.87
LMV-5: Private Tube Wells	566	566	564	5272	1.07
LMV 6: Small and Medium Power	1069	948	1061	2172	4.88
(a): Small and Medium Power for Power Loom	173	152	172	405	4.23
(b): Small and Medium Power	896	795	889	1767	5.03
LMV-7: Public Water Works	495	452	492	1101	4.46
LMV-8: S T W and Pumped Canals	740	596	732	1867	3.92
LMV-9: Temporary Supply	35	28	35	48	7.26
LMV-10: Dept. Empl. and Pensioners	51	45	51	354	1.44
HV-1: Non-Industrial Bulk Load	710	597	704	1362	5.17
HV-2: Large and Heavy Power	4047	3552	4017	8064	4.98
HV-3: Railway Traction	313	272	310	723	4.30
HV-4: Lift Irrigation Works	288	241	285	731	3.90
Sub Total	15012	13218	14901	43141	3.45
Bulk & Extra State	1,111	954	1,101	3,450	3.19
CONSOLIDATED DisCom	16123	14172	16002	46591	3.43

Table 3-14: Projected Revenue, Sales & Through Rate: FY 2012 (Consolidated)

CURRENT TARIFF			
Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	5643	19859	2.84
(a) Consumer getting supply as per "Rural Schedule"	830	7,430	1.12
(b) Supply at Single Point for Bulk Loads	128	372	3.45
(c) Other Metered Domestic Consumers	4618	11,768	3.92
(d) Life Line Consumers	67	289	2.32
LMV-2: Non Domestic Light, Fan & Power	1693	3858	4.39
(a) Non-Domestic (Rural)	228	1047	2.18
(b) Private Advertisements/Sign Boards/Glow Signs/Flex	38	38	10.00
(c) Non-Domestic (Urban Metered)	1427	2772	5.15
LMV-3: Public Lamps	451	890	5.06
LMV-4: Insituitions	640	1263	5.07
LMV-5: Private Tube Wells	641	5850	1.10
LMV 6: Small and Medium Power	1352	2543	5.32
(a): Small & Medium Power for Power Loom	196	452	4.33
(b): Small & Medium Power	1157	2091	5.53
LMV-7: Public Water Works	687	1530	4.49
LMV-8: State Tubewells & Pumped Canals	1088	2228	4.88
LMV-9: Temporary Supply	31	66	4.76
LMV-10: Deptt. Empl. & Pensioners	70	427	1.64
HV-1: Non-Industrial Bulk Load	775	1427	5.43
HV-2: Large & Heavy Power	4424	8980	4.93
HV-3: Railway Traction	331	770	4.30
HV-4: Lift Irrigation Works	428	873	4.91
Sub Total	18256	50564	3.61
Bulk & Extra State	1225	3,612	3.39
Consolidated DisCom	19481	54176	3.60

Tables 3-15, 3-16 and 3-17 tabulated the same information as Tables 3-12, 3-13 and 3-14, but for AGRA DisCom.

Table 3-15: Assessment Revenue, Sales & Through Rate: FY 2010 :(AGRA DisCom)

Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	669	3056	2.19
(a) Consumer getting supply as per "Rural Schedule"	134	1,189	1.13
(b) Supply at Single Point for Bulk Loads	5	17	3.01
(c) Other Metered Domestic Consumers	527	1,836	2.87
(d) Life Line Consumers	2	13	1.75
LMV-2: Non Domestic Light, Fan & Power	280	611	4.58
(a)Non-Domestic(Rural)	38	169	2.24
(b)Private Advertisements/Sign Boards/Glow Signs/Flex	7	14	5.00
(c)Non-Domestic (Urban Metered)	235	428	5.49
LMV-3: Public Lamps	33	76	4.28
LMV-4: Insitutions	101	306	3.31
LMV-5: Private Tube Wells	169	1616	1.05
LMV 6: Small and Medium Power	250	552	4.53
(a): Small & Medium Power for Power Loom	45	120	3.74
(b):Small & Medium Power	205	432	4.75
LMV-7: Public Water Works	77	187	4.11
LMV-8: State Tubewells & Pumped Canals	132	433	3.06
LMV-9: Temporary Supply	3	7	4.25
LMV-10: Deptt. Empl. & Pensioners	10	90	1.17
HV-1: Non-Industrial Bulk Load	77	190	4.03
HV-2: Large & Heavy Power	637	1439	4.43
HV-3: Railway Traction	73	184	3.97
HV-4: Lift Irrigation Works	32	95	3.37
Sub Total	2544	8840	2.88
Bulk & Extra State	671	2,722	2.46
AGRA DisCom	3214	11562	2.78

Table 3-16: Assessment Revenue, Sales & Through Rate: FY 2011(AGRA DisCom).

Consumer Category	Assessment Revenue Rs. Cr			Electricity Sales	Through Rate
	15/04/2010	27/04/2008	Aggregated	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	904	774	896	3209	2.79
(a)Consumer getting supply as per"Rural Schedule"	146	137	145	1249	1.16
(b) Supply at Single Point for Bulk Loads	6	5	6	18	3.41
(c) Other Metered Domestic Consumers	749	630	743	1928	3.85
(d) Life Line Consumers	3	3	3	14	1.96
LMV-2:Non Domestic Light,Fan & Power	283	245	281	641	4.38
(a)Non-Domestic(Rural)	41.5	41.4	41	177	2.34
(b)Private Advertisements/Sign Boards/Glow Signs/Flex	14	7	14	15	9.24
(c)Non-Domestic (Urban Metered)	228	196	226	449	5.02
LMV-3: Public Lamps	37	31	37	80	4.62
LMV-4: Insitutions	158	147	157	322	4.90
LMV-5: Private Tube Wells	178	178	178	1697	1.05
LMV 6: Small and Medium Power	283	262	281	579	4.85
(a): Small and Medium Power for Power Loom	52	47	51	126	4.09
(b):Small and Medium Power	231	216	230	454	5.06
LMV-7: Public Water Works	88	81	88	197	4.46
LMV-8: S T W and Pumped Canals	149	122	147	454	3.24
LMV-9: Temporary Supply	3	3	3	7	4.85
LMV-10: Dept.Empl. and Pensioners	12	11	12	94	1.30
HV-1: Non-Industrial Bulk Load	96	80	95	200	4.75
HV-2: Large and Heavy Power	756	662	750	1511	4.96
HV-3: Railway Traction	86	76	85	193	4.40
HV-4: Lift Irrigation Works	40	33	40	100	3.98
Sub Total	3073	2707	3051	9282	3.29
Bulk & Extra State	974	837	966	3,027	3.19
AGRA DisCom	4048	3544	4017	12309	3.26

Table 3-17: Projected Rev. Sales & Through Rate: FY 2012(AGRA DisCom)

CURRENT TARIFF			
Consumer Category	Assessment Revenue	Electricity Sales	Through Rate
	Rs. Cr	MU	Rs./kWh
LMV-1: Domestic Light, Fan & Power	1042	3708	2.81
(a) Consumer getting supply as per "Rural Schedule"	169	1,443	1.17
(b) Supply at Single Point for Bulk Loads	7	21	3.43
(c) Other Metered Domestic Consumers	862	2,228	3.87
(d) Life Line Consumers	4	16	2.32
LMV-2: Non Domestic Light, Fan & Power	313	699	4.47
(a) Non-Domestic (Rural)	45	193	2.35
(b) Private Advertisements/Sign Boards/Glow Signs/Flex	16	16	10.00
(c) Non-Domestic (Urban Metered)	251	490	5.12
LMV-3: Public Lamps	40	86	4.66
LMV-4: Insitutions	174	344	5.06
LMV-5: Private Tube Wells	213	1912	1.12
LMV 6: Small and Medium Power	311	620	5.02
(a): Small & Medium Power for Power Loom	59	134	4.43
(b): Small & Medium Power	252	486	5.18
LMV-7: Public Water Works	101	224	4.49
LMV-8: State Tubewells & Pumped Canals	183	558	3.27
LMV-9: Temporary Supply	3	7	4.73
LMV-10: Deptt. Empl. & Pensioners	13	101	1.31
HV-1: Non-Industrial Bulk Load	106	224	4.72
HV-2: Large & Heavy Power	814	1618	5.03
HV-3: Railway Traction	86	193	4.46
HV-4: Lift Irrigation Works	56	115	4.85
Sub Total	3453	10408	3.32
Bulk & Extra State	1062	3,131	3.39
AGRA DisCom	4516	13540	3.34

4 ARR for Wheeling & Retail Supply Business:

Hon'ble Commission has issued Distribution Tariff Regulations 2006 which require that Distribution licensee shall file Aggregate Revenue Requirement (ARR)/Tariff Petition complete in all respect along with requisite fees as prescribed by the Commission. The ARR petition shall contain detail of estimated expenditure and expected revenue that it may recover in the ensuing financial year at the prevailing rate of Tariff. Further ARR /Tariff filing by the Distribution licensee shall separately indicate Aggregate Revenue Requirement (ARR) for wheeling & Retail supply function embedded in the distribution function. Till such time complete segregation of accounts between Wheeling and Retail Supply Business takes place, ARR proposals for Wheeling and Retail Supply Business shall be prepared based on an allocation statement to the best judgment of the distribution licensee. The Hon, ble Commission in Tariff Regulation has broadly classified cost incurred by the licensee as controllable & un controllable costs. Uncontrollable cost include fuel cost, increase in interest rate, increase of cost due to inflation, Taxes & cess, variation of power purchase unit costs etc.

Components of Annual Expenditure:

Distribution Tariff regulation state that annual expenditure of distribution licensee comprises the following components:

- a) Power Purchase Cost
- b) Transmission Charge
- c) SLDC Charges
- d) Operation & Maintenance Expense
- e) Depreciation
- f) Interest & Financing Costs and Retail Supply Business
- g) Bad and Doubtful Debts
- h) Return on Equity
- i) Taxes on Income
- j) Other expense
- k) Contribution to Contingency Reserve

In this petition the Petitioner is filing expenses for two years FY 2010-11 & FY2011-12 for approval of the Commission. In estimating the expenses the main objective of the Petitioner is to reduce or at least contain the expenses to the extent possible thereby reducing cost burden on the consumers. For the current year petitioner has endeavored to limit most of the expenses within the budget approved by Hon'ble commission in its last Tariff Order with some exception which were totally beyond the control of the petitioner.

In the ensuing years the petitioner has taken up the challenge to control most of the operating expenses with in the current year level with moderate hike to only overcome the rising inflation. The petitioner is making all out effort to improve quality of supply and customer service level for this purpose. Petitioner has made elaborate plan for man power planning and investment plan. In spite of petitioner's effort to control expenses the total Revenue Requirement has risen mainly due to uncontrollable factor such as power purchase cost and interest & financing cost. The petitioner would like to highlight that all the revenue realized is spent for power purchase payment; therefore to carry out the business, petitioner has to depend on subsidy from GoUP and funding from financial institutions, this is due to the fact that there is vast difference in revenue calculation of Hon'ble commission and the petitioner at existing consumer tariff Rate.

The detailed analysis & estimate of above elements of ARR for FY 2010-11 & FY2011-12 have been presented in the subsequent sections with explanation. The cost elements of ARR have been estimated based on the provisional un-audited account of FY2009-10 & expenses available till date. The Cost expense has been provided in this section comprises both on a consolidated basis for all DisComs as well as for AGRA DisCom. The consolidated ARR forecast is necessary because the uniform statewide retail tariff structure currently in place requires an aggregate approach.

The Tariff regulation suggest for formulation of an escalation index linked with appropriate indices/rate like consumer price Index (CPI) and whole sale price index (WPI) as notified by central government for different years. As per the Tariff Regulation for determination of Operation & Maintenance expenses(which comprises employee cost ,A&G expenses and R&M expenses) for year under consideration ,the O&M expenses of the base year shall be escalated at inflation rates notified by the central Government for different years. The inflation rate for above

purpose shall be the weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60:40. Therefore it is imperative to first calculate an Escalation index based on guide lines provided in the regulation .Accordingly petitioner has calculated an escalation index in the following section.

4.1 Escalation Index/Inflation Rate:

Regulation issued by Hon'ble commission provides that expenses of the base year shall be escalated at inflation/Escalation 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 petitioner has used this methodology in arriving at Escalation Index/ Inflation Rate of 9.68 %. This escalation/Inflation index has been used in estimation of various components of ARR. Calculation of Escalation/ Inflation Index is given in following table:

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

Table 4-1: Escalation Index

Inflation index for FY2010-11 & FY2011-12						
Month	Wholesale Price Index			Consumer Price Index		
	2008	2009	2010	2008	2009	2010
Jan	218	229	251	134	148	172
Feb	220	228	251	135	148	170
Mar	226	228	253	137	148	170
Apr	229	232	258	138	150	170
May	231	234	260	139	151	172
Jun	237	235	261	140	153	174
Jul	240	239	263	143	160	178
Aug	241	241	264	145	162	178
Sep	242	243		146	163	179
Oct	239	243		148	165	
Nov	234	247		148	168	
Dec	230	248		147	169	
Inflation			9.55%			9.88%
Weighted Average (WPI 60%:CPI 40%)						9.68%

WPI-<http://eaindustry.nic.in>

CPI-<http://labourbureau.nic.in/intab.html>

4.2 Power Purchase Costs:

The Distribution Tariff Regulation provides that The Distribution Licensee shall have the flexibility of procuring power from any source in the country. However, the Distribution Licensee shall procure power on least cost basis and as per merit order principle. A two-part tariff structure shall be adopted for all long term contracts to facilitate merit order dispatch. The cost of energy available from State Generating Stations shall be assessed as per tariffs approved by the Commission and that of energy from Central Sector Station shall be taken as per tariffs approved by Central Electricity Regulatory Commission. The cost of energy from other sources shall be assessed as per the power purchase/banking/trading agreements and tariffs approved by the Commission. The cost of power purchase from Independent Power Producers (IPPs) within the State shall be as per the tariffs determined in accordance with UPERC (Terms and Conditions of Generation Tariff) Regulations. Similarly the cost of power purchase from IPPs out side the State shall be as per the tariffs and power purchase agreement approved by the Commission. Accordingly petitioner has estimated Power Purchase cost for FY2010-11 & FY 2011-12 based on above guiding factors provided in the regulation. Some key assumptions considered in forecasting power purchase units & Cost is given below:

- Actual power purchase cost and units of FY2009-10
 - Trend observed in the previous and current year.
 - Impact of loss reduction initiatives.
 - Estimated growth in sales.
 - Share of capacity available from various Generators to the UPPCL.
1. For ensuing year the petitioner has projected aggregate DisCom T & D losses of 28.20% & 26.57% for FY 11 & FY 12 respectively, which calls significant reduction in commercial as well as technical losses. The reduction in these losses will be achieved by bringing the unauthorized use of electricity into the billing net and accurately measuring the consumption of electricity.
 2. Distribution licensees are purchasing power from UPPCL at the rate of bulk supply tariff decided by the Commission where as UPPCL procures power from various generating station i.e. central as well as state generating stations on behalf of distribution companies . UPPCL is currently taking steps to ensure

that its purchases are optimized with respect to merit order dispatch and avoid unscheduled interchange (UI), based on frequency deviations from 50 Hz. Purchases are currently being so optimized on a “short-term” day-to-day and hour-to-hour basis. The current power procurement plan is based on an exercise of merit order dispatch and probabilistic analysis conducted on a monthly basis.

4.3 Power purchases summary

Summary of energy balances and corresponding purchased power details are shown in Table 4-2 for FY 2010-11 and in Table 4-3 for FY 2011-12 respectively .A summary of year wise Power purchases from FY09 (actual) to FY12 (estimated) are computed in Table 4-4

A detailed Power Procurement Plan and “merit order” dispatch are provided in **Annexure- A.**

Table 4-2:Details of Power Procurement Cost for FY-2010-11:

Name of Power Plant	Energy Procurement (MU)	Total Cost(Rs. Crores)				Average Cost (RS/KWh)
		Fixed Cost	Other Fixed Cost	Variable Cost	Total cost	
UPRVNL						
Anpara A	4004	240.10	0.00	486.83	727	1.82
Anpara B	6333	629.87	0.00	787.42	1417	2.24
Harduaganj	796	125.88	0.00	229.81	356	4.47
Obra A	1417	161.82	0.00	269.97	432	3.05
Obra B	3766	335.12	0.00	678.53	1014	2.69
Panki	1050	116.12	0.00	288.60	405	3.85
Paricha	805	101.09	0.00	234.19	335	4.17
Paricha Ext.	2526	391.19	0.00	580.64	972	3.85
Harduaganj Ext.(2*250)	92	14.07	0.00	18.44	33	3.53
Total	20789.10	2115.25	0.00	3574.43	5690	2.74
UPJVNL						
Khara	208.00	38.90	0.00	0.00	39	1.87
Matatila	66.67	3.68	0.00	0.00	4	0.55
Obra (Hydel)	175.00	11.47	0.00	0.00	11	0.66
Rihand	416.50	21.62	0.00	0.00	22	0.52
U.G.C.Power Stations.	25.00	5.74	0.00	0.00	6	2.30
E.Y.C.Power Stations	11.00	0.00	0.00	2.62	3	2.39
Sheetla	9.53	0.00	0.00	3.43	3	3.59
Total	911.70	81.42	0.00	6.05	87	0.96
NHPC						
Chamera	452	29.44	6.65	31.36	67	1.49
Chamera-II	459	51.67	3.91	61.35	117	2.55
Chamera-III	46	0.00	0.00	13.66	14	2.97
Dhauliganga	317	23.48	1.52	28.73	54	1.69
Salal I&II	240	8.90	0.84	7.88	18	0.74
Tanakpur	104	9.41	0.11	6.22	16	1.52
Uri	534	55.02	4.12	32.59	92	1.72
Dulhasti	584	125.90	0.00	149.69	276	4.72
Sewa-II	119	28.31	1.13	21.33	51	4.28
Uri-II	13	0.00	0.00	4.46	4	3.32
Total	2869	332.13	18.29	357.27	708	2.47
NTPC						
Anta	798	32.34	1.55	191.93	226	2.83
Auriya	1675	64.65	3.08	439.78	508	3.03
Dadri Thermal	642	37.98	1.25	157.59	197	3.07
Dadri Gas	1782	76.31	5.51	503.89	586	3.29
Dadri EXT.	695	84.70	1.49	156.53	243	3.49
Rihand-I	2771	179.46	0.89	447.17	628	2.26
Rihand-II	2524	217.44	11.49	420.21	649	2.57
Singrauli	6265	188.08	22.83	872.11	1083	1.73
Tanda	3141	201.30	6.97	667.60	876	2.79
Unchahar I	1951	118.75	8.94	389.02	517	2.65
Unchahar II	1099	80.53	3.73	212.50	297	2.70
Unchahar-III	593	63.75	0.48	111.97	176	2.97
Farakka TPS	251	14.27	0.00	81.51	96	3.81
Kahalgaoon St-I	581	38.78	0.03	115.30	154	2.65
Kahalgaoon Ph-II ST-II	1127	179.09	0.00	215.93	395	3.50
Total	25896	1577.43	68.23	4983.03	6629	2.56
NPCIL						
NAPP	300	0.00	0.00	61.22	61	2.04
RAPP	223	0.00	0.00	62.07	62	2.78
RAPP#5&6	254	0.00	0.00	76.70	77	2.78
Total	777	0.00	0.00	199.99	200	2.57
IPP/JV/Bilateral/ Others						
NATHPAJHAKRI HPS	1244	141.69	15.00	175.46	332	2.67
CO-GEN	1678	0.00	0.00	579.98	580	3.46
TALA POWER	184	0.00	0.00	33.86	34	1.84
VISHNUPRAYAG	1774	217.58	0.55	194.65	413	2.33
TEHRI STAGE-I	1241	270.55	29.93	310.25	611	4.92
Rosa Power Project	3584	0.00	0.00	1143.21	1143	3.19
Bilateral	1783	0.00	0.00	697	697	3.91
Others/UI	2157	0.00	0.00	1014	1014	4.70
TOTAL	64888	4736	132.00	13269	18137	2.80
PGCIL charges	30842				617	0.20
Grand Total					18754	2.89

Table 4-3: Details of Power Procurement Cost for FY-2011-12

Name of Power Plant	Energy Procurement (MU)	Total Cost (Rs. Crs.)	Average Cost (RS/KWh)
UPRVUNL			
Anpara A	4004	762.34	1.90
Anpara B	6333	1522.84	2.40
Harduaganj	796	416.02	5.23
Obra A	1417	458.96	3.24
Obra B	3766	1254.79	3.33
Panki	1050	438.75	4.18
Paricha	805	366.07	4.55
Paricha Ext.	2526	1025.80	4.06
Paricha Ext. (2*250)	581	256.01	4.40
Harduaganj Ext.(2*250)	2923	1148.71	3.93
Total	24201	7650.29	3.16
UPJVNL			
Khara	208.00	41.24	1.98
Matatila	66.67	3.90	0.59
Obra (Hydel)	175.00	12.16	0.70
Rihand	416.50	22.91	0.55
U.G.C.Power Stations.	25.00	6.09	2.43
E.Y.C.Power Stations	11.00	2.78	2.53
Sheetla	9.53	3.63	3.81
Total	912	92.64	1.02
NHPC			
Chamera	452	71.49	1.58
Chamera-II	459	123.94	2.70
Chamera-III	46	14.48	3.15
Dhauliganga	317	56.95	1.79
Salal I&II	240	18.69	0.78
Tanakpur	104	16.70	1.61
Uri	534	97.24	1.82
Dulhasti	584	292.12	5.00
Sewa-II	131	59.32	4.54
Uri-II	210	73.79	3.52
Parbati_III	337	58.32	1.73
Total	3414	883.03	2.59
NTPC			
Anta	798	239.38	3.00
Auriya	1675	537.95	3.21
Dadri Thermal	642	208.63	3.25
Dadri Gas	1782	620.85	3.48
Dadri EXT.	695	257.27	3.70
Rihand-I	2771	665.17	2.40
Rihand-II	2524	688.09	2.73
Singrauli	6265	1148.00	1.83
Tanda	3141	928.42	2.96
Unchahar I	1951	547.71	2.81
Unchahar II	1099	314.56	2.86
Unchahar-III	593	186.78	3.15
Farakka TPS	251	101.53	4.04
Kahalgaon St-I	581	163.35	2.81
Kahalgaon Ph-II ST-II	1127	418.72	3.71
Koldam Hydro	597	170.03	2.85
Total	26493	7196.44	2.72
NPCIL			
NAPP	300	64.89	2.16
RAPP	223	65.88	2.78
RAPP#5&6	254	81.30	2.78
Total	777	212.07	2.73
IPP/JV/Bilateral/ Others			
NATHPAJHAKRI HPS	1244	352.08	2.83
CO-GEN	1700	622.70	3.66
TALA POWER	184	35.89	1.95
Koteshwar	124	32.90	2.65
Srinagar	135	35.67	2.65
Teesta St-III	263	65.70	2.50
Karcham-Wangtoo	160	52.76	3.30
VISHNUPRAYAG	1774	437.55	2.47
TEHRI STAGE-I	1241	647.38	5.22
Rosa Power Project	3584	1211.81	3.38
Anpara'C	6424	1927.20	3.00
Bilateral	1151	477.00	4.14
TOTAL	73781	21933	2.97
PGCIL charges	29876	657	0.22
Grand Total		22590	3.06

Table 4-4: Power Purchase Summary FY 09-FY 12:

Name of Power Station/Organisation	2008-09	2009-10	2010-11	2011-12
	Actual	Actual	Proposed	Proposed
Power Procurement(MU)				
UPJVNL	1058	909	912	912
UPRVUNL	19628	20158	20789	24201
NPCIL(NAPP & RAPP)	544	636	777	777
NTPC	24191	25731	25896	26493
NHPC	2471	2683	2869	3414
Nathpa Jhakri HPS	1111	1211	1244	1244
Cogeneration and Biomass	1581	1694	1678	1700
VishnuPrayag	1767	1717	1774	1774
Tehri St.-I	1237	836	1241	1241
Koteshwar				124
Tala Power	168	147	184	184
Karcham-WT				160
Srinagar				135
Teesta St-III				263
Others/PTC	1760	1540	1783	1151
UI	760	3601	2157	
Kanauria chemicals(CPP)	97	137		
Rosa Power Co. Ltd.		41	3584	3584
Anpara'C'				6424
WR	1			
Total Power Procurement (MU)	56,375	61,041	64,888	73,781
Power Procurement Cost (Rs. Crs.)				
UPJVNL	110	49	87	93
UPRVUNL	4422	4477	5690	7650
NPCIL(NAPP & RAPP)	134	164	200	212
NTPC	5119	5767	6629	7196
NHPC	489	532	708	883
Nathpa Jhakri HPS	356	321	332	352
Cogeneration and Biomass	490	636	580	623
VishnuPrayag	463	395	413	438
Tehri St.-I	627	490	611	647
Koteshwar				33
Tala Power	31	27	34	36
Karcham-WT				53
Srinagar				36
Teesta St-III				66
Others/PTC	1250	757	697	477
UI	526	1864	1014	
Kanauria chemicals(CPP)	18	44		
Rosa Power Co. Ltd.		8	1143	1212
Anpara'C'				1927
WR	1			
PGCIL Charges	524	563	617	657
Payment to UPJVNL against UPERC Order dt.10.10.08			10	10
Total Power Procurement cost (Rs. crs.)	14,560	16,094	18,764	22,601
Power Procurement Cost (Rs./kWh)				
UPJVNL	1.04	0.54	0.96	1.02
UPRVUNL	2.25	2.22	2.74	3.16
NPCIL(NAPP & RAPP)	2.46	2.58	2.57	2.73
NTPC	2.12	2.24	2.56	2.72
NHPC	1.98	1.98	2.47	2.59
Nathpa Jhakri HPS	3.20	2.65	2.67	2.83
Cogeneration and Biomass	3.10	3.75	3.46	3.66
VishnuPrayag	2.62	2.30	2.33	2.47
Tehri St.-I	5.07	5.87	4.92	5.22
Koteshwar				2.65
Tala Power	1.85	1.84	1.84	1.95
Karcham-WT				3.30
Srinagar				2.65
Teesta St-III				2.50
Others/PTC	7.10	4.92	3.91	4.15
UI	6.92	5.18	4.70	
Kanauria chemicals(CPP)		3.18		
Rosa Power Co. Ltd.		1.95	3.19	3.38
Anpara'C'				3.00
WR				
PGCIL Charges	0.18	0.18	0.20	0.22
Avg. Power Procurement Cost (Rs./kWh)	2.58	2.64	2.89	3.06

As can be seen from table above, power purchase cost is projected to be Rs.18764 Cr in FY2011& Rs 22601 in FY2011-12, which is in line with the current trended cost. Although a significant part of this increase over the past years may be attributed to the loss assumptions used, load growth and higher-than-usual price escalation in oil and coal price.

4.4 Power Procurement cost from UPPCL by DisCom:

The distribution tariff Regulation issued by Hon'ble commission state that the total power purchase cost for distribution licensee's requirement for sale to its consumers shall be estimated on the basis of merit order principle. Presently UPPCL is carrying out the function of power procurement and bulk supply to DisComs. UPPCL purchases power from various generators i.e. central, state generating station, IPPs etc and supply to various DisComs of the state at the bulk supply rate notified by the Commission as till date GOUP has not allocated PPAs to State DisComs. As a result cost of power purchase by the distribution companies from UPPCL would be calculated through bulk supply tariff (BST). The BST has been determined under the principle that all DisComs would have paid the same average price in FY2010-11 & FY2011-12. Power purchase costs by DisCom as described above, are summarized below:

Table 4-5: Power Purchase Costs AGRA DisCom

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Energy Procured(MU)	15,672	16,441	17,587
Bulk Supply Tariff (Rs/kWh)	2.86	3.07	3.24
Power Procurement Cost from UPPCL	4475	5039	5696

Table 4-6: Power Purchase Costs by CONSOLIDATED DisCom

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Energy Procured(MU)	56,365	61,217	69,788
Bulk Supply Tariff (Rs/kWh)	2.86	3.07	3.24
Power Procurement Cost from UPPCL	16094	18764	22601

4.5 Transmission & SLDC charges:

4.5.1 Interstate Transmission Charges:

The interstate transmission charges payable by the Consolidated DisCom to PGCIL has been projected to Rs 617 cr for FY 2010-11 and Rs 657 cr for FY2011-12. The PGCIL charges has been levied on energy procured from NTPC,NPCIL,NHPC,SJVNL,Tehri,TALA and others. These charges have been incorporated in Power Procurement Cost. The petitioner submits that while considering power procurement to meet the State requirement, losses external to its system, i.e. in the Northern Region PGCIL system need to be accounted for. The availability of power for the petitioner (i.e. at UPPCL system boundary) from various sources gets reduced to the extent of these losses and the petitioner has accordingly incorporated them while drawing up the energy balance and merit order dispatch for meeting the State requirement.

4.5.2 Intra State Transmission Charges:

The intra state Transmission charges for current year payable by petitioners are on the basis of actual energy received & the uniform charges are to be paid by all the four Distribution Licensees. Actual energy delivered to Distribution Licensee & corresponding Transmission charges are to be provided by the transmission Licensee. Accordingly Licensee has estimated Cost of intra state Transmission charges for ensuing year as well as for the current year in the tables given below. The Transmission licensee is also performing the function of SLDC, as such SLDC cost is embedded in the transmission charges.

Table 4-7: Transmission Charges AGRA DisCom:

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Energy Procured(MU)	15,672	16,441	17,587
Transmission Tariff (Rs/kWh)	0.13	0.15	0.15
Transmission Cost (Rs. Cr)	197	253	270

Table 4-8: Transmission Charges CONSOLIDATED DisCom

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Energy Procured(MU)	56,365	61,217	69,788
Transmission Tariff (Rs/kWh)	0.13	0.15	0.15
Transmission Cost (Rs. Cr)	710	942	1070

4.6 Operation & Maintenance Expenses

Operation & maintenance expenses comprise of Employee costs, Administrative & General Expenses and Repair & Maintenance expenses. The regulation 4.3 of the Distribution Tariff Regulation issued by the Commission stipulates:

- 1- *The O&M expenses comprise of employee cost, repairs & maintenance(R&M) cost and administrative & general (A&G) cost. The O&M expenses for the base year shall be calculated on the basis of historical/audited costs and past trend during the preceding five years. However, any abnormal variation during the preceding five years shall be excluded. For determination of the O&M expenses of the year under consideration, the O & M expenses of the base year shall be escalated at inflation rates notified by the Central Government for different years. The inflation rate for above purpose shall be the weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60:40. Base year, for these regulations means, the first year of tariff determination under these regulations*
- 2- *Where such data for the preceding five years is not available the Commission may fix O&M expenses for the base year as certain percentage of the capital cost.*
- 3- *Incremental O&M expenses for the ensuing financial year shall be 2.5% of capital addition during the current year. O&M charges for the ensuing financial year shall be sum of incremental O&M expenses so worked out and O&M charges of current year escalated on the basis of predetermined indices as indicated in regulation 4.3 (1)..”*

However in last tariff order Commission was of the opinion that a suitable norm for allowance of O&M expenses could be adopted only after undertaking

a thorough study of the O&M expenditure based on the past performances, and the cost drivers of the same, through a separate process. Till any such norm for O&M expenditure is determined, the Commission emphasised considering the individual elements of O&M expenditure based on past trends escalated by an inflation Index.

Further in addition to the O&M cost based on inflationary indices based escalation, regulation provides an additional O&M expenses @ 2.5% of the additions to GFA during the previous year. As such this portion of expenses has separately been calculated.

As stated above, in the absence O&M norms petitioner has estimated individual components of O&M expenses based on methodology described in following section.

4.6.1 O&M Expenses on Addition to Assets during the Year:

In addition to the Employee cost , A&G cost and R&M expenses described in the succeeding section, Regulation provide for incremental O&M expenses on addition to assets during the year. Regulation stipulates that *“Incremental O&M expenses for the ensuing financial year shall be 2.5% of capital addition during the current year. O&M charges for the ensuing financial year shall be sum of incremental O&M expenses so worked out and O&M charges of current year escalated on the basis of predetermined indices as indicated in regulation 4.3 (1).”*

Accordingly based on above the incremental O&M has been worked out in following table .The same are allocated across the individual elements of the O&M on the basis of contribution of each element in the gross O&M expenses excluding the incremental O &M charges & 6th Pay Commission installment arrears.

Table 4-9: Allocation of incremental O&M expenses for FY11: AGRA DisCom

Incremental O&M Expenses @2.5% of capital additions during the year FY2009-10	FY 2010-11 Agra	FY 2010-11 Consolidated
Capitalised Assets during FY2009-10	664.27	2005.91
Incremental O&M Expenses	16.61	50.15
a) Employee Costs	9.00	32.26
b) A&G Expenses	1.58	4.16
c) R&M Expenses	6.03	13.73

Table 4-10: Allocation of incremental O&M expenses for FY12: AGRA DisCom

Incremental O&M Expenses @2.5% of capital additions during the year FY2010-11	FY 2011-12 Agra	FY 2011-12 Consolidated
Capitalised Assets during FY2009-10	577.09	2862.83
Incremental O&M Expenses	14.43	71.57
a) Employee Costs	7.82	47.16
b) A&G Expenses	1.36	5.34
c) R&M Expenses	5.24	19.07

4.6.2 Employee costs:

The projection of employee costs involves a detailed examination of the various components of salary such as basic pay and dearness allowance for the various grades of employees. It would also involve an understanding of the extent of retirements as well as the manpower additions planned. Considering above Petitioner has estimated employee cost for FY2010-11 based on un-audited data of FY2009-10 and data available to date. Here it is also to mention that UPPCL vide order dated 27 Nov 2010 has allowed its employees benefit of Assured Career Progression (ACP) scheme in line with the recommendation of sixth pay commission & GoUP order in this regard. Under this scheme employees of UPPCL are allowed their first, second and third time scale in 09th, 14th & 19th years of their service respectively. Further UPPCL vide order dated 14 August 2010 has allowed applicability of third time scale since 01.01.1996 which was previously allowed on different dates between 01.01.2006 to 19.02.2009. Impact of these order has also been included in estimation of employees cost. Further as per UPPCL order for implementation of Sixth Pay commission the cost burden on account of payment of installment of arrear has also been provided. As per arrear payment schedule the first installment of three months arrear from Jan2006 to March 2006 is due in FY2010-11 and the second installment of arrear for the period April2006 to March 2007 is due in FY2011-12. So burden of arrear has also been included in the employee expenses. Detail of each elements of employees cost has been provided in this section. The employee cost for Consolidated DisCom and AGRA DisCom are computed in following table:

Table 4-11: Details of Employee Cost- AGRA DisCom:

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Salaries	118.57	137.54	150.85
2	Dearness Allowance	38.37	60.17	66.00
3	Other allowances	10.42	12.09	13.26
4	Bonus / exgratia	0.06	3.29	3.61
5	Medical Expenses Reimbursement	1.42	1.55	1.71
6	Leave Travel Assistance	0.06	0.07	0.07
7	Earned Leave Encashment	16.35	17.93	19.66
8	Compensation	1.06	1.23	1.35
9	Staff Welfare Expenses	0.14	0.15	0.17
10	Pension and gratuity	24.61	37.72	41.37
11	Other Terminal benefits	2.22	2.44	2.68
12	Expenditure on trust	-	-	-
13	Any other employee expenses	-	-	-
14	Arrear of Pay Commission/Time Scale	-	12.89	60.14
15	Additional Expenses(@2.5% of capitalised assets)	-	9.00	7.82
	Gross Employee cost	213.27	296.08	368.70
16	<i>Less: Employee Expense Capitalised</i>	82.13	42.48	46.28
	Net charged to Revenue	131.14	253.60	322.41

Table 4-12: Details of Employee Cost: Consolidated DisCom

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Salaries	594.42	689.53	756.29
2	Dearness Allowance	264.92	301.67	330.88
3	Other allowances	52.37	60.75	66.63
4	Bonus / exgratia	6.61	16.51	18.11
5	Medical Expenses Reimbursement	9.36	10.27	11.27
6	Leave Travel Assistance	0.06	0.07	0.08
7	Earned Leave Encashment	67.34	73.86	81.01
8	Compensation	1.69	1.96	2.15
9	Staff Welfare Expenses	1.27	1.39	1.52
10	Pension and gratuity	143.15	189.12	207.43
11	Other Terminal benefits	6.77	7.43	8.15
12	Expenditure on trust	0.16	0.18	0.20
13	Any other employee expenses	0.52	0.57	0.62
14	Arrear of Pay Commission/Time Scale	-	62.57	292.00
15	Additional Expenses(@2.5% of capitalised assets)	-	32.26	47.16
	Gross Employee cost	1,148.65	1,448.14	1,823.48
16	<i>Less: Employee Expense Capitalised</i>	238.81	207.84	229.72
	Net charged to Revenue	909.84	1,240.30	1,593.76

As mentioned above evolution of sub account of employee cost has been forecasted from base figure of FY2009-10 balance sheet and actual figure available till date. While projecting the expenses for ensuing year, petitioner has endeavored to control the employee expenses but cost has increased due to impact of implementation of time scale and arrear of pay commission which is totally beyond the control of the petitioner. Various sub account are estimated as follows:

- **Basic salary:** The petitioner would like to submit that the projected growth in basic salaries in FY2010-11 mainly due to time bound increment, annual increase in pay & implementation of third time scale retrospectively. The combined impact of third time scale, annual increment and time bound increment has been estimated 16% over the basic salary of FY2009-10. Therefore petitioner has estimated basic salaries for FY2010-11 to increase by 16% from FY2009-10 value and for FY2011-12 has been estimated to increase by inflation as provided in the regulation
- **Dearness Allowance (DA):** In the Pay Scales effective from January 2006 the instalment of Dearness Allowance are due on each 1st January & 1st July of each calendar year. The dearness allowance is incremented every sixth month based on the bench mark set by the central government. For FY2010-11 petitioner has estimated dearness allowance to be 44 % (35% for 3 month, 45% for 6month & 50% for next three month). For FY 2011-12 it has been linked to inflation.
- **Other allowance:** Other allowance for FY2010-11 has been forecast in the ratio as actually incurred in FY2009-10 of basic salary & for FY2011-12 it has been escalated by inflation index.
- **Arrear of 6th Pay Commission:** First instalment of arrear of 6th Pay Commission for the period Jan 2006 to March 2006 is due in FY2010-11 and same has been paid .The impact of this arrear is estimated to be Rs 12.89 Crs .The second instalment for the period April 2006 to March 2007 is due for payment in FY2011-12 and impact of the same has been estimated to be Rs 60.14 Cr.
- Likewise, Medical Reimbursement, LTA, Earn leave encashment, staff welfare expenses and other terminal benefit have been forecast to increase by inflation index per year from FY2009-10.
- **Pension and Gratuity:** Pension and Gratuity have been calculated at 16.7% and 2.38% (i.e., 19.08%) of Basic Salary and Dearness Allowance.
- As mentioned in clause: an additional incremental expenses of 2.5% of GFA addition during the previous year has also been added
- Employee Expenses Capitalized has been calculated as 15% of total Employee Costs, which is in line with the policy adopted by the commission in its last tariff order.

4.6.3 Administration and General (A&G) Expenses:

- These expenses are incurred by the petitioner for meeting day-to-day expenses related to the administration of its offices, insurance, communication, professional charges, audit fees, advertisement expenses, freight etc. All these expenses are directly affected by inflation. Therefore A&G expenses have been projected considering the impact of inflation and need for addition of more substation and offices. Forecast A&G expenses for AGRA DisCom and for Consolidated DisCom are summarized below in Tables 4-13 and 4-14 respectively, beginning with the figures from the un-audited statements of FY2009-10.
- As a reflection of the continuing commitment of the Petitioner to keep costs under control, almost all A&G Expenses have been escalated by inflation index per year across the board to offset the effect of inflation.
- In addition to above, regulatory expenses as application fees plus 0.05% of revenue as license fees has been added in A&G expenses in FY2010-11& FY2011-12 which is Rs 2.11 Cr & 2.36Cr respectively for AGRA DisCom and Rs 8.40 Cr & 10.14 Cr for Consolidated DisCom.
- Billing & collection expenses also include expenses related to information technology. Billing & collection expenses relate to expenses incurred due to outsourcing of billing work, use of hand held machines and GIS mapping of consumers. Further petitioner is planning to use various information technology (IT) initiatives such as implementation of software solution, networking (Both local area network & wide area network), retail billing solution, Energy billing System, web based payment solution, Energy accounting system etc to drive operational efficiency improvement. Therefore an additional amount of Rs 2.25 cr has been added under this head each in FY2010-11 and FY2011-12 for AGRA DisCom.
- Capitalized A&G expenses are assumed to be 15 % of A&G cost This is consistent with the approach adopted by the Commission in its current Tariff Order.
- The petitioner has taken several steps for enhancing customer care, system augmentation and computerization for better process management. It has also taken steps to increase communication network with the field units/ persons so as to reduce the down time for restoration of supply and better data management.

- The petitioner is also planning to provide its consumer, the facility for payment of their electricity bills on line through credit cards. This will facilitate the consumer to pay their bills at their convenience .This payment option would be in addition to existing payment option.
- As mentioned in clause:4.6.1 an additional incremental expenses of 2.5% of GFA addition during the previous year has also been added

Table 4-13: A &G Expenses: AGRA DisComs

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Rent, Rates & Taxes	0.34	0.37	0.41
2	Insurance	0.22	0.24	0.27
3	Telephone, Postage & Telegrams, Telex charges	2.92	3.21	3.52
4	Legal charges	1.42	1.56	1.71
5	Audit fees	0.05	0.05	0.06
6	Consultancy charges	0.01	0.01	0.01
7	Technical fees and professional charges	-	-	-
8	Conveyance and traveling	1.48	1.63	1.78
9	Regulatory expenses	-	2.11	2.36
10	Electricity Charges	12.16	13.34	14.63
11	Other expenses	21.16	23.21	25.46
12	Billings and Collection Expenses	-	2.25	2.25
13	Additional Expenses(@2.5% of capitalised assets)	-	1.58	1.36
	Total Charges	39.76	49.55	53.81
14	<i>Less: Expense Capitalised</i>	11.49	7.43	8.07
	Net charged to Revenue	28.28	42.11	45.74

Table 4-14: A&G Expenses: Consolidated DisComs:

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Rent, Rates & Taxes	1.46	1.60	1.76
2	Insurance	0.99	1.09	1.19
3	Telephone, Postage & Telegrams, Telex charges	9.38	10.29	11.29
4	Legal charges	3.84	4.22	4.62
5	Audit fees	0.55	0.60	0.66
6	Consultancy charges	0.43	0.47	0.52
7	Technical fees and professional charges	1.19	1.31	1.44
8	Conveyance and traveling	10.98	12.05	13.21
9	Regulatory expenses	-	8.40	10.14
10	Electricity Charges	39.79	43.65	47.87
11	Other expenses	81.80	89.71	98.40
12	Billings and Collection Expenses	-	9.00	9.00
13	Additional Expenses(@2.5% of capitalised assets)	-	4.16	5.34
	Total Charges	150.43	186.55	205.45
14	<i>Less: Expense Capitalised</i>	31.53	27.98	30.82
	Net charged to Revenue	118.90	158.57	174.63

4.6.4 Gross Fixed Assets (GFA) Balances and Capital Formation Assumptions:

The assumptions used for projecting GFA and CWIP are as follows:

- The opening GFA and CWIP for AGRA DisCom for FY 2010-11 have been taken as per the closing figures provisional annual accounts of FY 2009-10.
- 40% the opening CWIP and 40% of investment made during the year, expenses capitalized & interest capitalized (40% of total investment) has been assumed to get capitalized during the year.
- Investment through “deposit work “has not been taken for capital formation as per policy adopted by commission in its last tariff Order. Thus investments in capital formation shown in Table 4-17 don't include work funded through deposit work.

Table 4-15 & 4-16 shows Licensee's investment plan for FY2010-11 and FY2011-12 along with the proposed funding of each component of the investment plan. The detail of activities carried out in each scheme has already been explained in section 2.5.6

- Under the RGGVY programme petitioner has proposed investment funded through equity from GoUP. In the last Tariff Order Commission has assumed only 10% as equity and rest amount treated as grant as envisaged in central government scheme for RGGVY where as GoUP provided entire amount as equity. It is further submitted that under this scheme GoUP provide entire fund required for RGGVY programme in the form of equity as such it is submitted before the Commission that entire fund under RGGVY be treated as equity fund for investment.

Table 4-15: Investment Plan: AGRA DisCom :FY 2010-11

DISTRIBUTION INVESTMENT PLAN	AGRA DISCOM FY2010-11				
	Equity	Loan	Grant	Deposit	Total
ABC	43.22	43.97			87.19
Construction of new 33/11 Kv S/S	79.31	80.69			160.00
Capacity Enhancement of 33/11 Kv S/S	18.08	18.39			36.47
Construction of 33 Kv Line	0.51	0.52			1.03
Bifurcation of 33 Kv Lines	1.99	2.03			4.02
Construction of 11 Kv Line	17.88	18.20			36.08
Replacement of 11Kv cables	4.46	4.54			9.00
Construction/Replacement of LT Cables	8.08	8.22			16.30
Capacity Enhancement of Distribution Transformers	8.92	9.08			18.00
Replacement of Old Conductors	13.17	13.39			26.56
Replacement of Damaged Poles	4.16	4.24			8.40
Construction of 11/0.4 Kv S/s	15.61	15.89			31.50
Bifurcation of Industrial feeders	2.97	3.03			6.00
Replacement of 11 Kv Switchgear	6.79	6.91			13.70
Earthing of 11/.4 Kv Transformers	2.54	2.58			5.12
Sub-total	227.70	231.67			459.37
PTW	47.60	0.00			47.60
Vyapar Vikas Nidhi	37.56	0.00			37.56
RGGY	38.31	0.00			38.31
Dr Ambedkar Gram Sabha	15.32	0.00			15.32
R-APDRP Part A		14.05			14.05
R-APDRP Part B		94.55			94.55
Deposit Works				74.90	74.90
GRAND TOTAL	366.49	340.28	0.00	74.90	781.66

Table 4-16: Investment Plan: AGRA DisCom: FY 2011-12

DISTRIBUTION INVESTMENT PLAN	AGRA DISCOM FY2011-12				
	Equity	Loan	Grant	Deposit	Total
Arial Bunched Conductor	37.50	87.50			125.00
Construction of new 33/11 Kv S/S	36.00	84.00			120.00
Capacity Enhancement of 33 Kv S/S	14.91	34.78			49.69
Construction of 33 Kv Line	11.16	26.04			37.20
Bifurcation of 33 Kv Lines	3.12	7.28			10.40
Construction of 11 Kv Line	9.00	21.00			30.00
Construction of 11/0.4 Kv S/s	9.68	22.58			32.25
Replacement of 11Kv cables/underground cables	3.17	7.39			10.56
Construction/Replacement of LT Cable	9.00	21.00			30.00
Capacity Enhancement of Distribution Transformers	3.38	7.88			11.25
Replacement of Old Conductors	3.95	9.21			13.15
Replacement of Damaged Poles	2.78	6.50			9.28
Bifurcation of Industrial feeders	10.80	25.20			36.00
Bifurcation of rural feeders	7.50	17.50			25.00
Double Metering of Consumers	1.65	3.85			5.50
Earthing of 11/4 Kv Transformers	3.07	7.17			10.25
Installing of Meters	12.90	30.10			43.00
Replacement of 11 Kv Switchgear	2.10	4.90			7.00
Other distribution works	0.00	0.00			0.00
Sub-total	181.66	423.87			605.53
PTW	71.21	0.00			71.21
Vyapar Vikas Nidhi	37.56	0.00			37.56
RGGY	25.54	0.00			25.54
Dr Ambedkar Gram Sabha	19.15	0.00			19.15
R-APDRP Part A	0.00	79.64			79.64
R-APDRP Part B	0.00	441.26			441.26
Deposit Works	0.00	0.00		104.06	104.06
GRAND TOTAL	335.12	944.76	0.00	104.06	1383.94

Table 4-17: Capitalisation & WIP of Investment during FY11 & FY 12:

Particulars (Rs Crs)		Agra	Consolidated	Agra	Consolidated
		FY2010-11		FY2011-12	
Opening WIP	A	631	2952	866	4294
Investment	B	707	3734	1280	5712
Employee Expenses Capitalisation @15%	C	42	208	46	230
A&G Expenses Capitalisation @15%	D	7	28	8	31
Interest Capitalisation	E	55	235	75	275
Total Investments	F=A+B+C+D+E	1443	7157	2275	10542
Transferred to GFA (Total Capitalisation)	G=40%*F	577	2863	910	4217
Closing WIP	H=F-G	866	4294	1365	6325

- Notes:**
- (1) Opening Balances as per provisional figures of FY2009-10.
 - (2) Capitalized expenses are from Table 4-11 to 4-14
 - (3) Transfer from WIP to GFA=40% of beginning WIP+40% of total investment, capitalized Interest, Capitalized employee cost, capitalized A&G expenses
 - (4) Depreciation expense = 6.82 % of average GFA.

Table 4-18: Gross Fixed Assets for FY2010-11 & FY2011-12:

Particulars (Rs Crs)		Agra	Consolidated	Agra	Consolidated
		FY2010-11		FY2011-12	
Opening GFA	A	2879	11775	3456	14638
Addition to GFA during the year	B	577	2863	910	4217
Closing GFA	C=A+B	3456	14638	4366	18854

- Notes:** (1) Opening Balances as per provisional figures of FY2009-10.
(2) Addition to GFA is taken from above table.

4.6.5 Repair and Maintenance (R&M) Expenses

The Hon'ble commission in the last Tariff Order has approved R&M expenditure of Rs 109.50 crs for FY2009-10 as against projection of Rs 120.49 cr. As per unaudited balance sheet the actual expenditure incurred by the licensee under R&M expenditure for FY2009-10 is Rs 167.40 Cr. Further for FY2010-11 & FY2011-12 licensee has projected slight increase from FY2009-10. This increase is mainly attributed to substantial increase in raw material and fuel cost. This has substantially increased the cost burden to the petitioner. Moreover, the petitioner has added a number of transformers, cables, grid substation, etc for which there has been an increase in the amount of annual maintenance contracts, this has translated to a higher R&M expenses in the ensuing year for the petitioner. Further petitioner has initiated proactive preventive maintenance and capital expenditure to improve the quality of supply in its distribution area and reduction in number of overloaded transformer etc. The Forecast R&M expenses for the consolidated DisComs and for AGRA DisCom are summarized below in Tables 4-19 and 4-20 respectively, beginning with the provisional figures of FY2009-10.

- In the last ARR petition of FY2009-10 petitioner had estimated R&M Expenses as 4.5% of the opening GFA balances but Commission in its Tariff Order disapprove higher R&M expenses and only approved R&M expenses linked with inflation Index.
- In this ARR petitioner has assumed same methodology as approved in last tariff order rather than linking R&M expenses with GFA .Therefore R&M expenses has been projected from expenses of FY2009-10 and has been increased with Escalation index to offset impact of inflation. As mentioned in clause: 4.6.1 an additional incremental expense of 2.5% of GFA addition during the previous year has also been added.

- Unfortunately due to tight financial position and heavy cash losses, system improvement and preventive maintenance are not achieved to the expected level due to frequent breakdowns and supply interruptions. Petitioner always spent money, which are urgently required for restoration of supply and must do activities. In addition to these planned activities there will be some unforeseen R&M expenses, which are inevitable. It can be seen in Table 4-19 and Table 4-20 that most R&M spending will be in the Plant & Machinery and Lines & Cable Network.

Table 4-19: R&M Expenses: AGRA DisCom

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Plant & Machinery	72.96	80.02	87.77
2	Building	0.43	0.47	0.52
3	Civil works	-	-	-
4	Lines, Cable Network, etc	89.13	97.75	107.22
5	Vehicles	4.83	5.30	5.81
6	Furniture & Fixtures	0.02	0.02	0.02
7	Office equipment	0.04	0.04	0.05
8	Additional Expenses(@2.5% of capitalised assets)	-	6.03	5.24
	Total Charges	167.40	189.64	206.62

Table 4-20: R&M Expense: CONSOLIDATED DisCom

S.No.	Item (Rs Crs)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Plant & Machinery	200.27	219.66	240.93
2	Building	9.01	9.88	10.84
3	Civil works	0.07	0.07	0.08
4	Lines, Cable Network, etc	308.16	337.99	370.72
5	Vehicles	6.84	7.50	8.23
6	Furniture & Fixtures	0.03	0.04	0.04
7	Office equipment	0.20	0.22	0.24
8	Additional Expenses(@2.5% of capitalised assets)	-	13.73	19.07
	Total Charges	524.58	589.10	650.15

4.7 Depreciation expense:

Commission in its Distribution Tariff regulation has specified methodology for computing depreciation. Commission allowed depreciation in its last tariff order on the basis of assessed weighted average depreciation rate and methodology specified in the regulation. In the last Tariff Order Commission approved depreciation on the basis of weighted average depreciation rate of 7.84%.

In Provisional balance sheet of petitioner has charged depreciation Rs 171.00 Crs & Rs195.93 Crs for FY2008-09 & FY2009-10 respectively which is 6.84 % and 6.81 %

of GFA of respective years. The actual rate of depreciation is much lower than the rate approved in last Tariff order as such for projecting depreciation expenses for FY2010-11 & FY2011-12, petitioner has used average depreciation rate of 6.82 % (average of 6.84% & 6.81%).

- Average depreciation rate of 6.82% has been used.
- The depreciation has been charged for the entire year on the opening GFA and pro-rata basis for the assets capitalized during the year.
- Opening GFA for FY2010-11 has been taken from provisional balance sheet of FY2009-10. Opening GFA for FY2011-12 and addition to fixed assets has already been dealt in previous section. Hence based on the same and using above specified average depreciation rate of 6.82% ,the petitioner has calculated depreciation for FY2010-11 & FY 2011-12 in following table:

Table 4-21: Depreciation Expense: AGRA DisCom

Particular (Rs Crs)		Agra	Consolidated	Agra	Consolidated
		FY2010-11		FY2011-12	
Depreciation Rate	A	6.82%		6.82%	
Opening GFA	B	2879.12	11774.91	3456.21	14637.74
Addition to GFA during the year	C	577.09	2862.83	910.11	4216.63
Depreciation on opening GFA + addition during the year	D= (A*B)+(C*A/2)	216.15	585.00	266.89	739.04

4.8 Provision for Bad and Doubtful debts:

Provisions have been made for bad and doubtful debts at 2% of revenue receivables in line with the section 4.4 of UPERC (Terms and Conditions for Determination of Distribution Tariff) Regulations-2006 issued on 6th October 2006. Accordingly the Bad and Doubtful debts have been estimated as 2% of the revenue receivable. In the last Tariff Order Commission disallowed this component due to absence of any clear-cut policy. It is further submitted that provision for bad & doubtful debts are accepted accounting principle even in sector like Banking the provisioning of uncollectable dues are considered as a normal commercial practice.

Despite the Commission's views on this component of ARR, It is humbly submitted to the Hon'ble Commission that annual provisioning towards bad and doubtful debts is an accepted method of accounting and also recognized by other State Electricity Regulatory Commissions. The amount, if any, written off towards bad debts is only

adjusted against the accumulated provisions in the books, irrespective of the actual amount of bad debts during any particular year. Therefore petitioner maintains that this is a legitimate ARR component. As such petitioner has made provisions for bad debts for FY2010-11 & FY2011-12 in line with the provision provided in the Regulation. The forecast Provision for Bad and Doubtful debts for the Consolidated DisComs and AGRA DisCom are summarized below in Tables 4-22 and 4-23 respectively.

Table 4-22: Provision for Bad and Doubtful debts: AGRA DisCom.

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Revenue Receivable	3,337	3,659	3,885
Percentage of debt Allowed	1%	2%	2%
Provision of Bad debts	32	73	78

Table 4-23: Provision for Bad and Doubtful debts: CONSOLIDATED DisCom

Particulars (Rs Cr.)	FY2009-10	FY2010-11	FY2011-12
Revenue Receivable	9,519	10,440	11,052
Percentage of debt Allowed	1%	2%	2%
Provision of Bad debts	90	209	221

4.9 Interest and Financing Costs:

The interest and finance cost for FY 2010-11 & FY2011-12 are based on current schedule of long-term debt repayment and new debt requirements for capital investment plan & working capital requirement.

The forecast Provision for Interest and Financing Costs of AGRA DisCom are summarized as under beginning with the FY2009-10 provisional figures.

- Interest & financing cost include interest on working capital requirement. Here petitioner would like to submit that working capital requirement of the licensee is more than what commission allowed in its last tariff order based on normative value. It is mainly due to the fact that petitioner is facing severe cash crunch as there is vast difference between revenue assessment of petitioner & commission's

projection therefore petitioner find it difficult to meet out even its power purchase obligation from its revenue assessment. Therefore it is humbly submitted before the Commission to allow working capital requirement as requested.

Table 4-24: Projected Interest & Finance Cost AGRA DisCom

S No.	Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Gross Interest & Financing Cost	145.36	605.12	615.74
2	DisCount to Consumer	0.10	0.11	0.11
3	Total	145.47	605.23	615.85
4	Less:Interest Capitalised	-	55.28	75.42
5	Net Interest & Finance Cost	145.47	549.94	540.44

Table 4-25: Projected Interest & Finance Cost CONSOLIDATED DisCom

S No.	Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Gross Interest & Financing Cost	1,077.29	2,305.08	2,576.79
2	DisCount to Consumer	0.17	0.18	0.18
3	Total	1,077.46	2,305.26	2,576.98
4	Less:Interest Capitalised	46.76	235.15	275.27
5	Net Interest & Finance Cost	1,030.70	2,070.11	2,301.70

4.9.1 Interest on Consumer security deposit:

Section 47(4) of electricity Act 2003 states that “the distribution licensee shall pay interest equivalent to the bank rate or more, as may be specified by the concerned State Commission, on the security referred to in sub- section (1) and refund such security on the request of the person who gave such security”.

The Hon’ble commission in last Tariff order allowed interest to consumer on security deposit on opening balance of security deposit at the beginning of the year at prevailing bank rate of 6% as notified by RBI. In this petition interest on security deposit has been computed on same manner. Computation of the same given below:

Table 4-26: Consumer security Deposit AGRA DisCom

S No.	Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Opening Balance of Security Deposit	185.73	217.36	256.44
2	Addition During the Year	31.63	39.08	27.13
3	Closing Balance of security Deposit	217.36	256.44	283.57
4	Rate of Interest		6%	6%
5	Interest Payable on Security Deposit	12.37	15.39	17.01

Table 4-27: Consumer security Deposit CONSOLIDATED DisCom

S No.	Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Projected)	FY 2011-12 (Projected)
1	Opening Balance of Security Deposit	1,147.62	1,247.73	1,438.43
2	Addition During the Year	100.10	190.70	161.51
3	Closing Balance of security Deposit	1,247.73	1,438.43	1,599.94
4	Rate of Interest		6%	6%
5	Interest Payable on Security Deposit	42.40	86.31	96.00

4.10 Other Income:

Other income includes non tariff income such as interest on loans and advances to employee, income from fixed rate investment deposits, interest on loans and advances to licensees and other miscellaneous income from retail sources and revenue support from the GoUP, excluding DPS. Summary of other income is given below beginning with figure from balance sheet of FY2009-10. The amount for FY2010-11& FY2011-12 has been forecast to grow at the rate of inflation index from base data of FY2009-10. The GoUP is likely to provide subsidy to partially cover the revenue shortfalls arising from below CoS tariffs for the Rural Domestic and PTW categories. A portion of these amounts allocated to AGRA DisCom, based on number of PTW and Rural Domestic consumers.

Table 4-28: Other Income: AGRA DisCom

Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Estimated)	FY 2011-12 (Projected)
Other income from Retail Sources	21	23	25
Non Tariff Income	6	7	7
Sub Total	27	29	32
GoUP Subsidy - Rural Domestic and PTW	344	393	606
Sub Total	344	393	606
Total	370	422	638

Table 4-29: Other Income: CONSOLIDATED DisCom

Item (Rs Cr)	FY 2009-10 (Unaudited)	FY 2010-11 (Estimated)	FY 2011-12 (Projected)
Other income from Retail Sources	123	135	148
Non Tariff Income	26	28	31
Sub Total	148	163	178
GoUP Subsidy - Rural Domestic and PTW	1832	2040	3140
Sub Total	1832	2040	3140
Total	1980	2203	3318

4.11 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 the actual equity employed is less than 30%, actual debt and equity shall be considered for determination of tariff.

In the last ARR submission petitioner requested a zero return with the pretext that it will further increase the gap and put extra burdens on the consumers. Same conditions are still prevailing. Thus petitioner preferred not to ask for the same. To bridge revenue shortfall petitioner has to ask for more GoUP subsidy and have to resort to short term loan from market in addition to different measure initiated for productivity improvement. In such a condition when licensee is already burdened with high interest cost due to short term loan to bridge revenue gap, it is unjustified to further widen gap by asking return. However for academic purpose the return on

equity for both on consolidated DisCom & AGRA DisCom have been calculated as per regulation set out by the Commission in following table:

Table 4-30: Return on Equity: AGRA DisCom

Particulars (Rs Cr)	FY2009-10	FY2010-11	FY2011-12
Return on Equity			
Regulatory equity at the beginning	1,995.82	2,755.82	2,928.95
Capitalised assets during the year		577.09	910.11
Equity portion of expenditure on capitalised assets		173.13	273.03
Regulatory equity at the end	2,755.82	2,928.95	3,201.99
Return computation			
Return Regulatory equity at the beginning		440.93	468.63
Return on Equity portion of expenditure on capitalised assets		13.85	21.84
Total return on regulatory equity		454.78	490.47

Table 4-31: Return on Equity: CONSOLIDATED DisCom

Particulars (Rs Cr)	FY2009-10	FY2010-11	FY2011-12
Return on Equity			
Regulatory equity at the beginning	9,413.21	12,260.81	13,119.66
Capitalised assets during the year		2,862.83	4,216.63
Equity portion of expenditure on capitalised assets		858.85	1,264.99
Regulatory equity at the end	12,260.81	13,119.66	14,384.65
Return computation			
Return Regulatory equity at the beginning		1,961.73	2,099.15
Return on Equity portion of expenditure on capitalised assets		68.71	101.20
Total return on regulatory equity		2,030.44	2,200.35

4.12 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 petitioner. Accordingly petitioner has estimated contingency reserve for FY2010-11 & FY2011-12 in following table:

Table 4-32: Contingency Reserve: AGRA DisCom

Item (Rs Crs)	FY2009-10	FY2010-11	FY2011-12
Opening balance of GFA	2499.07	2879.12	3456.21
Contribution	0.50%	0.50%	0.50%
Contribution to contingency reserve		14.40	17.28

Table 4-33: Contingency Reserve: CONSOLIDATED DisCom

Item (Rs Crs)	FY2009-10	FY2010-11	FY2011-12
Opening balance of GFA	10878.97	11774.91	14637.74
Contribution	0.50%	0.50%	0.50%
Contribution to contingency reserve	54.39	58.87	73.19

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

4.13 Consolidated Retail & Wheeling Business ARR Summary:

Clause 2.1(2) & (3) of the Term & conditions for determination of Distribution Regulations provide that ARR/Tariff filing by the Distribution Licensee shall separately indicate Aggregate Revenue Requirement (ARR) for Wheeling function and Retail Supply function embedded in the distribution function. Till such time complete segregation of accounts between Wheeling and Retail Supply Business takes place, ARR proposals for Wheeling and Retail Supply Business shall be prepared based on an allocation statement to the best judgment of the distribution licensee.

Here it is submitted that still complete segregation of account between Wheeling and retail supply has not taken place, therefore petitioner has adopted the basis of allocation of the expenses in line with the methodology used by commission in its last Tariff Order.

Allocations of Consolidated ARR into wheeling & retail supply for FY2010-11 & FY2011-12 have been estimated into following table:

Table 4-34: Wheeling & Retail supply: ARR FY 2010-11

Particulars (Rs.Crore)	Allocation %		Allocation FY2010-11		
	Wheeling	Supply	Wheeling	Supply	Total
Power Purchase expenses(Incl PGCIL charges)	0.0%	100.0%	-	18,764.00	18,764.00
Transmission charges	0.0%	100.0%	-	942.37	942.37
Employee cost	60.0%	40.0%	868.88	579.25	1,448.14
A&G expenses	40.0%	60.0%	74.62	111.93	186.55
R&M expenses	90.0%	10.0%	530.19	58.91	589.10
Interest charges	90.0%	10.0%	2,152.41	239.16	2,391.57
Depriciation	90.0%	10.0%	526.50	58.50	585.00
Gross Expenditure			4,152.60	20,754.12	24,906.72
Expenses capitalisation					
<i>Employee cost capitalised</i>	60.0%	40.0%	124.70	83.13	207.83
<i>Interest capitalised</i>	90.0%	10.0%	211.64	23.52	235.15
<i>A&G expenses capitalised</i>	40.0%	60.0%	11.19	16.79	27.98
Net expenditure			3,805.07	20,630.68	24,435.75
Special appropriation					
<i>Provision for Bad& doubtful debts</i>	0.0%	100.0%	-	208.79	208.79
<i>Provision for contengency reserve</i>	0.0%	100.0%	-	-	-
<i>Prior period Adjustment</i>	0.0%	100.0%	-	-	-
Total net expenditure with provision					-
add: Reasonable Return/Return on Equity	90.0%	10.0%	-	-	-
Less: Non Tariff Income	0.0%	100.0%	-	(162.69)	(162.69)
Annual Revenue Requirement(ARR)			3,805	20,677	24,482

Table 4-35: Wheeling & Retail supply ARR: FY 2011-12:

Particulars (Rs.Crore)	Allocation %		Allocation FY2011-12		
	Wheeling	Supply	Wheeling	Supply	Total
Power Purchase expenses(Incl PGCIL charges)	0.0%	100.0%	-	22,601.00	22,601.00
Transmission charges	0.0%	100.0%	-	1,069.77	1,069.77
Employee cost	60.0%	40.0%	1,094.09	729.39	1,823.48
A&G expenses	40.0%	60.0%	82.18	123.27	205.45
R&M expenses	90.0%	10.0%	585.13	65.01	650.15
Interest charges	90.0%	10.0%	2,405.68	267.30	2,672.97
Depriciation	90.0%	10.0%	665.13	73.90	739.04
Gross Expenditure			4,832.21	24,929.64	29,761.85
Expenses capitalisation					
<i>Employee cost capitalised</i>	60.0%	40.0%	137.83	91.89	229.72
<i>Interest capitalised</i>	90.0%	10.0%	247.74	27.53	275.27
<i>A&G expenses capitalised</i>	40.0%	60.0%	12.33	18.49	30.82
Net expenditure			4,434.30	24,791.74	29,226.04
Special appropriation					
<i>Provision for Bad& doubtful debts</i>	0.0%	100.0%	-	221.05	221.05
<i>Provision for contengency reserve</i>	0.0%	100.0%	-	-	-
<i>Prior period Adjustment</i>	0.0%	100.0%	-	-	-
Total net expenditure with provision					
add: Reasonable Return/Return on Equity	90.0%	10.0%	-	-	-
Less: Non Tariff Income	0.0%	100.0%	-	(178.44)	(178.44)
Annual Revenue Requirement(ARR)			4,434	24,834	29,269

The Consolidated Retail & Wheeling Business of ARR along with revenue gap for FY2010-11 & FY2011-12 at current tariff are summarized below in Table 4-36 & Table 4-37 for both AGRA DisCom and Consolidated DisCom

Table 4-36: Annual Revenue Requirement: AGRA DisCom:

Details (Rs.Crore)	FY 2009-10 Unaudited	FY 2010-11 Estimated	FY 2011-12 Projected
Power Procurement Cost from UPPCL	4475	5039	5696
Transmission Charges	197	253	270
Employee Costs (net of capitalization)	131	254	322
A&G Costs	28	42	46
Repair & Maintenance Expense	167	190	207
Interest & Finance Charges	158	565	557
Provision for Bad and Doubtful Debts	32	73	78
Depreciation	196	216	267
Contingency Reserve	0	0	0
Return on Equity	0	0	0
Total Expenses	5385	6632	7442
Less Other Income	27	29	32
Less GoUP Subsidy	344	393	606
Total Annual Revenue	5015	6211	6804
Revenue from Existing Tariffs	3214	4017	4516
Remaining Gap	1800	2194	2288

Table 4-37: Annual Revenue Requirement : CONSOLIDATED DisCom:

Details (Rs.Crore)	FY 2009-10 Unaudited	FY 2010-11 Estimated	FY 2011-12 Projected
Power Procurement Cost from UPPCL	16094	18764	22601
Transmission Charges	710	942	1070
Employee Costs (net of capitalization)	910	1240	1594
A&G Costs	119	159	175
Repair & Maintenance Expense	525	589	650
Interest & Finance Charges	1073	2156	2398
Provision for Bad and Doubtful Debts	90	209	221
Depreciation	468	585	739
Contingency Reserve	0	0	0
Return on Equity	0	0	0
Total Expenses	19988	24645	29447
Less Other Income	148	163	178
Less GoUP Subsidy	1832	2040	3140
Total Annual Revenue Requirement	18008	22442	26129
Revenue from Existing Tariffs	12275	16002	19481
Remaining Gap	5733	6439	6648

5 Bulk Supply Tariff:

Based on the approach adopted by commission in last tariff order, petitioner has computed Bulk supply tariff applicable to all DisComs including KesCo based on only Power Purchase cost and sale to DisComs as under for FY2010-11 & FY2011-12.

5.1 Derivation of Bulk Supply Tariff:

The Bulk supply Tariff has been derived in Table 5-1 and shall be applicable to All DisComs, for power acquisition from UPPCL which is a bulk purchaser.

Table 5-1: Bulk Supply Tariff:

Details (Rs.Crore)	FY2009-10	FY2010-11	FY2011-12
Power Purchase Expenses	16094	18764	22601
Sales to DisComs (MU)	56365	61217	69788
Bulk Supply Tariff (Rs/kWh)	2.86	3.07	3.24

Tariff Design:

5.2 Wheeling charges from Open Access Consumers:-

Tariff for wheeling of electricity has been computed on the basis of costs allocated to the wheeling business as per the allocation statement and the projected electricity units to be wheeled through network in the ensuing tariff period. In addition to this, surcharge as decided by UPERC will be levied in case to case, or otherwise. This is a simple postage stamp method. Wheeling charges are summarized as under for Consolidated DisCom for FY 2010-11 in Table5-2 and for FY 2011-12 in Table 5-3. These wheeling charges will be same for all DisComs.

Table 5-2: Wheeling Tariff: CONSOLIDATED DisCom: FY 2010-11

Detail	Units	FY2010-11
Net Distribution Wheeling Function ARR	Rs Cr	3,805.07
Retail Sale by licensees	MU	46,591.29
Wheeling Charges	Rs/kWh	0.82

Table 5-3: Wheeling Tariff: CONSOLIDATED DisCom: FY 2011-12

Detail	Units	FY2011-12
Net Distribution Wheeling Function ARR	Rs Cr	4,434.30
Retail Sale by licensees	MU	54,176.17
Wheeling Charges	Rs/kWh	0.82

5.3 Retail Tariff Design:

Licensee is not proposing any hike in present tariff. In some categories only minor changes in general terms and conditions of time of day billing structure has been proposed and a new category HV-5 for “Arc/induction furnace, rolling /rerolling mills and mini steel plants” has been created by separating these consumers from HV-2.

The Rate and Charges applicable for FY 11 & FY 12 are summarized in the following Table:5-4

Table 5-4: Proposed Rate Schedule: ARR FY 2010-11 & FY 2011-12

PROPOSED ELECTRICITY TARIFF		
RATE SCHEDULE	CONSUMER CATEGORY	ARR & TARIFF FY 2010-11 & FY 2011-12
LMV-1	DOMESTIC LIGHT, FAN & POWER:	PROPOSED TARIFF
(a)		
(i)	Un-Metered:	
	Fixed Charge:	₹ 125.00 per connection/month
(ii)	Metered:	
	Fixed Charge:	₹ 15.00 per kW/month
	Energy Charge:	₹ 1.00 per kWh
(b)	Supply at single point for bulk loads:	
	Fixed Charge	₹ 40.00 per kW/month
	Energy Charge	₹ 3.20 per kWh
(c)	Other Metered Domestic Consumers:	
1.	Life Line Consumers: For consumers with contracted load of 1.00 kW and Energy consumption upto 100 kWh/Month & above 100 kWh upto 150 kWh/month	
	Fixed Charge	₹ 50.00 per kW/month
	Energy Charge	
	Upto 100 Units/month	₹ 1.90 per kWh
	Above 101 & upto 150 Units/month	₹ 2.50 per kWh
2.	Others:	
	Fixed Charge	₹ 65.00 per kW/month
	Energy Charge	
	Upto 200 kWh/Month	₹ 3.45 per kWh
	Above 200 kWh/Month	₹ 3.80 per kWh
LMV-2	NON-DOMESTIC LIGHT, FAN & POWER:	PROPOSED TARIFF
(a)	Consumers getting supply as per "Rural Schedule"	
(i)	Un-Metered	
	Fixed Charge	₹ 200.00 per connection/month
(ii)	Metered	
	Fixed Charge	₹ 50.00 per kW/month
	Energy Charge	₹ 1.90 per kWh
(b)	Private Advertising/S Post/Sign Board/Glow Signs/Flex:	
	Metered	
	Fixed Charge	Nil
	Energy Charge	₹ 10.00 per kWh
	Minimum Charge	₹ 1000.00 per kW/month
(c)	Other Metered Consumers: (For All Units Consumed)	
	Fixed Charge	₹ 115.00 per kW/month
	Energy Charge	₹ 4.95 per kWh
	Minimum Charge	₹ 345.00 per kW/month
LMV-3	PUBLIC LAMPS:	PROPOSED TARIFF
(a)	Un-Metered Supply: (Billed on total Connected Load of individual points)	
	Gram Pachayat	₹ 1200.00 per kW or part thereof/month
	Nagar Palika and Nagar Panchayat	₹ 1500.00 per kW or part thereof/month
	Nagar Nigam	₹ 1800.00 per kW or part thereof/month
(b)	Metered Supply:(All Loads)	
	Fixed Charge	
	Gram Pachayat	₹ 115.00 per kW/month
	Nagar Palika and Nagar Panchayat	₹ 120.00 per kW/month
	Nagar Nigam	₹ 125.00 per kW/month
	Energy Charge	
	Gram Pachayat	₹ 4.00 per kWh
	Nagar Palika and Nagar Panchayat	₹ 4.50 per kWh
	Nagar Nigam	₹ 4.90 per kWh

PROPOSED ELECTRICITY TARIFF		
RATE SCHEDULE	CONSUMER CATEGORY	ARR & TARIFF FY 2010-11 & FY 2011-12
LMV-4	LIGHT, FAN & POWER FOR PUBLIC & PRIVATE INSTITUTION:	PROPOSED TARIFF
(A)	For Public Institutions:	
	Fixed Charge	₹ 100.00 per kW/month
	Energy Charge	₹ 4.60 per kWh
	Minimum Charge	
(B)	For Private Institutions:	
	Fixed Charge	₹ 110.00 per kW/month
	Energy Charge	₹ 4.95 per kWh
	Minimum Charge	Nil
LMV-5	SMALL POWER FOR PRIVATE TUBE WELL/ PUMPING SETS FOR IRRIGATION PURPOSES:	PROPOSED TARIFF
(A)	Consumers getting supply as per "Rural Schedule"	
(i)	Un-Metered Supply	
	Fixed Charge	₹ 75.00 per BHP/month
	Maximum Lighting Load	120.00 Watts
(ii)	Metered Supply	
	Fixed Charge	₹ 15.00 per BHP/month
	Energy Charge	₹ 0.75 per kWh
	Minimum Charge	₹ 65.00 per BHP/month
(B)	Consumers getting supply as per "Urban Schedule(Metered Supply)"	
	Fixed Charge	₹ 30.00 per BHP/month
	Energy Charge	₹ 2.00 per kWh
	Minimum Charge	₹ 130.00 per kW/month
LMV-6	SMALL AND MEDIUM POWER:	PROPOSED TARIFF
(A)	Consumers getting supply other than "Rural Schedule"	
	Fixed Charge	₹ 115.00 per kW/month
	Energy Charge	₹ 4.95 per kWh
	Minimum Charge	₹ 500.00 per kW/month
	TIME OF DAY	TOD RATES
	0800hrs-1200 hrs	(-)5.0%
	1200hrs-1800 hrs	0
	1800 hrs-2200 hrs	(+) 10%
	2200 hrs-0800hrs	0
(B)	Consumers getting supply as per "Rural Schedule"	Consumers getting supply as per Rural Schedule shall be eligible for a Rebate of 15% on Fixed charge, Energy charge and minimum charges as indicated above
LMV-7	PUBLIC WATER WORKS	PROPOSED TARIFF
(A)	Consumers getting supply other than "Rural Schedule"	
	Fixed Charge	₹ 90.00 per kW/month
	Energy Charge	₹ 4.40 per kWh
	Minimum Charges	Nil
	TIME OF DAY	TOD RATES
	0800hrs-1200 hrs	(-)5.0%
	1200hrs-1800 hrs	0
	1800 hrs-2200 hrs	(+) 10%
	2200 hrs-0800hrs	0
(B)	Consumers getting supply as per "Rural Schedule"	Consumers getting supply as per Rural Schedule shall be eligible for a Rebate of 15% on Fixed charge and Energy charge as indicated above.
LMV-8	STW, PANCHAYTI RAJ TUBE WELL & PUMPED CANALS:	PROPOSED TARIFF
(i)	Metered	
	Fixed Charge	₹ 100.00 per BHP/month
	Energy Charge	₹ 4.40 per kWh
(ii)	Un-Metered	
	Fixed Charge	₹ 1000.00 per BHP/month

PROPOSED ELECTRICITY TARIFF			
RATE SCHEDULE	CONSUMER CATEGORY	ARR & TARIFF FY 2010-11 & FY 2011-12	
LMV-9	TEMPORARY SUPPLY:	PROPOSED TARIFF	
(A)	Un-Metered		
(i)	Fixed Charges for Illumination/Public Address/ceremonies for loads upto 20 kW/connection plus Rs.100/kW/day for each additional kW	₹ 1800.00 per day	
(ii)	Fixed charges for tem. shops set-up during festivals/melas and having load up to 2 KW	₹ 120.00 per day/shop	
(B)	Metered		
	Energy Charge		
	(i) Individual Residential Construction	₹ 4.00 per kWh	
	(ii) Others	₹ 5.75 per kWh	
	Minimum Charge:	₹ 115.00 per kW/week	
		part of week shall be treated as full week	
LMV-10	DEPT.EMPL. AND PENSIONERS:	PROPOSED TARIFF	
(A)	Un-Metered	Fixed Charge per Month	Fixed Monthly Energy Charge
	Category		
	Class IV employees/ Operating staff	₹ 65.00	₹ 75.00
	Class III employees	₹ 65.00	₹ 105.00
	J E & equivalent posts.	₹ 135.00	₹ 220.00
	A E & equivalent posts	₹ 135.00	₹ 345.00
	E E & equivalent posts	₹ 135.00	₹ 370.00
	S E /D.G.M & equivalent posts	₹ 340.00	₹ 450.00
	C E (I & II)/General Managers and above	₹ 340.00	₹ 550.00
	Add.Charge for using A.C : Rs/month per A C (April to Sept.)	₹ 450.00	
	Additional Charge for E D	Electricity duty on the above shall be levied in addition at the rates as may be notified by the State Government from time to time.	
(B)	Metered Supply	Metered consumers under this category shall be given 50 % rebate on rate of charge applicable to "other metered consumers" under LMV-1 category.	
(C)	Consumers getting supply as per "Rural Schedule"	Consumers getting supply as per Rural Schedule shall be eligible for a Rebate of 15% on all charges as indicated above.	
HV-1	NON-INDUSTRIAL BULK LOAD	PROPOSED TARIFF	
	Commercial Loads/Private Institutions/Non-Dom.Bulk Power with contracted Load 75 kW & above and getting supply at single point on 11 kV & above voltage levels:		
(a)	Demand Charges		
	For Supply at 11 kV	₹ 195.00 per kVA/month	
	For Supply at 33 kV & above	₹ 185.00 per kVA/month	
(b)	Energy Charge		
	For Supply at 11 kV	₹ 4.30 per kVAh/month	
	For Supply at 33 kV & above	₹ 4.20 per kVAh/month	
	Public Institutions with contracted load of 75 kW & above and getting supply at Single point on 11 kV & above voltage levels:		
(a)	Demand Charges		
	For Supply at 11 kV	₹ 165.00 per kVA/month	
	For Supply at 33 kV & above	₹ 155.00 per kVA/month	
(b)	Energy Charge		
	For Supply at 11 kV	₹ 4.05 per kVAh/month	
	For Supply at 33 kV & above	₹ 3.95 per kVAh/month	
	TIME OF DAY	TOD RATES	
	0800hrs-1200 hrs	(-)5.0%	
	1200hrs-2100 hrs	0	
	2100 hrs-2400 hrs	(+) 10%	
	2400 hrs-0800hrs	0	

PROPOSED ELECTRICITY TARIFF					
RATE SCHEDULE	CONSUMER CATEGORY	ARR & TARIFF FY 2010-11 & FY 2011-12			
HV-2	LARGE AND HEAVY POWER:	PROPOSED TARIFF			
(A)	Consumers on 0.40 kV Supply : On Rate of Charge	(+)15 % as per 11kV supply schedule			
	Consumers at 11 kV & above Supply : Urban Schedule				
	BASE RATE	For supply at 11 kV	For supply above 11 kV and up to & including 66 kV	For supply above 66 kV and up to & including 132 kV	For supply above 132 kV
	(I)LARGE AND HEAVY POWER:				
	Demand Charges (Rs/kVA/Month)	₹ 230.00	₹ 220.00	₹ 200.00	₹ 200.00
	Energy Charge (Rs/ kVAh)	₹ 4.60	₹ 3.85	₹ 3.75	₹ 3.75
	Minimum Charge (Rs/ kVA/Month)	-	-	-	-
	TIME OF DAY	TOD RATES			
	2200hrs-0600 hrs	(-)7.5%			
	0600 hrs-1700 hrs	0			
	1700 hrs-2200hrs	(+) 15%			
	(B) Rural Schedule:	This Schedule shall be applicable only to consumers getting supply upto 11 kV as per "Rural Schedule".The consumers under this category shall be entitled to a rebate of 15 % on 'Rate of Charge' as given for 11kV consumers under urban schedule without TOD Rate.			
	HV-3	RAILWAY TRACTION:	PROPOSED TARIFF		
	(A) RAILWAY TRACTION:				
(a) Demand Charge					
For supply at & above 132 kV	₹ 180.00	per kVA/month			
Below 132 kV	₹ 200.00	per kVA/month			
(b) Energy Charge					
For supply at & above 132 kV	₹ 3.75	per kVAh			
Below 132 kV	₹ 3.85	per kVAh			
Minimum Charge	₹ 425.00	per kVA/month			
(B) DELHI METRO RAIL					
For supply at 132 kV or below					
Energy Charge	₹ 3.80	per kVAh			
Minimum Charge	₹ 425.00	per kVA/month			
HV-4	LIFT IRRIGATION WORKS	PROPOSED TARIFF			
(a) Demand Charge					
For Supply at 11 kV	₹ 250.00	per kVA/month			
For Supply above 11 kV & up to 66 kV	₹ 240.00	per kVA/month			
For Supply above 66 kV & up to 132 kV	₹ 220.00	per kVA/month			
(b) Energy Charge					
For Supply at 11 kV	₹ 4.80	per kVAh			
For Supply above 11 kV & up to 66 kV	₹ 4.00	per kVAh			
For Supply above 66 kV & up to 132 kV	₹ 3.90	per kVAh			
(c) Minimum Charge	₹ 500.00	per kVA/month			
HV-5	ARC/INDUCTION FURNACES & ROLLING MILLS & MINI STEEL PLANTS	PROPOSED TARIFF			
(A)	Consumers on 0.40 kV Supply : On Rate of Charge	(+)15 % as per 11kV supply schedule			
	Consumers at 11 kV & above Supply : Urban Schedule				
	BASE RATE	For supply at 11 kV	For supply above 11 kV and up to & including 66 kV	For supply above 66 kV and up to & including 132 kV	For supply above 132 kV
	Demand Charges (Rs/kVA/Month)	₹ 1650	₹ 1500	₹ 1350	₹ 1350
	Energy Charge (Rs/ kVAh)	₹ 1.70	₹ 1.50	₹ 1.20	₹ 1.20
	Minimum Charge (Rs/ kVA/Month)	-	-	-	-
	TIME OF DAY	TOD RATES			
	2200hrs-0600 hrs	(-)7.5%			
	0600 hrs-1700 hrs	0			
	1700 hrs-2200hrs	(+) 15%			
	(B) Rural Schedule:	This Schedule shall be applicable only to consumers getting supply upto 11 kV as per "Rural Schedule".The consumers under this category shall be entitled to a rebate of 15 % on 'Rate of Charge' as given for 11kV consumers under urban schedule without TOD Rate.			

Table 5-5: Meeting the Gap:

Details (Rs. Cr)	Agra DisCom	Consolidated DisCom
Annual Revenue Requirement	7410	29269
Revenue from Existing Tariff	4516	19481
Revenue Gap Without Subsidy	2894	9788
Less GoUP Subsidy	606	3140
Revenue Gap to be met through Additional Subsidy from GoUP/Loan from Bank/Financial Institutions	2288	6648

Prayer:

The petitioner prays that the Commission may be pleased to:

- *Admit the accompanying Annual Revenue Requirement for FY 2010-11 & FY 2011-12*
- *Approve the Annual Revenue Requirement for financial year FY 2010-11 & FY 2011-12*
- *Approve the amendments in the terms and conditions of present Tariff structure.*
- *Allow the petitioner to add/change / alter / modify this application at a future date.*
- *Issue any other relief, order or direction which the commission may deem fit.*
- *Hon'ble Commission may condone the delay in submission of ARR FY 2010-11 & FY 2011-12..*

