Report

on

Component wise AT&C Losses Reduction study in the State of Uttar Pradesh

Volume I

Submitted by:

Medhaj Techno Concept Pvt. Ltd.

This report is prepared under the guidance of the Forum of Regulators

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Disclaimer

This report is a result of the studies carried out in four representative circles in Uttar Pradesh. Data have been collected from the energy meters installed at various points in the High Tension (HT) and Low Tension (LT) network. The analysis in this report is based on these data i.e. meter reads collected from the Feeders, Distribution Transformers (DTs) and the meters installed at the consumer premises. It is important to note that the real time data were collected at particular time and date. Besides, secondary data had been collected from various sources and after thorough analysis of such data, findings of the field studies are presented in this report. Further, some of the observations presented in the report are based on the ground reality during the field studies in the four circles.

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We also acknowledge the assistance rendered by Uttar Pradesh Electricity Regulatory Commission (UPERC) for facilitating the field studies. Thanks are also due to the four DISCOMs in Uttar Pradesh for lending support in conducting field studies in the representative four circles and providing relevant data from time to time.

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ABBREVIATION

AT&C losses	Aggregate Technical and Commercial losses
CBA	Cost Benefit Analysis
CTs	Current Transformers
DF	Distribution Franchisee
DISCOM	Distribution Company
DT	Distribution Transformer
DVVNL	Dakshinanchal Vidyut Vitran Nigam Limited
EDD	Electrical Distribution Division
EHV	Extra High Voltage
FoR	Forum of Regulators
FSP	Feeder Separation Program
GDP	Gross Domestic Production
HLP	High Level Panel
HT	High Tension
HV	High Voltage
HVDS	High Voltage Distribution System
kV	kilo Volt
kVAh	kilo Volt Ampere hour
kWh	kilo Watt Hour
LL	Lower Limit
LT	Low Tension
LV	Low Voltage
MF	Multiplying Factor
MoA	Memorandum of Association
MoP	Ministry of Power
MU	Million Unit
MVVNL	Madhyanchal Vidyut Vitran Nigam Limited
NGO	Non Government Organization
PF	Power Factor

PTs	Potential Transformers
PFC	Power Finance Corporation
PVVNL	Paschimanchal Vidyut Vitran Nigam Limited
PuVVNL	Purvanchal Vidyut Vitran Nigam Limited
R-APDRP	Restructured - Accelerated Power Development and Reform Programme
RCM	Revenue Cycle Management
RCP/MCP	Remote Controlled Panel/Motor Controlled Panel
SCADA	Supervisory Control and Data Acquisition
SERC	State Electricity Regulatory Commission
T&D Losses	Transmission and Distribution Losses
UL	Upper Limit

Executive Summary

Introduction

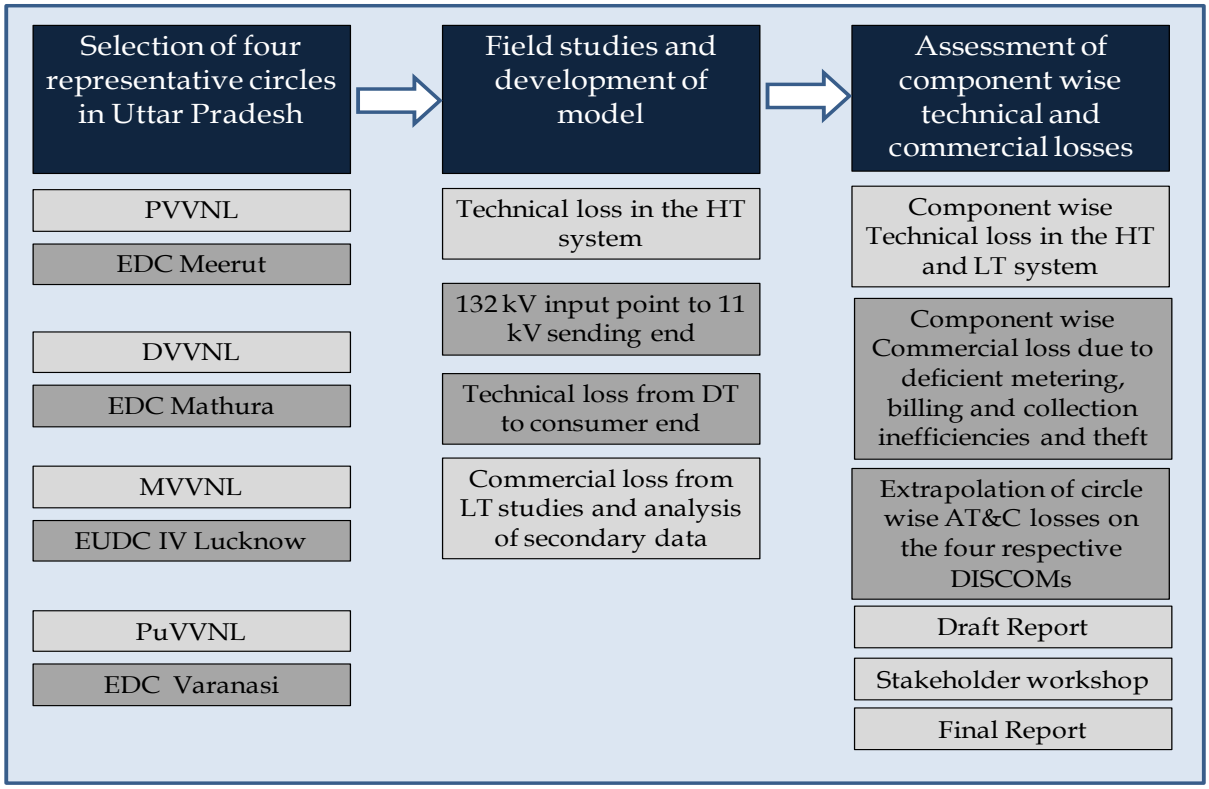
Medhaj Techno Concept Pvt. Ltd. has been entrusted the study to assess the component wise Aggregate Technical and Commercial (AT&C) losses in Uttar Pradesh. The scope of work of the study included the following:

- Identify the specific components of the AT&C losses.
- Compute the overall AT&C losses followed by calculation of component wise AT&C losses in the following manner:
    - **Technical loss:**
        - **At the EHV system (33 kV and above):** Difference of energy recorded by the energy meters at the injection points and energy sent out.
        - **At the 11 kV system of DISCOM:** Difference between the sending end energy and receiving end energy at consumer end plus energy recorded at LV side of distribution transformers (DTs) through sample meter read.
        - **Overall technical losses:** Extrapolate the results of the sample study to compute the overall technical losses in the distribution system.
    - **Commercial loss:**
        - Computation of overall commercial losses by taking into account the difference of overall AT&C losses and total technical losses of the circles.
        - Identify the various sub-components of commercial losses and estimate commercial losses for each of sub-components viz. loss on account of deficient metering, billing and collection inefficiencies and other identifiable components on the basis of sample study.
        - Assessment of energy loss due to theft by deducting the loss due to metering, billing and other identifiable component from the overall commercial loss.

Approach and methodology of the study

Approach

A step by step approach has been followed for assessment of the component wise AT&C losses in four representative circles in Uttar Pradesh is presented below:



Methodology

The "Report on Loss Reduction Strategies" by the Forum of Regulators (FoR) outlined the methodology for computation of the component wise AT&C losses. Various tasks carried out under this study are as follows:

Task 1: Collection of data

- Collection of sales mix data pertaining to all the circles in the State to select the four representative circles.
- Collection of secondary information such as the number of sub-stations and feeders, input energy, number of consumers, revenue billed and realized in the four representative circles.

Task 2: Selection of four representative circles in the State

For selection of the four representative circles, the sales mix of FY 2011-12 for all the circles in Uttar Pradesh were analyzed broadly on the following three parameters:

(i) Sales mix of the circles (in percentage), which broadly represents the sales mix (in percentage) of the DISCOM;

(ii) Sales mix (in percentage) of the circles, which broadly represents the sales mix (in percentage) of the Zone; and

(iii) Circles having substantial share of the domestic and agriculture sales in its total sales mix. The domestic and agriculture sales in Uttar Pradesh were around 60% in FY 2011-12. Therefore, it was reasonable to put higher weightage on the domestic and agriculture sales for selection of the representative circles. As the technical and commercial losses in these categories are generally higher in comparison to other consumer categories.

Based on the aforementioned selection parameters, the following four representative circles were selected for the detailed field studies:

- EDC Meerut in Paschimanchal Vidyut Vitran Nigam Limited (PVVNL);
- EDC Mathura in Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL);
- EDC Varanasi in Purvanchal Vidyut Vitran Nigam Limited (PuVVNL); and
- EUDC IV Lucknow in Madhyanchal Vidyut Vitran Nigam Limited (MVVNL).

Task 3: Field studies for assessment of the AT&C losses in the four representative circles

After finalization of the four representative circles, the field studies were carried out in three stages from June to September 2012:

- **High Tension (HT) study:** This involved collection of meter reads from the 132/33 kV and 33/11 kV sub-stations, including the consumers connected at 33 kV and 11 kV. The loss identified under this study was technical loss in the HT system.
- **Low Tension (LT) study:** This involved assessment of technical and commercial losses from the Distribution Transformers (DTs) to the consumer premises. The losses identified under this study were the component wise technical and commercial losses in the LT system.
- **Agriculture study:** The agriculture consumers are largely un-metered in the State. The study was carried out to determine the actual connected load of the agriculture consumers with the sanctioned load as per the departmental records. Based on this, the theft/pilferage of energy by the agriculture consumers was estimated.

Task 4: Assessment of component wise technical and commercial losses

The methodology and formula prescribed in the Report on "Loss Reduction Strategies" by the Forum of Regulators (FoR) formed the basis for computation of the components of AT&C losses. The methodology adopted for assessment of component wise AT&C losses is briefly described below:

Assessment of the technical loss in HT System

The technical losses in the HT system has been considered as the difference of the energy input in the 132 kV[1] system and sent out to the 11 kV feeders i.e.:

Total energy received from 132/33 kV sub-stations	= X1
Total energy sent out from 11kV feeders to the consumers	= Y1
Total energy sent out to other circles	=Y2
Total energy sent out	=YT =Y1+Y2
Energy lost in 33/11 kV System	= X1 – YT

[1] Technical loss is not computed at 33 kV level as the meters are not installed at 33 kV system

Assessment of the technical loss in the LT System

The technical loss in the LT system has been estimated on the basis of the sample studies in DTs. The formula for computing the distribution line losses in the LT system is presented below.

A1 = 1st read of the DT meter

A2= 2nd read of the DT meter

MF1 = Multiplying Factor of the DT meter

B1= 1st read of all the consumers connected with the DT

B2=2nd read of all the consumers connected with the DT

MF2= Multiplying Factor of the consumer meter

Technical loss in the LT system = (A2-A1) X MF1 – (B1-B2) X MF2

Estimation of commercial loss

For computation of the commercial loss, the overall AT&C losses have been computed first. After determination of the total technical loss in the circles, the commercial loss has been arrived as the difference between the AT&C losses and the technical loss. The sub-components of commercial loss i.e. commercial loss due to theft/pilferage, deficient metering, billing and collection inefficiencies have been determined in the following manner:

(a) Commercial loss due to deficient metering:

Actual consumption (kWh) of the consumers recorded in the field studies – Energy billed by the utility (kWh) of such consumers having defective meters as per records available with utility.

(b) Commercial loss due to billing inefficiency:

Actual consumption (kWh) of the consumers recorded in the field studies – Provisional Billing done by the utility (kWh) for such consumers as per records available with utility.

(c) Commercial loss due to provisional billing to metered consumers

Actual consumption (kWh) of the metered consumers recorded as per the field studies – Energy billed by the utility (kWh) for metered consumers billed on provisional basis.

(d) Commercial loss due to collection inefficiency:

Energy Billed (kWh) – Energy Realized (kWh)

Where, Energy Realized = Energy Billed (kWh) * Collection Efficiency (%)

(e) Commercial loss due to theft/pilferage:

It is not possible to compute the extent of theft/pilferage accurately in the distribution system by formula. Therefore, the extent of energy loss due to theft of electricity has been computed by deducting the component wise commercial loss mentioned from point no. (a) to (d) from the total commercial loss of the circle[2]. The formula for computing the energy loss from theft is given below:

Commercial loss due to theft/pilferage = Total Commercial Loss - (Commercial loss due to deficient metering + billing inefficiency + provisional billing to the metered consumers + collection inefficiency)

Based on the findings from the field studies, key factors responsible for AT&C losses are identified and separated into three categories namely "A", "B" and "C". The factors which have major contribution to the AT&C losses and needed maximum attention were classified into category "A", the factors having medium contribution to the AT&C losses were classified into category "B" and the factors having minimum contribution to the AT&C losses were classified into category C. The said classification is given as follows.

[2] The same methodology has been prescribed in the FoR Report on "Loss Reduction Strategies"

Category A:

(i) Commercial loss due to theft/pilferage of energy.

(ii) Technical loss in the LT system.

Category B

(iii) Commercial loss due to billing and collection inefficiencies.

(iv) Technical loss in the HT system.

Category C

(v) Commercial loss due to deficient metering, billing inefficiency and provisional billing to the metered consumers.

Task 5: Preparation of draft report

Based on the outcomes of the field studies in the four representative circles in Uttar Pradesh, a draft report was prepared and submitted to the FoR Secretariat for their review and comments.

Task 6: Stakeholder workshop

The draft report was presented to the Stakeholders' workshop organized at the FoR Secretariat, New Delhi on April 03, 2013 to share the background, objectives and key findings of the component wise AT&C losses study in Uttar Pradesh. The workshop was represented by the Officials from the Ministry of Power, Government of India, the FoR, PFC and the DISCOMs in Uttar Pradesh. The stakeholders' suggestions, comments and recommendations on the study report were presented during workshop were noted.

Task 7: Preparation of Final report

After incorporating the comments received in the Workshop, the final report of the study has been prepared and submitted to the FoR Secretariat.

AT&C losses in the four representative circles in Uttar Pradesh

Following Table depicts the AT&C losses in the four representative circles during the study period i.e. from June to September 2012.

Table 1: AT&C losses in the four circles (June to Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Energy input in the circle (MU) [A]	448.69	349.19	440.47	332.89
Unit billed (MU) [B]	305.30	221.96	282.40	257.23
T&D losses (%) [C] = ([A]-[B])/[A]	31.96%	36.44%	35.89%	22.73%
Revenue billed (` Crore) [D]	92.91	81.28	86.27	70.30
Revenue realized (` Crore) [E]	87.17	66.86	76.93	48.32
Collection efficiency (%) [F]=[E]/[D]	93.82%	82.26%	89.17%	68.74%
AT&C losses (%) [G] = ([A]-([B]*[F]))/[A]	36.16%	47.71%	42.83%	46.89%

Source: PVVNL, DVVNL, MVVNL, PuVVNL and Field Studies

The Table 1 shows that the AT&C losses in the representative four circles were in the range of 36.16% to 47.71%.

The Electricity Distribution Circle (EDC) Meerut has the lowest AT&C losses among the four representative circles. The T&D losses in the circle were 31.96% (2nd lowest among the four circles) and the collection efficiency of 93.82% (highest among the four circles).

The AT&C losses in EDC Mathura were highest among the four representative circles. The circle has higher T&D losses at 36.44% and lower collection efficiency of 82.26%. As a result, the AT&C losses of the circle for the period of study were computed at 47.71%.

The AT&C losses in EUDC IV Lucknow were 42.85% (third highest among the four representative circles). The circle has billed 282.40 MU of energy as against the

energy input of 440.47 MU during the study period, which resulted in T&D losses of 35.89% (second highest among the four representative circles). The circle has an average collection efficiency of 89.17%.

The AT&C losses in EDC Varanasi circle were 46.89% (second highest among the four representative circles). The T&D losses in the circle were 22.73% (lowest among the four representative circles). However, lower collection efficiency of 68.74% had increased the AT&C losses in the circle to 46.89%.

Component wise technical loss in the four representative circles in Uttar Pradesh

To measure the technical loss in the HT and LT systems, field studies were conducted from June to September 2012. The information/data collected from the field studies were analyzed as per the methodology described in the "Loss Reduction Strategies" Report of FoR. Table 2 illustrates the component wise technical loss of the four representative circles.

Table 2: Component wise technical loss of the four circles (June to Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Technical loss in the HT system (%) [A]	5.15%	5.02%	5.12%	4.98%
Technical loss in the LT system (%) [B]	10.31%	13.42%	11.60%	11.38%
Total technical loss [C]	**15.46%**	**18.44%**	**16.72%**	**16.36%**

Source: Field studies

Highlights of the technical loss computed in the four selected circles are as follows:

- The technical loss in the four representative circles was in the range of 15.46% to 18.44%.
- Lowest technical loss was observed in EDC Meerut (15.46%) and highest in EDC Mathura (18.44%).

Component wise commercial loss in the four representative circles in Uttar Pradesh

The circle wise total commercial loss as the difference between the AT&C losses and total technical loss is presented in the following Table.

Table 3: Total commercial loss (June to Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
AT&C losses (%) [A]	36.16%	47.71%	42.83%	46.89%
Technical loss (%) [B]	15.46%	18.44%	16.72%	16.36%
Commercial loss (%) [C] = [A] – [B]	**20.70%**	**29.27%**	**26.11%**	**30.52%**

Source: Field studies

As shown above:

- The commercial loss was highest in EDC Varanasi (30.52%), followed by EDC Mathura (29.27%)
- The commercial loss in EUDC IV Lucknow and EDC Meerut was 26.11% and 20.70% respectively

The components of commercial loss for the four representative circles are shown in the following table:

Table 4: Sub-component wise commercial loss (June to Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Commercial loss due to deficient metering (%) [A]	0.66%	0.33%	3.42%	0.51%
Commercial loss due to billing inefficiency (%)[B]	1.82%	0.55%	5.22%	0.34%
Commercial loss due to provisional billing to metered consumers (%)[C]	2.48%	6.10%	0.32%	0.44%
Commercial loss due to collection inefficiency (%) [D]	4.20%	11.27%	6.94%	24.16%
Commercial loss due to theft/pilferage (%) [E]	11.54%	11.01%	10.21%	5.07%
Total commercial loss (%)[F]	**20.70%**	**29.27%**	**26.11%**	**30.52%**

Source: Field studies

The component wise commercial loss analysis shows that:

- The commercial loss due to theft/pilferage of energy contributed substantial quantum of energy loss in three circles i.e. EDC Meerut, EDC Mathura and EUDC IV Lucknow. The commercial loss due to energy theft in these three circles was in the range of 10.21% to 11.54%.
- The commercial loss due to deficient metering accounted for 0.66% of the total energy loss in the EDC Meerut, 0.33% in EDC Mathura, 3.42% in EUDC IV Lucknow and 0.51% in EDC Varanasi.
- The commercial loss due to billing inefficiency was in the range of 0.34% (EDC Varanasi) to 5.22% (EUDC IV Lucknow). In the other two circles i.e. EDC Meerut and EDC Mathura, the commercial loss due to billing inefficiency was 1.82% and 0.55% respectively.
- The commercial loss due to provisional billing to the metered consumers was in the range of 0.32% (EUDC IV Lucknow) to 6.10% (EDC Mathura).

Extrapolation of AT&C losses on the DISCOMs

The commercial losses obtained from the field study results in the four representative circles have been extrapolated on the DISCOMs based on the agriculture and commercial sales mix of the DISCOMs. It was found during the field studies that the commercial loss in the industrial, commercial and other categories (railway traction, bulk supply, public lighting and water works) in the circles was around 10%. It can be inferred that around 90% of the commercial loss in the circles was mainly in the domestic and agriculture categories. Based on this consideration, 90% of the commercial loss in the circles has been allocated to the domestic and agriculture categories to extrapolate the commercial loss of each representative circle on the DISCOMs, respectively.

The commercial loss factor on account of energy billed to the domestic and agriculture consumers in the circles has been computed. The objective of computing the commercial loss factor is to work out a unique factor for each of the four circles that can be applied on the energy input of the respective DISCOMs for extrapolation.

To compute the commercial loss factor, the commercial loss with regard to the energy input in the circles has been computed and then divided by the ratio between the energy billed (MU) to the domestic and agriculture consumers and the total energy billed (MU) in the circles.

As the domestic and agriculture sales mix of the representative circles varies with respective DISCOMs, it was decided that 'range estimate' would be used to extrapolate the AT&C losses of the circles on the DISCOMs. The standard deviation between the domestic and agriculture sales mix in the representative circles and those of the DISCOMs has been computed and the same has been used to compute the percentage of lower and upper limits of the commercial loss for each DISCOM in the State of Uttar Pradesh.

In the next step, the percentage of lower and upper limits of the commercial loss has been applied on the energy input (MU) of the DISCOMs to compute the commercial loss (MU) on account of energy billed to the domestic and agriculture consumers in the four DISCOMs.

Since, it is assumed that that 90% of the commercial loss incurred due to energy billed to the domestic and agriculture consumers. An extrapolation factor has been computed to project the total commercial loss of the DISCOMs. The extrapolation factor is used to compute the lower and upper limits of the total commercial loss of the DISCOMs (MU).

After computing the total commercial loss of the DISCOMs, the percentage of the same has been computed as the ratio between the energy input (MU) and total commercial loss (MU) of the DISCOMs.

In the final step, the circle wise percentage technical loss then added on the lower and upper limits of the percentage commercial loss to arrive at the AT&C losses range of the DISCOMs. It is assumed that the technical loss component of the DISCOMs would remain at the same level as computed for the circles.

The AT&C losses range of the DISCOMs as computed above is shown in the following Table:

Table 5: AT&C losses of the DISCOMs (June to Sept. 2012)

Particulars	PVVNL		DVVNL		MVVNL		PuVVNL	
	LL	UL	LL	UL	LL	UL	LL	UL
AT&C losses	31.18%	35.31%	46.75%	49.22%	43.19%	51.37%	47.53%	58.00%

From the above it can be concluded that the AT&C losses of the DISCOMs June to September 2012 were within the range as shown in the Table 5.

Recommendations and way forward

The study proposes a set of recommendations based on the component wise AT&C losses analysis from the field studies (as shown in Table 2 to Table 4) and highlights the deficiency in the present system. The recommendations proposed in this report have been categorized in three buckets – "A", "B" and "C" in order of their importance for the DISCOMs. A loss reduction framework based on the "ABC" analysis is proposed in the following Table.

Table 6: ABC framework for the proposed interventions to reduce the AT&C losses

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
Category A		
(i) Commercial loss due to theft/ pilferage of energy *(The DISCOMs should treat this as the priority area for loss reduction as the existing losses could be reduced in the short and medium time period. To reduce these losses, minimum capital investment will be required. The DISCOMs need to strengthen its existing commercial practice.)*	*5.07% (EDC Varanasi) to 11.54% (EDC Meerut)*	Identify and regularizing the un-metered and flat rate agriculture consumers to reduce agriculture theft. Short and medium term interventions such as metering of the un-metered consumers, regular vigilance check to reduce the energy

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
		theft in unmetered connections other than agriculture. Load shedding to be implemented first in the high loss areas in case of shortage of electricity. DISCOMs may implement community metering system to create accountability on the consumers to assist the DISCOMs in detecting energy theft. Differential tariff by way of higher tariff in the high loss areas to be proposed to the regulator for approval in medium term.
(ii) Technical loss in the LT system *(The DISCOMs should also treat this as one of the priority areas for reduction of energy losses. Substantial capital investment would be required to minimize the technical loss in the LT system.)*	*10.31% (EDC Meerut) to 13.42% (EDC Mathura)*	Medium and long terms interventions to reduce the loss through implementation of the Ariel Bunched Cabling (ABC) and Advanced Metering Infrastructure (AMI).
Category B		
(iii) Commercial loss due to billing and collection inefficiencies *(The DISCOMs could strengthen its billing and collection department to reduce this energy loss in the short time period.)*	*4.20% (EDC Meerut) to 24.16%(EDC Varanasi)*	Short term measures to reduce the commercial loss due to collection inefficiency by way of linking the incentive for the staff with the increase in the billing and collection efficiency. To implement this scheme the DISCOMs should develop Key Performance Indicators (KPIs) and award scheme for the staff with an objective to reduce the commercial loss. Regular vigilance check to break the nexus between the billing

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
		department/ agency and consumers. In addition, the DISCOMs may consider installing pre-paid meters in the medium and long terms.
(iv) Technical loss in the HT system *(The DISCOMs should take initiatives to reduce the technical loss in the HT system in the medium and long term. Substantial capital investment would be required to minimize the technical loss in the HT system.)*	*4.98% (EDC Varanasi) to 5.15% (EDC Meerut)*	Segregate the agriculture load from the rural feeders and provide High Voltage Distribution System (HVDS) for the agriculture consumers to reduce the loss in the agriculture connections.
Category C		
(v) Commercial loss due to deficient metering, billing inefficiency and provisional billing to the metered consumers *(The DISCOMs could strengthen its billing and collection department to reduce this energy loss in the short time period.)*	*0.33%(EDC Mathura) to 6.10% (EDC Mathura)*	Short term measures to reduce the commercial loss due to collection inefficiency by way of linking the incentive for the staff with the increase in the billing and collection efficiency. Regular vigilance checks to break the nexus between the billing department/ agency and consumers. In addition, the DISCOMs may consider installing pre-paid meters in the medium and long terms.

<u>Interventions recommended in the short and medium terms in the high energy loss areas (Category "A" Issues)</u>

1. **Camps for the voluntary disclosure of actual loads of the agriculture consumers:** The DISCOMs should organize mobile camps in the rural areas for voluntary disclosure of the actual load of the agriculture consumers. The consumers should be encouraged by the DISCOMs that no penalty would be imposed for their past usage of under-disclosed load.

2. **Regular vigilance check:** The DISCOMs should conduct regular vigilance check in the rural and urban areas to identify un-metered connections and regularize them in a time bound manner. The DISCOMs should conduct impromptu vigilance raids, where the energy loss is higher or revenue realization is very less.

3. **Community metering:** This type of arrangement can be implemented in the slum areas, where the entire slum community would be metered at a single location in public view (where tempering is difficult) and the whole community is billed based on the consumption determined by their individual meter read. The DISCOM will provide bulk supply to a single community meter and based on the meter read of the community meter the DISCOM will bill the consumers. The consumers on the other hand would share the billing amount based on their individual meter reading. If one consumer pilfers energy, it will result in the remaining members of the community paying more than their actual share of energy bill, which in turn would create peer pressure for not doing this.

4. **Implementation of load shedding first in the high loss areas in case of shortage of electricity:** The DISCOMs should consider implementing load shedding first in the high loss areas in case of shortage of electricity. This will built awareness among the consumers in the high loss areas that due to high energy loss, the DISCOMs are forced to implement load shedding in their areas and in turn would create pressure on the consumers involved in theft of energy for not doing the same.

5. **Implementation of differential tariff by way of higher tariff in the high loss areas:** The DISCOMs should propose differential tariff by way of higher tariff in the high loss areas. Higher tariff would force the consumers in the high loss areas to reduce theft of energy.

Interventions recommended in the medium and long term period in the high energy loss areas (Category "A" Issues)

6. **Aerial Bunched Cabling (ABC):** To reduce the direct theft from the LT line by hooking, ABC in all densely populated localities should be implemented.

7. **Implementation of Advance Metering Infrastructure (AMI):** AMI system allows the utility to monitor the consumption of individual consumer at specific intervals (15 minutes) and will reduce the tendency of tempering or "by-passing" the meters.

Interventions recommended in the short and medium terms to reduce commercial loss (Category "B" and "C" Issues)

8. The DISCOMs in Uttar Pradesh should consider implementation of incentive/disincentive scheme by way of linking the incentive for the staff with the increase in the billing and collection efficiency. To implement this scheme the DISCOMs should develop Key Performance Indicators (KPIs) such as (a) increase in number of meter readings per meter reader (b) Increase in number of disconnection of the defaulting consumers, (c) reduction of time for replacing the defective meters, and (d) reduction of commercial loss. The KPIs should also indicate the targets for the staff and will be awarded as per their actual performance vis-à-vis the targets given in the KPIs.

9. **Break the nexus between the billing agencies and consumers:** Frequent vigilance checks should be conducted to break the nexus between the billing agencies and the consumers. The billing agencies are employed to bring efficiency in the billing process of the DISCOMs. However, this type of nexus clearly undermines the objective to employ them. Severe penalty followed by debarring should be imposed on the billing agencies, if such cases are found as a matter of routine.

10. **Prepaid metering:** The un-metered and flat rate consumers should be encouraged for prepaid meters. Suitable rebate could be offered to the consumers opting for prepaid meters.

Interventions recommended in the long term to reduce technical loss (Category "B" Issues)

11. **High Voltage Distribution System (HVDS) system:** The DISCOMs in Uttar Pradesh should consider implementing HVDS system in agriculture, wherein the HV line is extended to the proximity of the pump sets, thus restricting the LT line to the length of the service cable only. The States like Andhra Pradesh, Gujarat, Punjab, Haryana, Karnataka and Maharashtra have already implemented the HVDS system for the agriculture consumers.

Other recommendations

12. **Component wise AT&C losses analysis:** The component wise AT&C losses analysis would provide a clear insight on the energy losses of the DISCOMs. It is recommended for the DISCOMs in Uttar Pradesh should adopt the component wise AT&C losses method to compute and report its energy losses for each circle in the State. The component wise AT&C losses not only provide the component and sub-component wise energy losses but can also used as a strategic tool for monitoring and framing future loss reduction initiatives. From this analysis, the DISCOMs can easily identify the high loss prone areas and frame their future loss reduction initiatives accordingly.

13. **Suggestion for the future AT&C losses reduction studies:** The present period of the AT&C losses reduction study is envisaged for 6 months. In six months study, the seasonal factors affecting the AT&C losses could not be captured and also the study results will not be accurate. Therefore, it is suggested that the period for the future AT&C losses study should be increased to 18 months and out of that 12 months should be envisaged for field studies only.

1. Chapter 1: Background of the study

1.1 Introduction

The Aggregate Technical and Commercial (AT&C) losses in the distribution system comprises of two major components i.e. technical loss and commercial loss. The technical loss refers to the distribution network loss that is inherent in the delivery of the electrical energy. It includes losses in the conductors, transformers, switchgears and loss in the measurement system. The commercial loss is energy loss that is caused by factors external to the distribution system and is caused by direct energy theft/pilferage, and deficiencies in the energy metering, billing and collection systems, etc.

The AT&C losses are one of the key indicators to gauge the performance and operational viability of the distribution companies (DISCOMs) in the country. The technical loss in the distribution system is an engineering issue. The technical loss beyond limit represents shortcomings in the distribution system planning. The commercial loss, on the other hand is avoidable financial loss for the DISCOMs.

The DISCOMs with lower AT&C losses show the ability of the DISCOMs to convert the high proportion of the input energy to the distribution system into energy sales and also the managerial capability to collect revenue from the electricity consumers efficiently. High level of AT&C losses, on the other hand shows improper and inefficient utilization of the energy and poor revenue realization capability. Huge revenue gap, weak financial condition, high cost of electricity supply (services), poor collection efficiency are some of the key features of the DISCOMs with high level of AT&C losses.

At present, the energy losses percentage in India is much higher in comparison to other developing countries in the World. For example, in 2010 the energy losses in

Philippines[3], China and Brazil[4] were 11.52%, 6.10% and 16.63% respectively. However, the percentage of national level AT&C losses in India was 27.15% in FY 2009-10, which means more than one fourth of the total energy produced in the country was lost due to technical and commercial reasons at the time when the country is reeling under severe power shortage and requires more energy to maintain its GDP growth. This leads to enhanced need for generation capacity in the country, which in turn requires higher transmission and distribution network capacities. This situation could otherwise be avoided, if the energy losses in the distribution system are reduced to a level at par with the international level. Thus, reducing the AT&C losses would not only contribute in reducing the need for new generation and transmission capacities but also reduce the cost of supply of the electricity to the end consumers.

To address this issue, the Government of India has launched the Restructured - Accelerated Power Development and Reform Programme (R-APDRP) for all the States in the country. Under this program a number of loss reduction schemes are being implemented. The State Electricity Regulatory Commissions (SERCs) also set target and issue directives in the Tariff Orders of the DISCOMs to reduce the AT&C losses in their respective States. However, the desired outcomes of these initiatives are yet to materialize.

The Planning Commission, Government of India had constituted a High Level Panel (HLP) to review the financial position of the DISCOMs in India in July 2010. The HLP in its report has estimated that during 2006 to 2010, the accumulated losses of the DISCOMs[5] in India was ` 1, 79,000 Crore without considering subsidy and ` 82,000 Crore after subsidy received from the Governments. One of the main reasons for such huge financial losses was the high level of AT&C losses in the DISCOMs. The HLP report specifically pointed out that the current practice of reporting the AT&C losses have many deficiencies and the actual AT&C losses are much higher

[3] Source: World Development Indicators, The World Bank
[4] T&D loss, Source: World Energy Council
[5] Excluding West Bengal, Chhattisgarh, Goa and the North Eastern States

than reported by the DISCOMs. This necessitates the need for having a baseline data of AT&C losses for each DISCOM.

In view of the above, a need was felt to initiate a study in various States in India to gauge the component wise AT&C losses and to identify the reasons thereof. For this, the Ministry of Power (MoP), Government of India (GoI) has initiated the study to assess the component wise AT&C losses in six States in India, i.e. Tamil Nadu, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh and Madhya Pradesh. Power Finance Corporation (PFC) Ltd. was given the responsibility to appoint consultants to conduct detailed studies in six States. The Forum of Regulators (FoR) has been entrusted to monitor and review the activities of the consultant as well as facilitate the consultants in collection of data and conducting the field studies with the assistance of the SERCs and the DISCOMs.

Medhaj Techno Concept Pvt. Limited (hereinafter referred to as "consultant") was appointed by the PFC to undertake the study for the assessment of component wise AT&C loss reduction studies in the States of Rajasthan, Tamil Nadu and Uttar Pradesh.

This report brings the component wise AT&C losses in the four representative circles in the State of Tamil Nadu, extrapolation of circle wise AT&C losses for the State of Uttar Pradesh, main reasons contributing the AT&C losses and proposed a set of recommendations to reduce the AT&C losses in a phase wise manner in the State.

1.2 Objective of the study

The objective of the study was to segregate the AT&C losses into various components and sub-components and estimate the component wise AT&C losses in four representative circles in Uttar Pradesh.

1.3 Value addition of the study

At present, the AT&C losses are computed on the three key elements – energy input, energy billed and the collection efficiency (as the percentage of revenue realized against revenue billed). As highlighted in paragraph 1.1, a number of factors are responsible for the AT&C losses. From the total AT&C losses figure, it is difficult to judge that how much energy has been lost in the following:

- In the HT and LT system of the DISCOM;
- billing and collection inefficiencies; and
- theft/pilferage and deficient metering.

While framing loss reduction strategies, the DISCOM face the following questions, which the total AT&C losses figure may not provide answers.

Table 7: Value addition of the component wise AT&C losses study

Key questions faced by the DISCOMs to strategies their loss reduction initiatives	Overall AT&C losses analysis	Component wise AT&C losses analysis
What are components involved in the AT&C losses in the DISCOM ?	X	✓
What are the key areas, where the AT&C losses are higher ?	Partially	✓
Whether the existing initiatives taken by the DISCOMs are in the right direction or delivering the desired results ?	Partially	✓
What will be target areas in the short, medium and long term periods and how to align the existing and future loss reduction strategies accordingly ?	Partially	✓

Thus, it is evident that the DISCOM with the analysis of the component wise AT&C losses could strategize, implement and monitor their loss reduction initiatives more effectively and efficiently.

The SERCs also faces similar questions at the time of approval of the AT&C losses reduction trajectory for the DISCOM. The component wise AT&C losses analysis would assist the SERCs in:

- Approval of the projected component wise loss reduction targets for the DISCOMs based on the component wise AT&C losses figures submitted by the DISCOMs.
- Monitoring of the loss reduction initiatives of the DISCOMs currently in progress and suggesting mid-term course corrections for the DISCOMs, if required.
- Prepare a road map on AT&C losses reduction for the DISCOMs.

This study has attempted to undertake a systematic analysis of the components and sub-components of the AT&C losses in the four representative circles in Uttar Pradesh and estimate energy losses in each component and sub-component.

1.4 Scope of work of the study

The scope of the study is mentioned below:

- Identification of specific components of the AT&C losses
- Computation of the overall AT&C losses in the four representative circles followed by calculation of component wise AT&C losses in the following manner:
    - **Technical loss:**
        - **At the EHV system (33 kV and above):** Difference of energy recorded by the energy meters at the injection points and energy sent out in the distribution system.

- **At 11 kV system of DISCOM:** Difference between the sending end energy and receiving end energy at consumer end plus energy recorded at HV side of distribution transformers through sample meter read.
- **Overall technical loss:** Extrapolate the results of the sample study to compute the overall technical losses in the distribution system.

- **Commercial loss:**
  - Computation of overall commercial loss by taking into account the difference of overall AT&C losses and total technical loss of the circles.
  - Identify the various sub-components of commercial loss and estimate commercial loss for each of sub-components viz. loss on account of deficient metering, billing and collection inefficiencies and other identifiable components on the basis of sample study.
  - Assessment of energy loss due to theft by deducting the loss due to deficient metering, billing and collection inefficiencies from the overall commercial loss.

1.5 Limitations /constraints faced during the study

- **Seasonal impact on the AT&C losses:** The Energy requirement varies due to seasonal variation in ambient temperatures, humidity and rainfall. For example, the energy requirement in the summer season increases due to increased need of energy electricity by the domestic consumers (for cooling purpose) and agriculture consumers (for irrigation). The field studies were carried out from during the period June to September 2012. Hence, the seasonal effect across the year could not be captured in this study. It would be useful to capture the diversity of demand and supply for computation of the component wise AT&C losses by studying the consumption pattern of the consumers over full financial year.
- **Constraints in computing the technical loss from 11 kV feeders to the HV side of the DTs:** Since the meters on the DTs are installed only at the Low Voltage (LV) side, the actual line loss from 11 kV sending end to the High Voltage (HV) side of the DT could not be calculated from the field survey. For the same reason

the actual transformation loss in the DTs could not be calculated. Further, the meters on all the DTs connected to a particular 11 kV feeder are not installed. This posed a constraint in computing the technical loss from 11 kV feeders to the DTs from the field survey and actual meter read.

- **Working status of the meters:** To compute the technical loss in the HT system, it is important that the meters installed in the sub-stations are working properly. The field studies found that a number of meters installed at the sub-stations were not working. The study mandates the consultant to inform the concerned officers in the circles to replace the defective meters. After the first field visit to the sub-stations, it was requested (vide letters) to the concerned officers of the circles to replace the defective meters. In some cases, the meters were replaced by the department but in other cases replacement of the defective meters could not be done due to various reasons. Further, it was found that meters were not installed on a large number of DTs in all the circles in the State of Uttar Pradesh. Due to absence of meters in the DTs, the LT study was limited to those areas, where the DT meters are working properly. The metering issue in the selected circles is discussed in detail in chapter 3 of this report.
- **Quality of information available with the circle office:** The consumer indexing in all the four circles studied in Uttar Pradesh has not been done. In the absence of consumer index data, it was very difficult to establish the number of consumers connected to a particular DT. The objective of the study is to carry out an independent survey of the LT consumers to compute the actual energy consumed by the consumers and the energy lost as a result of theft of electricity. However, in absence of consumer index data, the LT studies were dependent on the information provided by the concerned officials of the circles. Further, to determine the commercial losses in the system, analysis of the consumer billing database could have provided vital information on the quantum of provisional billing in the circle, theft of energy calculated by the department, past arrears included in the current billing and the past arrears and penalty charges included in the amount realized by the DISCOMs analysis of this information would have

provided remedial measures to be taken by the DISCOMs to overcome the present lacuna in their billing and collection system.

- **Departmental assistance during the field studies:** Assistance from the department was necessary during the field studies in identifying feeder from a particular DT, consumer details etc. Also at the time of LT and agriculture surveys, at least a departmental person could have accompanied the field engineers to avoid resistance from the consumers. The assistance received from the department was few and far between, which resulted into substantial delay in the field work.

1.6 Structure of the Report

The report is structured as follows:

- Chapter 2, deals with the Approach and Methodology followed for selection of the circles and computation of component wise AT&C losses.
- Chapter 3, provides findings from the field studies in the four circles of Uttar Pradesh
- Chapter 4 presents the detailed computation of component wise AT&C losses in the four circles in Uttar Pradesh and reasons thereof.
- Chapter 5 presents extrapolation of AT&C losses of the four representative circles on the four DISCOMS in the State of Uttar Pradesh.
- Chapter 6, presents the recommendations for reduction of AT&C losses and way forward.

2. Chapter 2: Approach and Methodology of the Study

This chapter of the report explains the Approach and Methodology followed for selection of the representative circles as well as the method of computation of components of AT&C losses in these circles. The Forum of Regulators (FoR) has framed a detailed methodology for assessment of component wise AT&C losses in its "Loss Reduction Strategies" Report. As suggested by the FoR secretariat, the methodology prescribed in the Report has been followed in the study.

Since, the study covers AT&C losses computation for four circles only, the focus was selection of four circles, which covers the features of the distribution system of the State as well as covers all the DISCOMs. In consultation with the FoR Secretariat, a methodology was evolved to select the four representative circles in Uttar Pradesh, which is explained in the next section of this chapter.

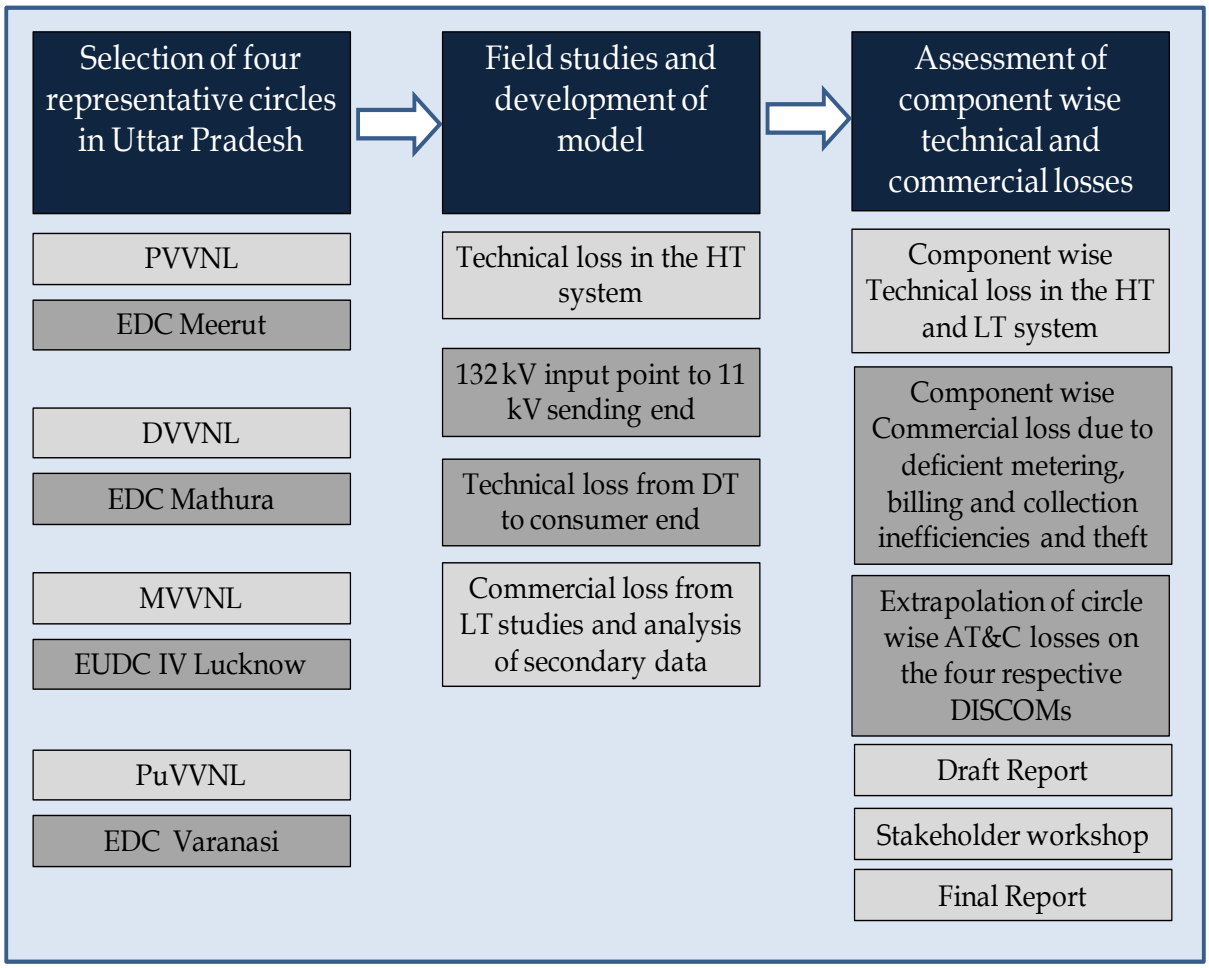
2.1 Approach to the study

The study focused on the following three broad tasks:

- Selection of four representative circles in the State to conduct detailed field studies.
- Conducting field studies in the four representative circles for assessment of component wise technical and commercial losses.
- Assessment of component wise technical and commercial losses based on the primary and secondary data collected from the four representative circles. A model has been developed to analyze the field data. The model has broadly taken into account the following calculations:
  - Technical loss in the HT and LT systems
  - Commercial loss in the areas of deficient metering, billing and collection inefficiencies and theft/pilferage.
  - Extrapolation of circle wise AT&C losses on the respective DISCOMs.

Following Exhibit depicts the step by step approach has been followed for assessment of the component wise AT&C losses in four representative circles in Uttar Pradesh:

Exhibit 1: Approach to the study



2.2 Methodology of the study

The methodology of the study consisted of collection of existing/secondary data from the DISCOMs, selection of four representative circles in the State, collection of field data in the four circles and segregation of components of AT&C losses.

2.2.1 Task 1: Collection of secondary /existing data

The consultant collected the data in two phases:

- **Phase I:** Collection of consumer category wise sales data for all the circles for selection of the four representative circles in the State.
- **Phase II:** Collection of secondary information such as the number of sub-stations and feeders, input energy, number of consumers, revenue billed and collected in the four representative circles.

Assessment of the component wise AT&C losses involved analysis of large volume of technical and commercial data. At the commencement of the study, the consultant prepared and submitted a detailed list of the information required from the DISCOMs to compute the component wise AT&C losses. The same have been enclosed as "Appendix 1" in this report. However, some of the important information such as consumer billing database, connecting load of the agriculture consumers etc. required for computing the losses were either not received from the department or received in parts. To overcome this information gap, we have extrapolated the data received from the circles to compute the component of commercial loss.

2.2.2 Task 2: Selection of four representative circles in the State

After completion of phase I of Task I mentioned above, the consumer wise sales mix for FY 2011-12 for each of the 69 circles (under the four State owned DISCOMs) in Uttar Pradesh was analyzed. The consumer wise sales mix of all the circles in Uttar Pradesh is enclosed as "Annexure I".

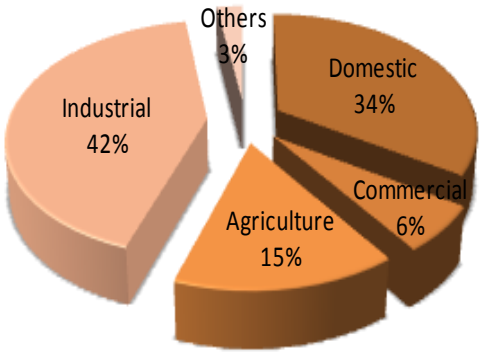
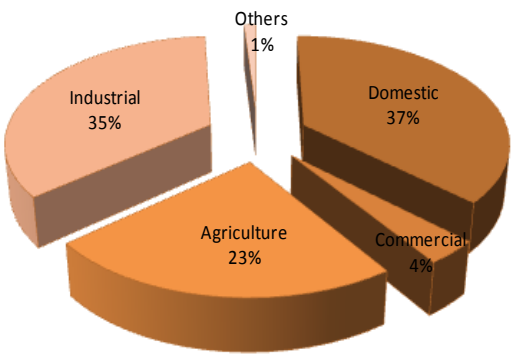
The consumer sales mix of the circles was then evaluated on the following three parameters:

The basis for considering the "Consumer category wise Sales Mix" as the criterion for selection of the representative circles is to segregate the consumer wise sales into three segments i.e. metered consumers, un-metered consumers (excluding agriculture consumers) and agriculture consumers. Thereafter, propose interventions for each of the three consumer segment.

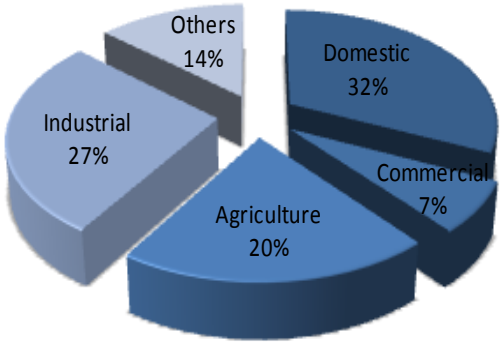
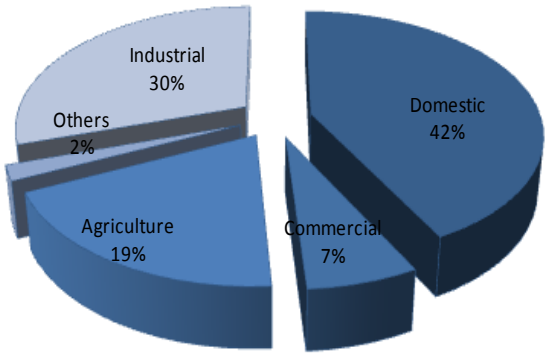
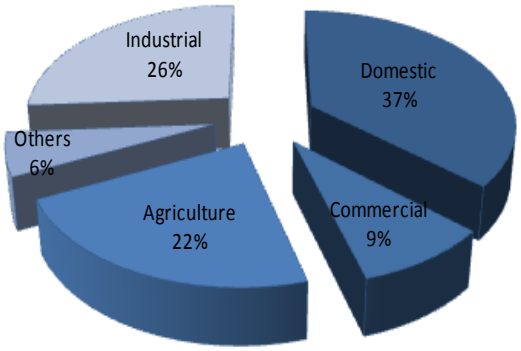
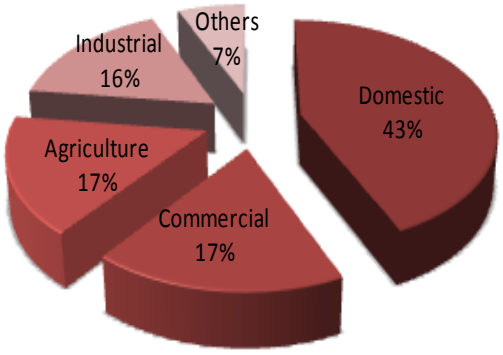
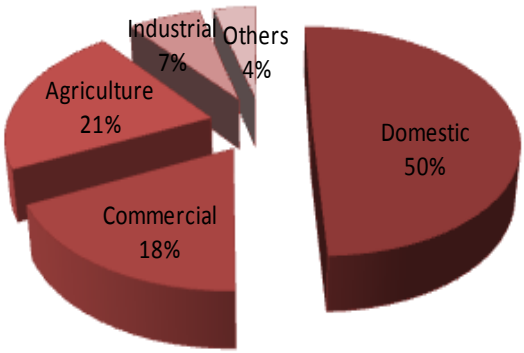
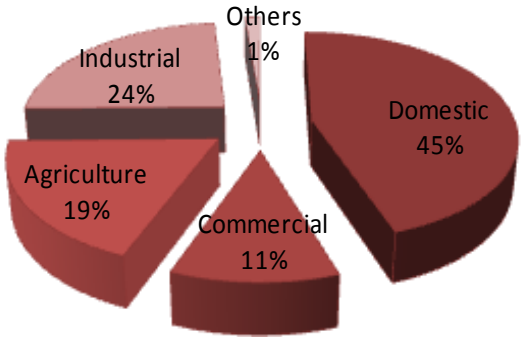
It has been observed that AT&C losses vary for the consumer sale mix of the circles/DISCOMs. For example, AT&C losses in the EDC Hapur circle (PVVNL) are around 47%, whereas for EUDC IV Ghaziabad circle (PVVNL) the AT&C losses were 15%. The variation in AT&C losses can be attributed to the consumer sales mix in these two circles i.e. EDC Hapur circle largely serves domestic and agriculture consumers and on the other hand EUDC IV Ghaziabad circle mostly billed energy to the industrial consumers. Hence, "Consumer category wise Sales Mix" was opted as the criterion for selecting the four representative circles.

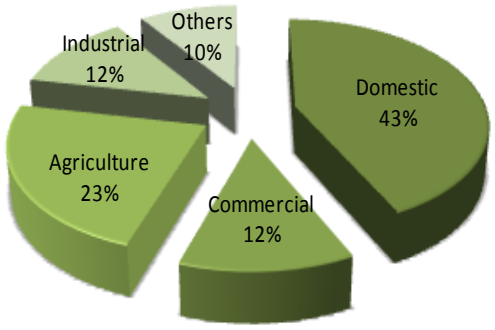
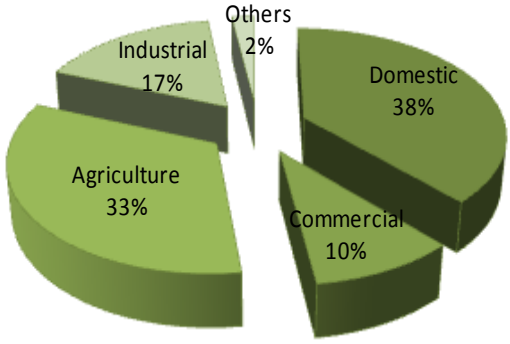
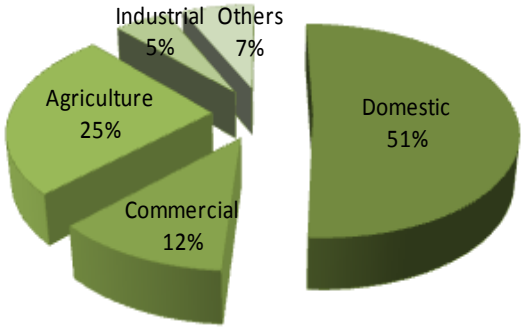
1. **Parameter I: Comparison of the category wise sales mix of the circles with the DISCOMs:** The sales mix[6] of the circle (in percentage term), broadly represents[7] the sales mix (in percentage term) of the DISCOM shown in the Exhibit 2.

Exhibit 2: Comparison of the sales mix of the circles with the DISCOMs

DISCOM	Representative Circles
	
PVVNL	EDC Meerut

[6] Consumer category wise sales mix of the DISCOM has been arrived by aggregating the consumer wise sales mix of all the circles in the DISCOM.
[7] Since, it is not possible to compare the sales mix of the circles with the DISCOMs in absolute terms, ±10% variation in sales mix for domestic, agriculture and industrial consumption have been considered.

DISCOM	Representative Circles
 **DVVNL**	 EDC Mathura
	 EDC Firozabad
 **MVVNL**	 EUDC IV Lucknow
	 EDC Bareilly

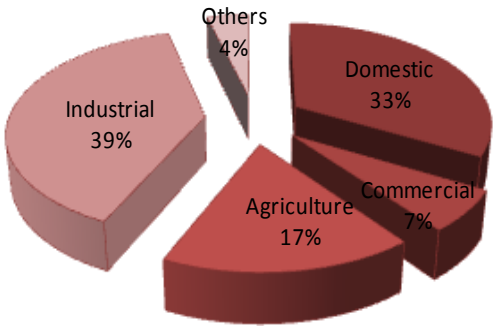
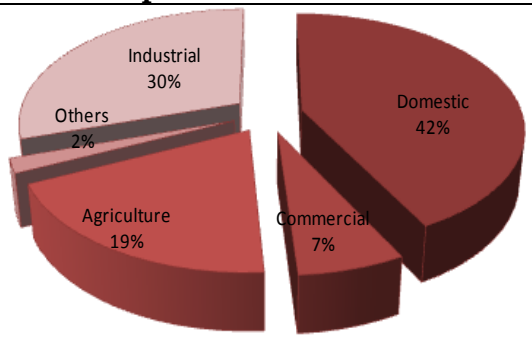
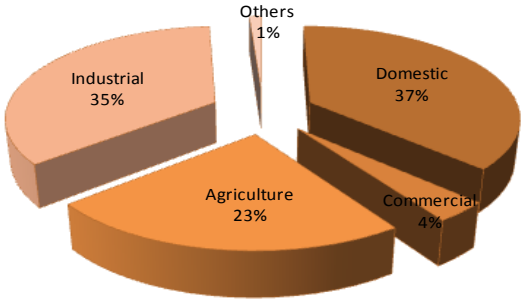
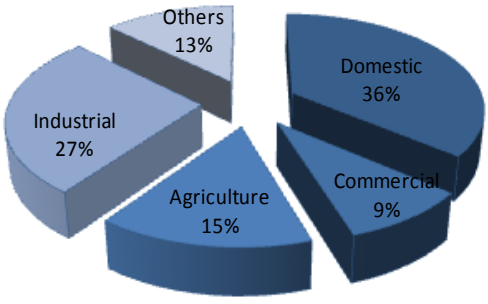
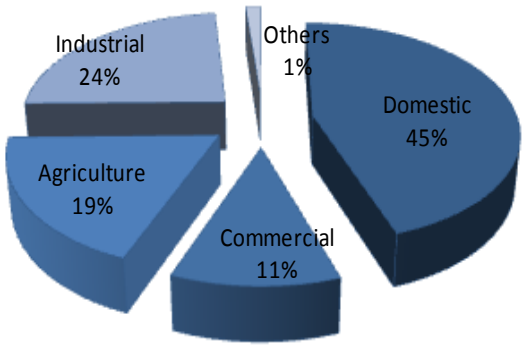
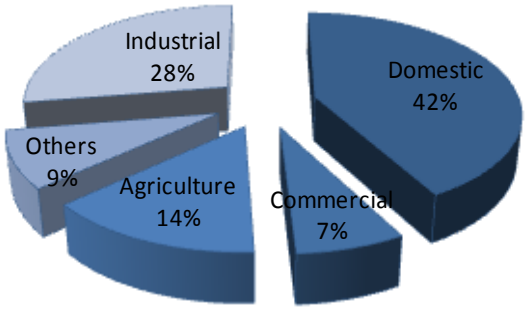
DISCOM	Representative Circles
 **PUVVNL**	 EDC Varanasi  EDC I Mirzapur

As shown in Exhibit 2 sales mix of seven circles i.e. EDC Meerut, EDC Mathura, EDC Firozabad, EUDC IV Lucknow, EDC Bareilly, EDC Varanasi and EDC I Mirzapur were matching with the sales mix of Uttar Pradesh.

2. **Parameter II: Comparison of the category wise sales mix of the circles in respect of its geographical location:** The entire State is segregated into three zones (West, Central and East) depending on the geographical location of the circles in the State. The sales mix of the zones has been arrived by aggregating the sales mix of the circles falling under each of the three zones. Zone wise analysis of the circles[8] is presented in the Exhibit given below:

[8] Since, it is not possible to compare the sales mix of the circles with the zones in absolute terms, ± 10% variation in sales mix for domestic, agriculture and industrial consumption have been considered.

Exhibit 3: Comparison of the sales mix of the circles in respect of its geographical location

Zone	Representative Circles
 **Zone I – Western zone** (Circles in the districts of Saharanpur, Muzzafarnagar, Bagpat Meerut, Bijnor, Ghaziabad, Shahjahanpur, Noida, Mathura, Aligarh, Hatras, Etah, Etawah, Firozabad, Moradabad, Farukhabad and Mainpuri)	 EDC Mathura
	 EDC Meerut
 **Zone II: Central zone** (Circles in the districts of Orai, Jhanshi, Lucknow, Hamirpur, Kanpur, Unnao, Banda, Fatehpur and Raibareili)	 EUDC IV Lucknow
	 EDC Orai

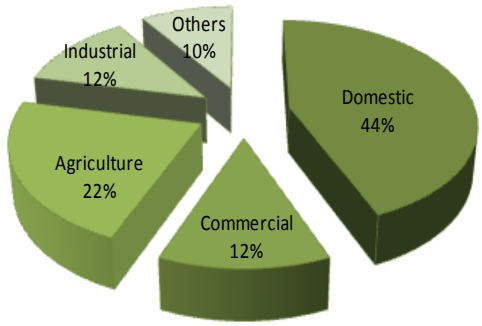
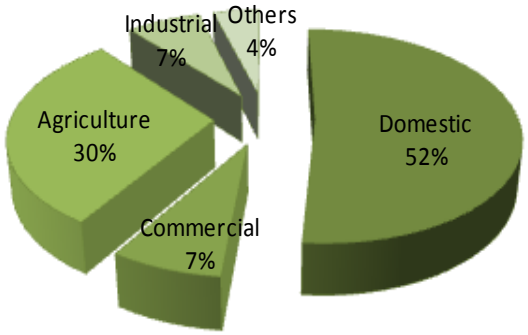
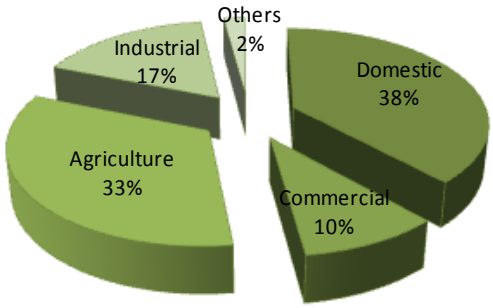
Zone	Representative Circles
 **Zone III: Eastern zone** (Circles in the districts of Allahabad, Varanasi, Ghazipur, Mirzapur, Jaunpur, Azamgarh and Mau)	 EDC 2 Allahabad  EDC Varanasi

Exhibit 3 shows that sales mix of six circles i.e. EDC Mathura, EDC Meerut, EUDC IV Lucknow, EDC Orai, EDC 2 Allahabad and EDC Varanasi were matching with the sales mix of three zones i.e. East, West and Central zones.

3. **Parameter III: Share of the domestic and agriculture sales in the total sales mix of the circles.**

Based on the consultation with the FoR Secretariat, parameters were identified to analyze the sales mix of each circle in the State for selecting four circles.

The energy billed to the domestic and agriculture sales in Uttar Pradesh were around 60% in FY 2011-12. During discussion with the FoR Secretariat it was agreed that the circles with same proportion of domestic and agriculture sales (within range of ±10 to match with the DISCOM and Zone) would be selected for field studies. This would also help to identify all the key elements/reasons associated with the AT&C losses in the State.

Table 8 presents the share of domestic and agriculture sales in the sales mix of the circles in the State.

Table 8: Share of domestic and agriculture sales in the circles in FY 2011-12

Sl. No.	Circles	Agriculture sales (in %)	Domestic Sales (in %)	Total (3+4) (in %)	Scoring
1	EDC Bagpat	55	35	90	3
2	EDC Azamgarh	20	65	85	3
3	EDC Saharanpur	45	39	84	3
4	EDC-2 Allahabad	30	52	82	3
5	EDC Ghazipur	52	28	80	3
6	EDC Deoria	12	67	79	2
7	EDC Faizabad	38	40	78	2
8	EDC Jaunpur	49	29	78	2
9	EDC Badaun	45	32	77	2
10	EDC-1 Mirzapur	25	51	76	2
11	EDC Banda	34	41	75	2
12	EDC Gonda	26	47	73	2
13	EDC Basti	20	53	73	2
14	EDC Mainpuri	35	37	72	2
15	EDC Gorakhpur	0	71	71	2
16	EDC Varanasi	32	38	70	2
17	EUDC IV Lucknow	20	50	70	2
18	EDC Rampur	16	54	70	2
19	EDC Sitapur	35	35	70	2
20	EDC Hathras	41	28	69	1
21	EDC Agra	24	45	69	1
22	EDC Jhansi	14	55	69	1
23	EDC Raibareili	34	34	68	1
24	EDC Etah	29	39	68	1
25	EDC 1 Bulandshar	23	44	67	1
26	EDC Sultanpur	19	48	67	1
27	EDC Bijnor	34	32	66	1
28	EDC Hapur	27	39	66	1
29	EUDC Moradabad	0	65	65	1
30	EDC Bareilly	19	45	64	1
31	EUDC Jhansi	1	63	64	1
32	EDC Gorakhpur	11	53	64	1
33	EDC Firozabad	24	39	63	1
34	EDC Shahjahanpur	20	42	62	1
35	EDC Mathura	42	19	61	1
36	EDC Muzzafar nagar	32	29	61	1

Sl. No.	Circles	Agriculture sales (in %)	Domestic Sales (in %)	Total (3+4) (in %)	Scoring
37	EDC J.P. Nagar	41	20	61	1
38	EDC 1 Moradabad	21	39	60	1
39	EDC Meerut	23	37	60	1

It can be seen that 24 circles have satisfied the selection parameter 3.

Based on the sales mix analysis of the circles, a selection matrix was prepared to select four representative circles in the State. The circles meeting the selection parameters most were selected for field studies.

Table 9: Selection matrix

Circle	DISCOM	Parameter 1: DISCOM Wise	Parameter 2 Zone wise	Parameter 3 Agri. & Dom. Sales mix
EUDC IV Lucknow	MVVNL	√	√	2
EDC Meerut	PVVNL	√	√	1
EDC Varanasi	PUVVNL	√	√	2
EDC Mathura	DVVNL	√	√	1
EDC-2 Allahabad	PUVVNL		√	3
EDC Saharanpur	PVVNL			3
EDC-1 Mirzapur	PUVVNL	√		2
Shahjahanpur	PVVNL			1
EDC Bagpat	PVVNL			3
EDC Azamgarh	PUVVNL			3
EDC Orai	DVVNL		√	1
EDC Ghazipur	PUVVNL			3
EDC Deoria	PUVVNL			2
EDC Faizabad	MVVNL			2
EDC Jaunpur	PUVVNL			2
EDC Badaun	MVVNL			2
EDC Gonda	MVVNL			2
EDC Basti	PUVVNL			2
EDC Gorakhpur	PUVVNL			1
EDC Meerut	PVVNL			1
EDC Rampur	PVVNL			2
EDC Sitapur	MVVNL			2
EDC Bareilly	MVVNL			1
EDC Firozabad	DVVNL			1

As shown in Table 9, the following four circles met all the selection parameters and were selected for the detailed field studies.

- **EDC Meerut in Paschimanchal Vidyut Vitran Nigam Limited (PVVNL):** The sales mix of EDC Meerut represents the sales mix of PVVNL as well as the sales mix of the Western Zone of Uttar Pradesh. The domestic and agriculture consumption of the circle was 60%, similar to the domestic and agriculture sales mix of the State.
- **EDC Mathura in Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL):** The sales mix of EDC Mathura represents the sales mix of DVVNL as well as the sales mix of the Western Zone of Uttar Pradesh. The domestic and agriculture consumption of the circle was 60%, similar to the domestic and agriculture sales mix of the State.
- **EUDC Lucknow IV in Madhyanchal Vidyut Vitran Nigam Limited (MVVNL):** The sales mix of EUDC IV Lucknow represents the sales mix of MVVNL as well as the sales mix of the Central Zone. The domestic and agriculture sales mix of the circle was 70%. The other circles in MVVNL were not satisfying the first two selection parameters. Hence EUDC IV Lucknow was selected as the circle satisfied the first two selection parameters and has +10% variations (within the selection criteria) in domestic and agriculture sales mix as compared to the State.
- **EDC Varanasi in Purvanchal Vidyut Vitran Nigam Limited (PuVVNL):** The sales mix of EDC Varanasi represents the sales mix of PuVVNL as well as the sales mix of the Eastern Zone. The domestic and agriculture sales mix of the circle was 70%. As shown in Table 6, the domestic and agriculture sales mix of most of the circles in PuVVNL was more than 70%. EDC Varanasi circle was selected as the circle satisfied the first two selection parameters and has +10% variations (within the selection criteria) in domestic and agriculture sales mix as compared to the State.

The four circles selected above cover all the four DISCOMs and three geographical zones of the State. These circles are also close representation of the sales mix of the State.

2.2.3 Task 3: Field studies for assessment of AT&C losses in the representative circles

After finalization of the representative circles, the consultant initiated the field studies in each of the four selected circles in Uttar Pradesh. The start and completion period of the field studies in the four representative circles are presented in the following Table:

Table 10: Start and completion period of field studies in the four circles in Uttar Pradesh

Sl. No.	Circles	Date of start of the field studies	Date of completion of the field studies
1	EDC Meerut	18th June 2012	21th September 2012
2	EDC Mathura	18th June 2012	21th September 2012
3	EUDC IV Lucknow	18th June 2012	17th September 2012
4	EDC Varanasi	18th June 2012	28nd September 2012

The field studies were carried out in three stages:

- **High Tension (HT) study:** This involved collection of meter reads from the 132/33 kV and 33/11 kV sub-stations, including the consumers connected at 33 kV and 11 kV. The loss identified under this study was technical loss in the HT system. Commercial loss in the HT network is negligible.
- **Low Tension (LT) study:** This involved assessment of technical and commercial losses from the Distribution Transformers (DTs) to the consumer premises. The losses identified under this study were the component wise technical and commercial losses in the LT system.
- **Agriculture study:** The agriculture consumers are largely un-metered in the State. The study was carried out to determine the actual connected load of the

agriculture consumers with the sanctioned load as per the departmental records. Based on this, the theft/pilferage of energy by the agriculture consumers was estimated.

2.2.4 Task 4: Assessment of component wise technical and commercial losses

The methodology and formula given in the "Report on Loss Reduction Strategies" by the Forum of Regulators for assessment of the component wise AT&C losses were followed. Few modifications in the methodology have been done in consultation of the FoR Secretariat such as:

- The methodology of assessment of the total technical loss in the HT system due to absence of meters in the incoming side of the 33 kV sub-stations; and
- No. of hours of supply to the domestic consumers to compute the per day energy consumption of the domestic consumers.

Computation of AT&C losses of the circles

The AT&C losses of the circles have been computed as per the following formula:

$$\text{AT\&C Losses} = \frac{\{(\text{Energy input} - (\text{Energy Billed} * \text{Collection Efficiency})\}}{\text{Energy input}}$$

Whereas, Collection efficiency = Revenue realized/Revenue billed

Assessment of component wise technical loss in the HT System

The technical losses in the HT system has been considered as the difference of the energy input in the 132 [9]kV system and sent out to the 11 kV feeders i.e.:

[9] Technical loss is not computed at 33 kV level as the meters are not installed at 33 kV system.

Total energy received from 132/33 kV Sub-stations	= X1
Total energy sent out from 11kV feeders to the consumers	= Y1
Total energy sent out to other circles	=Y2
Total energy sent out	=YT =Y1+Y2
Energy lost in 33/11 kV System	= X1 – YT

The meters installed in the sub-stations show two types of meter reads i.e. cumulative meter read and current meter read (both in kWh and kVAh).

Further, for computing the energy input and energy sent out from the cumulative meter read, there was a time gap of 25-30 days i.e. two meter reads for both the receiving end and sending end meters were taken within a gap of 25-30 days. The amount of energy input and energy sent out are computed as the difference of the second (cumulative) and first meter read (cumulative). The formula for computing the energy input and energy sent out at the Sub-Stations is presented below.

X1 = (2nd day cumulative meter read - 1st day cumulative meter read) X MF
Y1 = (2nd day cumulative meter read - 1st day cumulative meter read) X MF
Y2 = (2nd day cumulative meter read - 1st day cumulative meter read) X MF

Total energy sent out	=YT =Y1+Y2
Energy lost in 33/11 kV System of DISCOM	= X1 – YT

As mentioned earlier, it was found that number of meters were defective in the 33/11 kV sub-stations. On our request, some of the defective meters were replaced. To overcome the deficiency in the metering system, we have considered the energy input in only those 33/11 kV sub-stations, where the meters are working properly.

For computation of the sub-transmission losses, we have not included those Sub-Stations where the meters are not working. Percentage of such sub-stations is in the range of 15%-20% in the four circles.

The circle wise computation of the technical loss in the HT system is enclosed as Annexure II in Volume II of this report.

As highlighted in the previous section, the technical loss from the 11 kV feeders to the HV side of the DTs has been arrived by deducting the technical loss of HT and LT system from the total technical loss of the system.

Technical loss in the LT System

Technical loss in LT system has been estimated on the basis of sample studies in the DTs. The formula for computing the line losses in the LT system is presented below.

A1 = 1st read of the DT meter
A2= 2nd read of the DT meter
MF1 = Multiplying Factor of the DT meter
B1= 1st read of all the consumers connected with the DT
B2=2nd read of all the consumers connected with the DT
MF2= Multiplying Factor of the consumer meter

Technical loss in the LT system = (A2-A1) X MF1 – (B1-B2) X MF2

The LT study of a particular DT has been carried out in single day. In case of long power cut, the study was continued in the DTs as well as in the consumer premises next day to complete the reading cycle. It is to highlight that there are two limiting factors associated with conducting the LT studies in the next day:

- Households found un-locked in the first day but found locked in the second day. The actual consumption of households for a day could not be computed.
- Meters found working in the first day but found not-working in the second day. The actual consumption of households for a day could not be computed.

The study had paid special attention to overcome the above two limiting factors. If, such limiting factors found during the field studies, the LT study was repeated in the next day.

Assessment of component wise commercial loss

For the computation of commercial loss, the overall AT&C losses have been first computed as the difference between the input energy and the energy realized in the circles. After determination of the overall technical loss in the circles, the commercial loss has been identified as the difference between the overall AT&C losses and the technical loss. Further, the different components of commercial loss i.e. commercial loss due to theft/pilferage, metering, billing and collection deficiencies have been determined as per the methodology prescribed in the "Loss Reduction Strategy Report" of FoR.

(a) Commercial loss due to deficient metering:

Actual consumption (kWh) of the consumers recorded in the field studies - Billed by the utility (kWh) of such consumers having defective meters as per the records

(b) Commercial loss due to billing inefficiency:

Actual consumption (kWh) of the consumers recorded as per the field studies – Provisional billing done by the utility (kWh) of such consumers as per their records

(c) Commercial Loss due to provisional billing to metered consumers

Actual consumption (kWh) of the metered consumers recorded as per the field studies – Energy billed by the utility (kWh) for metered consumers billed on provisional basis

(d) Commercial loss due to collection inefficiency:

Energy Billed (kWh) – Energy Realized (kWh)

Where, Energy Realized = Energy billed (kWh) * Collection efficiency (%)

(e) Commercial loss due to theft/pilferage:

It is not possible to compute the extent of theft/pilferage accurately in the distribution system by any formula. Therefore, the extent of energy loss due to theft of energy has been computed by deducting the component wise commercial loss mentioned from point no. (a) to (d) from the total commercial loss of the circle[10]. The formula for computing the energy loss from theft is given below:

Commercial loss due to theft/pilferage = Total Commercial Loss - (Commercial loss due to deficient metering + Billing inefficiency +Provisional billing to the metered consumers + Collection inefficiency)

Extrapolation of study results and computation of AT&C losses of the circles

The field survey results were extrapolated on the on the DISCOMs from June to September 2012, i.e. during the study period. The detailed assumptions and methodology for extrapolation of the AT&C losses is given chapter 5 of this report. The study has also attempted to understand the impact of the field study results on a full year data (as seasonal variation was covered). Since, full year data for FY 2012-13 was not available during the course of the study, the survey results were extrapolated on the previous year's data i.e. FY 2011-12. The component wise AT&C losses of FY 2011-12 are shown in "Appendix 2'.

Assumptions made in the computation of the commercial loss

- Average power supply in the circles has been assumed as 20 hours to compute the per day consumption of the domestic consumers.
- The technical Loss in LT has been computed separately for domestic, commercial, industrial and agriculture DTs have extrapolated as per the existing sales mix of the circle.

Based on the findings of the field studies, key factors responsible for AT&C losses were identified and segregated into three categories namely- A, B and C to identify the priority areas and to frame a set of recommendations to reduce the losses. The

[10] The same methodology has been prescribed in the FoR's "Loss Reduction Strategies" Report

factors which have major contribution to AT&C losses and needed maximum attention were classified into category A, the factors requires medium level of attention were categorized into category B and the factors requires comparatively minimum attention were classified into category C. The said classification is given below:

Category A:

(i) Commercial loss due to theft/pilferage of energy.

(ii) Technical loss in the LT system.

Category B

(iii) Commercial loss due to billing and collection inefficiencies.

(iv) Technical loss in the HT system.

Category C

(v) Commercial loss due to deficient metering, billing inefficiency and provisional billing to the metered consumers.

A series of interventions based on the "ABC Analysis" are given in chapter 5 of this report.

2.2.5 Task 5: Preparation and submission of draft report

Based on the outcomes of the field studies in the four representative circles in Uttar Pradesh, a draft report was prepared and submitted to the FoR Secretariat for their review and comments.

2.2.6 Task 6: Stakeholder workshop

The draft report was presented to the stakeholders in the workshop organized at the FoR Secretariat, New Delhi on April 03, 2013 to share the background, objectives and

key findings of the component wise AT&C losses study in Uttar Pradesh. The workshop was represented by the Officials of the Ministry of Power (Government of India), the FoR, PFC and the DISCOMs in Uttar Pradesh. The stakeholder's suggestions, comments and recommendations on the study report presented during the workshop were noted. The minutes of meeting of the workshop is enclosed as "Annexure VII" in Volume II of the Final Report.

2.2.7 Task 7: Preparation of Final report

After incorporating the comments received from various stakeholders in the Workshop, the final report on the study on "Component wise AT&C losses reduction study in the State of Uttar Pradesh" has been prepared and submitted to the FoR Secretariat.

3. Chapter 3: Findings from the field studies in the four representative circles of Uttar Pradesh

This chapter presents key findings from the field studies in the four circles in Uttar Pradesh. The sub-sections of this chapter highlight the general profiles of the circles, including AT&C losses. Chapter 3 also presents the existing status of the distribution assets, metering status at various levels, billing and collection process etc. that are closely related to the AT&C losses.

3.1 General profiles of the four circles in Uttar Pradesh

General profiles of the four representative circles in Uttar Pradesh in FY 2011-12 are presented below:

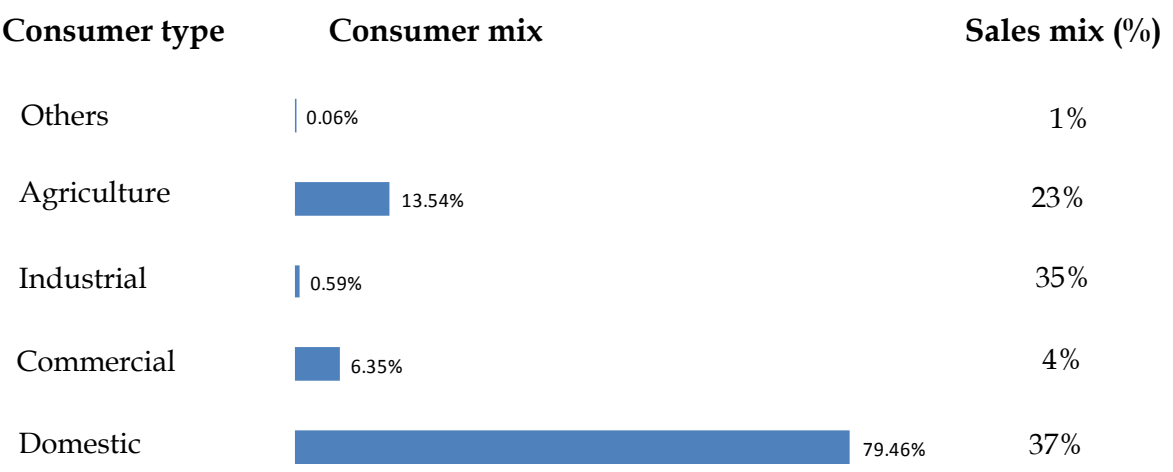
3.1.1 Electricity Distribution Circle (EDC) Meerut

The EDC Meerut circle comes under the Meerut distribution zone of PVVNL and operates in three divisions: EDD – I, EDD – II and EDD – Mawana. The supply area of the circle mainly comprises urban and semi-urban areas located near to the Meerut city and adjoining rural areas.

The circle receives energy from 9 nos. of 132/33 kV sub-stations and one 220/132 kV Sub-Station. A total of 41 no. of 33/11 kV sub-stations and 184 no. of 11 kV feeders distributes electricity in different parts of the circle.

Total number of electricity consumers in the circle was around 0.25 million in FY 2011-12. A large part of the consumer base of the circle comprises rural consumers. In FY 2011-12, total energy sales in the circle were 857.17 MU. Energy sales to the domestic and agriculture categories constitute around 60% of the total energy sales in the circle. Energy billed to the industrial category was about 35%, which mostly comprised of HT industrial consumers connected to 11 kV feeders. Other consumer categories such as commercial accounted for 4%, public water-works, street lighting contributes 5% of the total energy sales of the circle. The consumer and sales mix of the circle is presented in the Exhibit 4.

Exhibit 4: Consumer and Sales mix of EDC Meerut



Source: PVVNL

3.1.2 Electricity Distribution Circle (EDC) Mathura

The EDC Mathura circle comes under the Agra distribution zone of DVVNL. It has three divisions - EDD I Mathura, EDD II Koshi and EDD III Mathura. The circle is stretched from the Koshi town upto the Agra district and supply mainly in the suburban towns and rural areas of the Mathura district.

A total of 6 no. of 132/33 kV sub-station and one 220/33 kV sub-station feeds energy in the circle. The HT network of the circle comprised of 53 no. 33/11 kV sub-stations and 198 no. of 11 kV feeders. The circle caters to 0.15 million consumers.

The energy billed during FY 2011-12 was 618.60 MU. Domestic and agriculture consumption contributed to almost 60% of the total energy sales in the circle. Energy billed to the HT and LT industrial consumers accounted for 30%. Other consumer categories such as commercial, public water works, railway traction, street lighting contributed 10% of the total energy billed in the circle. Exhibit 5 shows the consumer profile and sales mix of the circle.

Exhibit 5: Consumer and sales mix of EDC Mathura

Consumer type	Consumer mix	Sales mix (%)
Others	0.18%	2%
Agriculture	1.29%	19%
Industrial	7.12%	30%
Commercial	6.05%	7%
Domestic	85.37%	42%

Source: DVVNL

3.1.3 Electricity Urban Distribution Circle (ECD) IV Lucknow

The EUDC IV Lucknow circle is segregated into four divisions: CESS – I, CESS – II, Rahimnagar and Bakshi Ka Talab. , CESS – I and CESS –II covers the sub-urban area of the Lucknow city and the other two circles mainly cover the adjoining rural areas.

Two nos. of 220/132 kV sub-stations and four nos. of 132/33 kV sub-stations feed electricity in the circle. The circle has 24 nos. of 33/11 kV sub-stations and 131 nos. of 11 kV feeders.

The circle distributes electricity to 0.15 million consumers. The total energy sales of the circle in FY 2011-12 were 729.61 MU. Domestic and agriculture consumptions contributed to more than 70% of the total energy sales in the circle. Commercial was the third largest consumer category in terms of energy sales, which contributed to nearly 19% of the total sales of the circle. Energy billed to the industrial consumers was around 7% and other consumer categories such as water works, street lighting had 4% share of the total energy sales of the circle. Exhibit 6 presents the consumer profile and sales mix of the circle for FY 2011-12:

Exhibit 6: Consumer and sales mix of EUDC IV Lucknow

Consumer type	Consumer mix	Sales mix (%)
Others	0.03%	4%
Agriculture	0.62%	21%
Industrial	2.95%	7%
Commercial	8.17%	18%
Domestic	88.23%	50%

Source: MVVNL

3.1.4 Electricity Distribution Circle (EDC) Varanasi

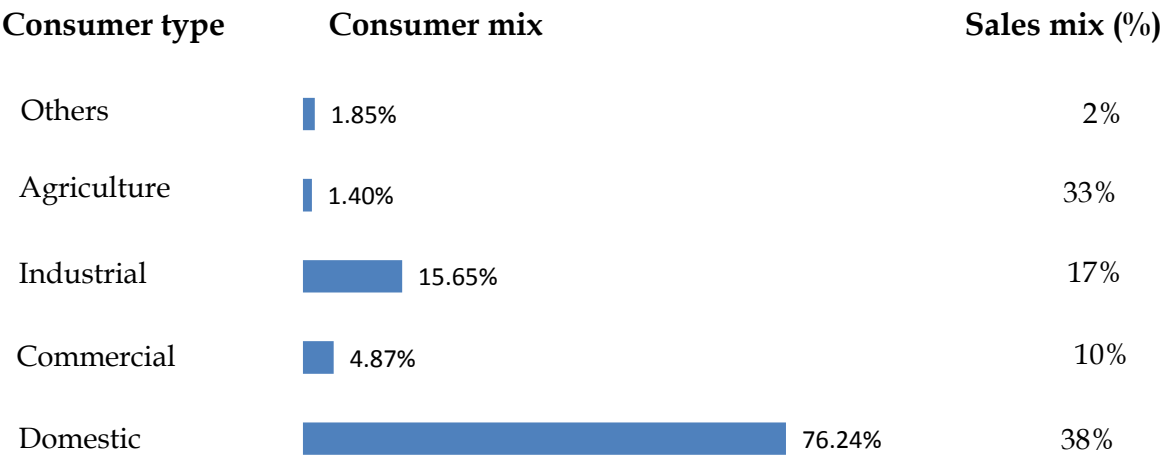
The EDC Varanasi is one of the seven circles under the Varanasi zone of PuVVNL. The circle is divided into four divisions: EDD – I, EDD – II, Chandauli and Mugalsarai.

The circle gets its energy from 1 no. of 220/132 kV sub-station and 8 nos. of 132/33 kV sub-stations. A total of 48 nos. of 33/11 kV sub-stations and 181 nos. of 11 kV feeders distributes energy across four divisions of the circle.

Total number of consumers in the circle was around 0.4 million. Total energy sales of the circle in FY 2011-12 were 823.10 MU. Domestic and agriculture contributed to more than 70% of the total energy sales of the circle. Energy sales to the industrial consumers constituted 17% of the total energy sales in the circle. Energy billed to the commercial category was around 10% and other consumer categories such as water works, railway traction street lighting accounted for 2% of the total energy sales of the circle.

Exhibit 7 shows the consumer profile and energy sales mix of EDC Varanasi circle.

Exhibit 7: Consumer and sales mix of EDC Varanasi



Source: PuVVNL

3.2 AT&C losses of the circles in FY 2011-12 as reported by the DISCOMs

The AT&C losses for FY 2011-12 reported by the four representative circles in Uttar Pradesh are shown below:

Table 11: AT&C losses in the four representative circles in the FY 2011-12

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Energy input in the circle (MU) [A]	1246.23	993.88	1139.28	1060.88
Unit billed (MU) [B]	857.17	618.60	729.61	823.10
T&D Losses (%) [C] = ([A]-[B])/[A]	**31.22%**	**37.76%**	**35.96%**	**22.41%**
Revenue Billed (` Crore) [D]	265.93	225.23	173.90	154.18
Revenue realized (` Crore) [E]	260.55	183.16	148.05	106.76
Collection Efficiency (%) [F]=[E]/[D]	97.98%	81.32%	85.13%	69.24%
AT&C Losses (%) [G] = ([A]-([B]*[F]))/[A]	**32.61%**	**49.39%**	**45.48%**	**46.28%**

Source: DVVNL, MVVNL, PVVNL and PuVVNL

The AT&C losses reported for FY 2011-12 in the four representative circles in Uttar Pradesh were in the range of 33%-50%. The T&D losses of the circles were in the range of 22% to 38%.

(i) The EDC Meerut has the lowest AT&C losses as compared to the other three selected circles due to the higher collection efficiency of 97.98%.
(ii) The EDC Mathura has the highest level of AT&C losses among the four selected circles. AT&C losses of the circle were 49.39%. The circle has high T&D losses and average collection efficiency was 81.32% resulting in higher AT&C losses.
(iii) The AT&C losses in EUCD IV Lucknow circle was 45.48% in FY 2011-12. This circle also has high T&D losses (35.96%) and average collection efficiency of 85.13% resulting in higher AT&C losses.
(iv) T&D losses in EDC Varanasi circle was the lowest among all the four selected circles i.e. 22.41%. However, due to poor collection efficiency of 69.24%, increased the AT&C losses of circle substantially at 46.28%.

This study has attempted to analyze the root causes for the AT&C losses in the distribution circles as well as the prevalent shortcomings in the distribution system of the DISCOMs. The following sub-sections highlight the key factors that are closely associated with energy losses in the circle.

3.3 Distribution system in the circles

There are three types of feeders supplying electricity to the consumers in the circles:

- **Urban feeders:** Cater mixed loads i.e. Domestic and commercial loads in the urban areas.
- **Rural feeders:** Serve mixed loads – domestic, commercial and agriculture loads in the rural areas.

- **Independent/Industrial feeders:** Dedicated/independent feeders supply energy to the industrial and commercial consumers such as educational institutions from the 33kV/11kV sub-stations.

It has been observed that the average energy loss in the urban and independent/Industrial feeders was around 22% and 0.70% respectively. However, energy loss in the rural feeders was on the higher side. In some of the rural feeders, the energy loss was more than 50%. The Table 8 shows the selected rural feeders, where the energy loss in the feeders was very high.

Table 12: Feeder wise losses in the circles

Sl. No.	Name of the feeder	Feeder type	Circle	Energy loss (%)*
1	Makera	Rural	EDC Mathura	55.18%
2	Oal	Rural	EDC Mathura	54.80%
3	Paigon	Rural	EDC Mathura	48.36%
4	Mahabon	Rural	EDC Mathura	70.00%
5	Tarikhana	Rural	EUDC IV Lucknow	43.00%
6	Narainpur	Rural	EUDC IV Lucknow	44.22%
7	Kakori Rural	Rural	EUDC IV Lucknow	43.46%
8	Jamulia	Rural	EUDC IV Lucknow	44.07%
9	Rarua	Rural	EDC Varanasi	49.64%
10	Mahuar	Rural	EDC Varanasi	43.07%
11	Bhatiza	Rural	EDC Varanasi	51.31%
12	Saidupur	Rural	EDC Varanasi	56.55%

* Including technical and commercial losses

Source: Feeder wise line T&D Loss statements for FY 2011-12 - DVVNL, MVVNL and PuVVNL

At present, the agriculture pump-sets and all other consumers in the rural areas are being served through a common 11 kV feeder. Further, the 11 kV rural feeders are run over longer distance, which increases the line losses of the feeders. It is also observed that maintenance of the rural feeders was very poor. At many places poles are broken, large sag in span causing frequent short circuits. At some places GI wire has been found being used in place of conductors in the feeders causing frequent

breakdowns and loss of energy. It all is causing frequent break downs and loss of energy. Voltage levels at fag end of 11kV feeders are generally very low.

In all the four representative circles the feeder separation work has not been carried out, which is aimed at separating the agriculture load from other category of consumers and to regulate the supply of the agriculture consumers.

3.4 Metering status in the circle

Meters in the 33 kV System

Electronic energy meters are installed at the receiving (incoming) end of the 11 kV feeders. The DISCOMs have mostly installed meters manufactured by L&T, Secure and HPL etc.

During our field studies it was found that a number of meters installed in the 33/11 kV were not working. The following Exhibit shows some examples of defective meters installed in the 33/11 kV Sub-stations found during our field studies.

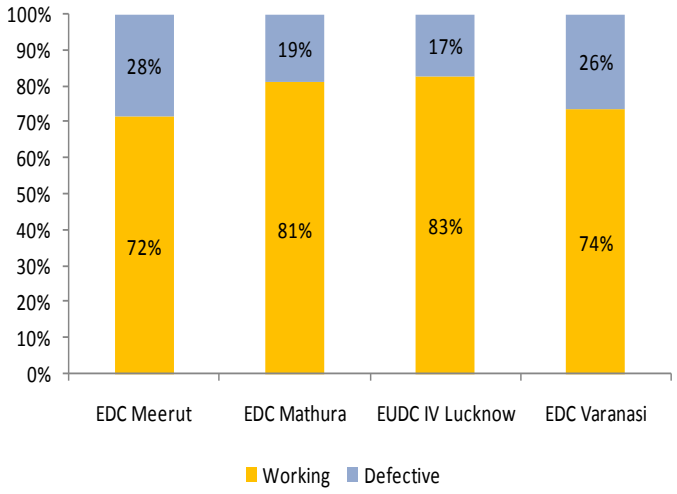
Exhibit 8: Defective meters installed at 33 kV System

Defective meter at Partapur S/S in EDC – Meerut

Defective meter in Sankarpur feeder in EUDC IV – Lucknow

Exhibit 9 presents the percentage of defective meters in the 33 kV system in all the four circle found during our field studies.

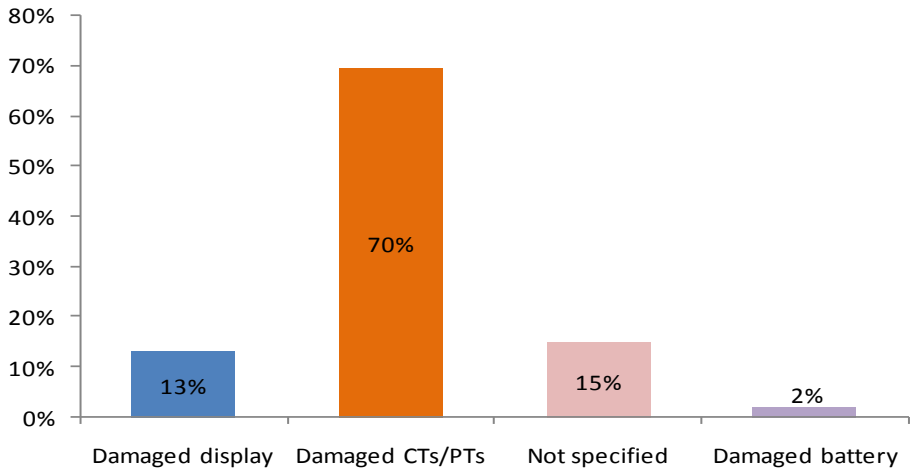
Exhibit 9: Percentage of working and defective meters in the 33 kV System



Source: Field studies

The meters were defective on account of CTs/PTs being faulty display and batteries being damaged. For some of the meters, the reason for the defective meters could not be ascertained from the departmental officials deployed in the Sub-stations. The reasons for defective meters have been summarized in the Exhibit shown below:

Exhibit 10: Reasons for the defective meters in the 33 kV sub-stations in the four selected circles



Source: Field studies

It can be observed from Exhibit 10 that:

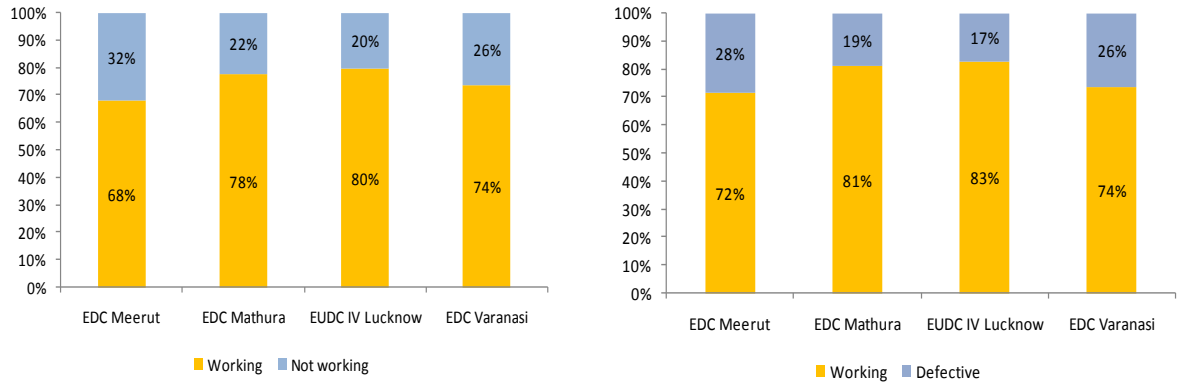
- The study found that out of the total damaged meters in the 33 kV system, 70% of the defective meters were damaged due to the CTs/PTs being faulty;

- 13% and 2% of the defective meters were on account of damage in the display of the meters and damage in the batteries respectively; and
- The departmental officials were not aware of the reasons for the defects in meters for the remaining 15% of the damaged meters.

The key reasons for the defective meters in the circle were non-replacement of burnt CTs/PTs and damaged display.

The study mandated the consultant to request the circle office to replace the defective meters in order to calculate losses at the sub-station level. Accordingly, few of the defective meters in the sub-stations were replaced and readings have been taken from the sub-stations. However, in a number of cases the meters were not replaced during our field studies in the circle. The exhibit 11 shows the percentage of working and defective meters found during field visits.

Exhibit 11: Percentage of working and defective meters found in 33/11 kV sub-stations



During 1st visit **During subsequent visits**

Source: Field studies

As shown above around 3%-4% of the defective meters were replaced at the time of field studies in the first three circles. However, in EDC Varanasi circle no defective meter was replaced. The following Table presents the name of the sub-stations, where the meters were replaced during the field studies.

Table 13: Sub-stations, where the meters were replaced during the field studies

33 kV Sub-station	Circle
Medical GSS	EDC Meerut
Modipuram GSS	EDC Meerut
Pallampuram GSS	EDC Meerut
Raya	EDC Mathura
Gokul	EDC Mathura
Kakori	EUDC IV Lucknow
Mohanlal ganj	EUDC IV Lucknow

Source: Field studies

Metering status in the DTs

Most of the DTs in all the four circles were found un-metered. Majority of the DT meters were found in the urban areas in the circles. The DISCOMs are in process to install meters in the DTs in some selected pockets in the circles. It was informed by the circle offices that the DT meters could not be installed during the field studies as the contact for installation of the DT meters was given to the contractors. In view of that our LT study was limited to the DTs, where the meters were working properly.

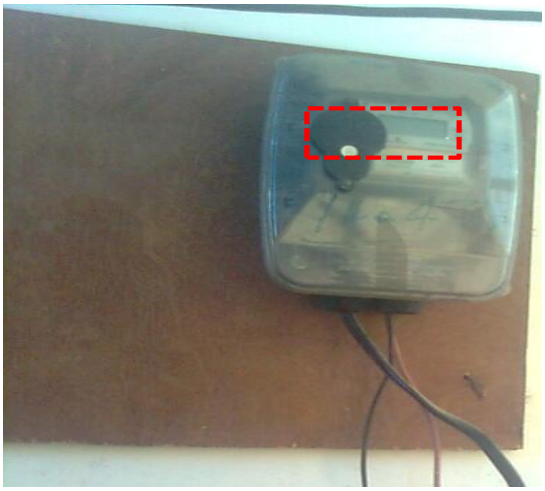
Metering at the consumer end

Electronics meters are installed for most of the consumers in the urban areas. However, in 8% of the cases it was found that electro-magnetic meters were also in use. Electro-magnetic meters are highly susceptible to tampering. Besides, the electro-magnetic meter does not count the energy consumption of the appliances consume small amount of energy such as mobile charger and emergency lamp etc.

It was also found that the meters are defective or un-metered in a number of houses. In some cases the consumers registered complaints for replacement in the sub-division for more than 3 months but the meters were not replaced. In other cases the consumers had not requested the department to replace the defective meters and the billing was being done on provisional basis with the assistance of the meter readers.

Exhibit 12 depicts few examples of defective meters found in the consumer premises.

Exhibit 12: Defective meters found in the consumer premises

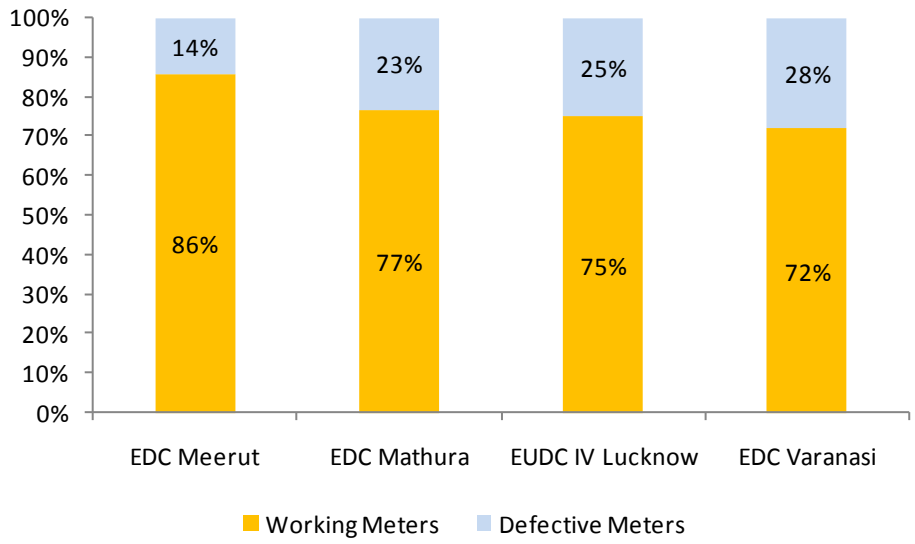


Defective consumer meter in EDC Meerut

Defective electro-magnetic meter in EDC Mathura

The following Exhibit illustrates the percentage of defective and un-metered consumers found during the field studies in the four circles.

Exhibit 13: Defective meters found in the consumer premises



Source: Field studies

The field studies show that the percentage of defective meters in all the four circles ranges between 14% (EDC Meerut) to 28% (EDC Varanasi). However, in reality the percentage of defective and un-metered consumers could be much more. The LT

study was mostly carried out in localities of the circles where the DTs as well as the consumer meters are installed to complete the study within the given timeframe. There are other localities in the circles (especially in the rural areas), where the consumers and the DTs are mostly un-metered.

3.5 Commercial practices in the DISCOMs

3.5.1 Types of connections

There are three types connections provided to various categories of consumers:

- **Metered consumers:** Consumers with metered connections are billed on monthly/bi-monthly basis. Domestic, commercial, industrial and other categories such as public water works, street lighting and railway tractions come under this type of connection.
- **Un-metered consumers:** Kutir Jyoti (BPL) and agriculture consumers fall under this type of connection. The domestic consumers are charged as per the rate fixed by the Uttar Pradesh State Electricity Regulatory Commission (UPSERC). The agriculture consumers are billed based on the sanctioned load of the pump sets (HP/kW).
- **Flat rate consumers:** Departmental employees come under this category. The UPSERC fixed the flat rate for various slabs of consumption. The flat rates are charged on the basis of the actual meter reading of the consumers. Additional consumption beyond the permitted level is being charged as per the tariff rates applicable for the metered consumers. Further the tariff rates for this type of consumers are lower than the metered consumers.

3.5.2 Supply to agriculture consumers

The agriculture consumers get electricity during off-peak hours. Generally, the agriculture consumers receive supply for 6 hours in a day on rotational basis i.e. in the early hours of the day and late hours in the night time. Based on the sanctioned load of the pump sets, the consumers are billed on monthly basis.

3.5.3 Meter reading and billing

The meter reading and billing activities are completely or partially outsourced to the third party billing agencies to bring efficiency in the billing process.

In EUDC Lucknow IV circle the meter reading and billing process are jointly carried out by the department (in Bakshi-Ka-Talab and Rahimnagar divisions) and billing agency (in CESS – I and CESS II divisions). In this case, the department is processing the consumer bills and maintains the billing information through an Enterprise Resource Planning (ERP) system called "E-Urja" system.

In the other three circles the meter reading and billing activities have been outsourced to independent billing agencies.

3.5.4 Collection of revenue from the consumers

There are two types of system for collection of billed amount from the consumers – collection centers located in the sub-division offices and online payment system.

The on-line payment system has recently been implemented in the EDC-Meerut circles. Other three circles are also in process to implement the on-line payment system. The on-line payment system is currently availed by few consumers. Most of the consumers still pay their bills at the collection points. The collection centers in the circle are limited in numbers and some time it is difficult for the consumers residing in the remote areas to access such collection centers and pay their bills in time. It has been observed that a large number of rural consumers have not paid their energy bills for months. The reason cited as they have to cover long distance to pay their bills.

4. Chapter 4: Computation of component wise AT&C losses in the four circles in Uttar Pradesh

Following sub-sections of this chapter highlight the assessment of component wise AT&C losses in the four representative circles in the State of Uttar Pradesh from June to September 2012 i.e. when the field studies was conducted in the four circles.

4.1 Electricity Distribution Circle (EDC) Meerut

4.1.1 AT&C losses in EDC Meerut circle from June to September 2012

Table 14 shows the estimated AT&C losses of EDC Meerut Circle from June to September 2012.

Table 14: Estimated AT&C losses of EDC Meerut (June to Sept. 2012)

Particulars	MU	In percentage
Energy input in the circle (MU) [A]	448.69	
Energy billed (MU) [B]	305.30	
T&D Losses (MU) [C] = [A]- [B]	143.39	
T&D Losses (%) [D] = ([A]-[B])/[A]	---	31.96%
Revenue Billed (` Crore) [E]	92.91	
Revenue realized (` Crore) [F]	87.17	
Collection Efficiency (%) [G]=[F]/[E]	---	93.82%
AT&C Losses (MU) [H] = [A]-([B]*[G])	162.26	
AT&C Losses (%) [I] = ([A]-([B]*[G]))/[A]	---	36.16%

Source: PVVNL and Field studies

Following are the highlights of the AT&C losses of the EDC Meerut circle from June to September 2012:

- The actual energy input during the study period was 448.69 MU. Against that the circle has billed 305.30 MU, which led to T&D losses of 143.40 MU i.e. 31.96%.

- Against the energy billed, the circle has billed ` 92.91 Crore and realized only ` 87.17 Crore. Hence, the collection efficiency of the circle was 93.82%.
- Based on the above, the AT&C losses of the circle have been computed at 31.96% i.e. energy loss of 162.26 MU against the energy input of 448.69 MU.

4.1.2 Technical loss in EDC Meerut

The component wise technical loss i.e. the technical loss from the 132 kV to 11 kV (HT) and below 11 kV (LT) in the EDC Meerut circle are presented in the following Table.

Table 15: Component wise technical loss in EDC Meerut (June to Sept. 2012)

Particulars	MU	Components of technical loss (%)
HT loss from 132 kV to 11 kV [A]	23.10	5.15%
Technical loss below 11 kV [B]	46.29	10.31%
Total technical loss [C]=[A]+[B]	**69.38**	
Energy input in the circle [D]	448.69	
Percentage of technical loss in terms of energy input in the circle (%) [E] = [C]/[D]		**15.46%**

Source: Field studies

As seen in Table 15, the total technical loss in EDC Meerut circle was 69.38 MU, which is 15.46% of the total energy input (448.69 MU) in the circle. The technical loss in the HT and LT systems account for 5.15% (a sample computation of the same is shown in Table 16 and Table 17) and 10.31% (a sample computation is shown in Table 18) with respect to the energy input in the circle. Detail computation of the technical loss HT and LT systems (for all the four circles) is enclosed as Annexure III and Annexure IV in Volume – II of this report.

Table 16: Sample calculation of technical loss in the HT system in EDC Meerut

Name of 132 kV S/S	Energy sent from 132 kV	Name of 33/11 kV S/S	Energy input at 11 kV feeder	Name of 11 kV feeder	Energy sent from 11 kV	HT Loss (%)
Partapur	3841	Pallavpuram	1019	E-Packet	345	
				F-Packet	485	
				2nd Phase	148	
				Total	**978**	
			2710	MIG	453	
				S/S	1	
				Mor Garden	1541	
				HIG	656	
				Total	**2651**	
HT loss from 132 kV to 11 kV sent out			**= (3841-(978+2651))/ 3841**			**5.52%**

Source: Field studies

The total energy input in the circle computed during the study period and total energy sent out from the 33/11 kV feeders is shown in the Table 17. The technical loss in the HT system is computed at 5.15%.

Table 17: Computation of technical loss in the HT system in EDC Meerut

Particulars	Consumption ('000 kWh)
Energy input ('000 kWh) [A]	40781
Energy send from 11 kV feeders ('000 kWh) [B]	38680
HT loss from 132 to 11 kV (%) [C]=([A]-[B]/[A])	5.15%
Energy input in the circle [D]	448.69
Technical loss in the HT system [E] = [C]*[D]	23.10

Source: Field studies

The computation of LT line losses and extrapolating the same on EDC Meerut circle is presented in the following Table.

Table 18: Computation of LT line loss and extrapolating the same in EDC Meerut circle (June to Sept. 2012)

Consumer category	Energy sent from the DTs[11]	Energy consumption at consumer end	Line loss	Energy consumption in the circle during the study period (MU)	Energy required to sale energy to the consumers (MU)	LT line loss
[A]	[B]	[C]	[D] =([B] - [C])/[B]	[E]	[F] = [E]/ (1-[D])	[G] = [F] – [E]
Domestic, agriculture and other consumers	1775.80	1483.83	16.44%	205.42	245.84	40.42
Commercial	204.40	183.21	10.37%	42.19	47.07	4.88
LT industrial	3528.00	3350.00	5.05%	18.70	19.69	0.99
Total [A]						**46.29**
Energy input in the circle [B]						448.69
Technical loss in the LT system [C] = [A]/[B]						10.31%

Source: Field studies

4.1.3 Commercial loss in EDC Meerut

The commercial loss of the circle has been arrived at by deducting the total technical loss from the total AT&C losses of the circle. The estimated commercial loss of EDC Meerut is computed below:

Table 19: Commercial loss of EDC Meerut (June to Sept. 2012)

Particulars	MU	In percentage
AT&C losses (MU) [A]	162.26	36.16%
Technical loss (MU) [B]	69.38	15.46%
Commercial loss (MU) [C] = [A] – [B]	**92.88**	
Energy input in the circle [D]	448.69	
Commercial loss (%) [E] = [C]/[D]		**20.70%**

Source: Field studies

[11] Energy sent and energy consumption data is based on the sample LT study. As mentioned in chapter 2, LT study for a particular DT had been carried out in a single day.

The commercial loss of the EDC Meerut circle was 92.88 MU i.e. 20.70% of energy input of 448.69 MU. Key factors responsible for commercial loss in the circle are discussed below.

4.1.4 Component wise commercial loss in EDC Meerut

Commercial Loss due to deficient metering

The commercial loss due to deficient metering of the consumers is shown in the following Table. This type of loss takes place at the time when the meters are defective and not replaced within 15 days as per the "Supply Code" and the consumers are billed on provisional basis over a period of time (1-6 months). Due to provisional billing to these consumers the circle has incurred commercial loss as shown below.

Table 20: Commercial loss due to deficient metering and extrapolating in the circle

Particulars	1 month consumption as per field studies (Units)	1 month consumption as per the DISCOM (Units)	% of commercial loss	Energy billed by the DISCOM due to deficient metering (MU)	Energy to be billed as per the field study due to deficient metering (MU)	Commercial loss (MU)	Commercial loss in terms of energy input (%)
1	2 (M1)	3 (M2)	4 (M3=(M1-M2)/M1))	5 (M4)	6 (M5=((M4/(1-M3))	7 (M6=M5 - M4)	8 (M7 = M6/ energy input)
Loss due to deficient metering	5622	4838	13.95%	18.17	21.11	2.94	(2.94/448.69) = 0.66%

Source: Field studies

From the sample LT study in the EDC Meerut circle, the difference between the actual energy consumed by the consumers with defective meters and billed by the circle has been arrived at 13.95% (i.e. percentage of energy loss due to deficient metering). To estimate the commercial loss due to deficient metering, the LT sample study results on deficient metering were extrapolated on the circle first and

compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of deficient metering will be 21.11 MU as against 18.17 MU billed by the DISCOM. Hence, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to deficient metering was computed at 2.94 MU, i.e. 0.66%with respect to the total energy input in the circle (448.69 MU).

The formula to extrapolate the Commercial loss due to deficient metering is shown below:

(A) Energy consumption recorded in the field studies for the consumers with defective meter – M1

(B) Energy billed by the department to such consumer - M2

(C) Commercial Loss due to deficient metering (%) – M3 = (M1-M2)/M1

(D) Total energy billed by the department to the consumers in the circle with defective meter – M4

(E) Extrapolating the LT survey results on the defective meter billing of the circle - (M5=(M4/(1-M3))

(F) Commercial loss due to deficient metering in the circle - (M6=M5 - M4)

(G) Percentage of commercial loss due to deficient metering in terms of energy input in the circle - (M7 = M6/ energy input)

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume – II of this report.

Commercial loss due to billing inefficiency

Table 21 shows the commercial loss due to billing inefficiency. The actual findings from the sample have been extrapolated on the overall un-metered consumers of the circle.

Table 21: Commercial loss due to billing inefficiency and extrapolating in the circle

Particulars	1 month consumption as per Field studies (Units)	1 month consumption as per DISCOM (Units)	% of commercial loss	Energy billed by the DISCOM (MU)	Energy billed as per the field study (MU)	Commercial loss (MU)	Commercial loss in terms of energy input (%)
1	2 (B1)	3 (B2)	4 (B3 = (B1-B2)/B1))	5 (B4)	6 (B5=B4/ (1-B3))	7 (B6=B5 - B4)	8 (B7=B6 /energy input)
Loss due to billing inefficiency	9427	7883	16.38%	41.76	49.94	8.18	(8.18/ 448.69) = 1.82%

Source: Field studies

From the sample LT study in the EDC Meerut circle, the difference between the actual energy consumed by the consumers and billed by the circle to such consumers had been arrived at 16.38%. To estimate the commercial loss due to billing inefficiency, the LT sample study results on billing inefficiency were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of billing inefficiency will be 49.94 MU as against 41.76 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 8.18 MU i.e. 1.82% with respect to the total energy input in the circle (448.69 MU).

The formula to extrapolate the Commercial loss due to billing inefficiency is shown below:

(A) Energy consumption recorded in the field studies for the consumers billed on provisional basis– B1

(B) Energy billed by the department to such consumer - B2

(C) Commercial Loss due to billing inefficiency (%) – B3 = (B1-B2)/B1

(D) Energy billed by the DISCOM to the consumers in the circle – B4

(E) Extrapolating the energy billed as per the field study due to billing inefficiency in the circle - (B5=B4/(1-B3))

(F) Commercial loss due to billing inefficiency in the circle - (B6=B5 - B4)

(G) Percentage of commercial loss due to billing inefficiency in terms of energy input in the circle - (B7=B6 /energy input)

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume– II of this report.

Commercial Loss due to provisional billing to metered consumers

Besides, deficient metering and billing inefficiency, it was found during the field studies that a number of consumers were billed on provisional basis due to non-availability of meter reading or the meter reading not reflected in the billing database of the utility. The reasons for such cases as informed by the officials are:

- The meter readers could not reach to the households for meter reading;
- The households were closed at the time of meter reading;
- The readings were not reflected in the database because actual readings were not made available to the data entry operators at the time of billing

The DISCOM billed these types of consumers on provisional basis. The cases are more prevalent in the remote locations of the circles.

The commercial loss due to the factors highlighted above is presented in the following Table:

Table 22: Commercial loss due to provisional billing to metered consumers in EDC Meerut (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to provisional billing to metered consumers in EDC Meerut [A]	59.18	48.05	11.13	18.80%
Percentage of energy loss due to provisional billing to the metered consumers [B] (%) = Energy loss due to provisional billing to the metered consumers/ Energy input in the circle	(11.13/448.69) = 2.48%			

Source: Field studies

From the sample study, the difference between the actual energy consumed by the consumers and billed by the circle to metered consumers on provisional basis has been arrived at 18.80%. To estimate the commercial loss due to provisional billing to the metered consumers, the LT sample study results were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on provisional basis to the metered consumers will be 59.18 MU as against 48.05 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 11.13 MU, i.e. 2.48% with respect to the total energy input in the circle (448.69 MU).

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume– II of this report.

Commercial Loss due to collection inefficiency

Total unit billed and unit realized and losses due to collection inefficiency of the circle are presented in the following Table:

Table 23: Commercial loss due to collection inefficiency in EDC Meerut (June to Sept. 2012)

Particulars	MU
Energy billed (MU) [A]	305.30
Energy realized (MU) [B]	286.43
Energy lost (MU) **[C] = [A] – [B]**	**18.87**
Energy input in the circle (MU) [D]	448.69
Percentage of energy loss due to collection inefficiency (%) [E] = [C]/[D]	**4.20%**

Source: Field studies

The above Table shows that the department has billed around 305.30 MU and realized only 286.43 MU due to non-recovery of payment from the consumers. Hence, the energy loss incurred by the department due to collection inefficiency was 18.87 MU, i.e. 4.20% in terms of total energy input in the circle (448.69 MU).

Commercial Loss due to theft/pilferage

Table 24 shows that 51.76 MU of energy i.e. 11.54 % of the total energy received by the circle have been lost due to theft/pilferage of energy.

Table 24: Commercial loss due to theft/pilferage in EDC Meerut (June to Sept. 2012)

Particulars	MU	In percentage
Total commercial loss (MU) [A]	92.88	20.70%
Losses on account of efficient metering, billing inefficiency, provision billing to the metered consumers and collection inefficiency (MU) [B]	41.12	9.16%
Energy loss due to theft/pilferage (MU) [C] = [A] – [B]	**51.76**	
Energy input in the circle (MU) [D]	448.69	
Percentage of energy loss due to theft/pilferage (%)[E] = [C]/[D]		**11.54%**

Source: Field studies

Total commercial loss in the circle was 92.88 MU. Commercial loss on account of efficient metering, provisional billing to the metered consumers, billing and collection inefficiency comes to 41.12 MU. According to the formula prescribed in the FoR Report, the commercial loss due to theft and pilferage of energy in EDC Meerut circle was computed at 51.76 MU, i.e. 11.54% in terms of total energy input in the circle (448.69 MU).

4.2 Electricity Distribution Circle (EDC) Mathura

4.2.1 AT&C losses of EDC Mathura circle from June to September 2012

The estimated AT&C losses of EDC Mathura circle is presented in the Table 25 below.

Table 25: Estimated AT&C losses of EDC Mathura (June to Sept. 2012)

Particulars	MU	In percentage
Energy input in the circle (MU) [A]	349.19	
Energy billed (MU) [B]	221.96	
T&D Losses (MU) [C] = [A]- [B]	127.23	
T&D Losses (%) [D] = ([A]-[B])/[A]	--	36.44%
Revenue Billed (` Crore) [E]	81.28	
Revenue realized (` Crore) [F]	66.86	
Collection Efficiency (%) [G]=[F]/[E]	--	82.26%
AT&C Losses (MU) [H] = [A]-([B]*[G])	166.60	
AT&C Losses (%) [I] = ([A]-([B]*[G]))/[A]	--	47.71%

Source: DVVNL, Field studies

Following are the highlights of the AT&C losses of the EDC Mathura circle from June to September 2012:

- The actual energy input during the study period was 349.19 MU. Against that the circle has billed 221.96 MU, which led to T&D losses of 127.23 MU i.e. 36.44%.
- Against the energy billed, the circle has billed ` 81.28 Crore and realized only ` 66.86 Crore. Hence, the collection efficiency of the circle was 82.26%.
- Based on the above, the AT&C losses of the circle have been computed at 47.71% i.e. energy loss of 166.60 MU against the energy input of 349.19 MU.

4.2.2 Technical loss of EDC Mathura

Detailed computation of component wise technical loss of EDC Mathura is shown in the Table below.

Table 26: Component wise technical loss in EDC Mathura (June to Sept. 2012)

Particulars	MU	Components of technical loss (%)
HT loss from 132 kV to 11 kV [A]	17.53	5.02%
Technical loss below 11 kV [B]	46.85	13.42%
Total technical loss [C]=[A]+[B]	**64.38**	
Energy input in the circle [D]	349.19	
Percentage of technical loss in terms of energy input in the circle (%) [E] = [C]/[D]	**--**	**18.44%**

Source: DVVNL, Field studies

As seen in Table 26, the total technical loss in EDC Mathura circle was 64.38 MU, which is 18.44% of the energy input (349.19 MU) in the circle. The HT and LT technical loss account for 5.02% and 13.42% respectively.

4.2.3 Commercial loss of EDC Mathura

The estimated commercial loss of EDC Mathura is presented below:

Table 27: Commercial loss of EDC Mathura (June to Sept. 2012)

Particulars	MU	In percentage
AT&C losses (MU) [A]	166.60	47.71%
Technical loss (MU) [B]	64.38	18.44%
Commercial loss (MU) [C] = [A] – [B]	**102.22**	
Energy input in the circle [D]	349.19	
Commercial loss (%) [E] = [C]/[D]	**--**	**29.27%**

Source: Field studies

As depicted in the Table above commercial loss of EDC Mathura circle was close to 29%. Component wise analysis of commercial loss in EDC Mathura circle is discussed in the next section.

4.2.4 Component wise commercial loss in EDC Mathura

Loss due to deficient metering

As shown in the Table below, around 1.15 MU i.e. 0.33% of the total energy has been lost due to deficient metering in EDC Mathura circle.

Table 28: Commercial loss due to deficient metering in EDC Mathura (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to deficient metering in EDC Mathura [A]	27.52	26.37	1.15	4.35%
Percentage of energy loss due to deficient metering (%) [B] = Commercial loss due to deficient metering /Energy input in the circle	(1.15/349.19) = 0.33%			

Source: Field studies

From the sample LT study in the EDC Mathura circle, the difference between the actual energy consumed by the consumers with defective meters and billed by the circle on provisional billing has been arrived at 4.35% (i.e. percentage of energy loss due to deficient metering). To estimate the commercial loss due to deficient metering, the LT sample study results on deficient metering were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of deficient metering will be 27.52 MU as against 26.37 MU billed by the DISCOM. Hence, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to deficient metering was computed at 1.15 MU, i.e. 0.33% with respect to the total energy input in the circle (349.19 MU).

Detailed computation of component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume. – II of this report.

Loss due to billing inefficiency

Table 29 shows the commercial loss due to billing inefficiency in the EDC Mathura circle.

Table 29: Commercial loss due to billing inefficiency in EDC Mathura (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to billing inefficiency (MU)	Energy loss due to energy billed by the DISCOM (%)
Commercial loss due to billing inefficiency in EDC Mathura[A]	12.10	10.17	1.93	15.97%
Percentage of energy loss due to billing inefficiency (%) [B] = Energy loss due to billing inefficiency/ Energy input in the circle	(1.93/349.19) = 0.55%			

Source: Field studies

From the sample LT study in the EDC Mathura circle, the difference between the actual energy consumed by the consumers and billed by the circle to such consumers on provisional basis has been arrived at 15.97%. The LT sample study results on billing inefficiency were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of billing inefficiency will be 12.10 MU as against 10.17 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 1.93 MU i.e. 0.55% with respect to the total energy input in the circle (349.19 MU).

Detailed computation of component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume – II of this report.

Commercial Loss due to provisional billing to the metered consumers

The commercial loss due the factors highlighted above is presented in the following Table:

Table 30: Commercial loss due to provisional billing to metered consumers in EDC Mathura (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to provisional billing to metered consumers in EDC Mathura [A]	84.22	62.90	21.32	25.31%
Percentage of energy loss due to provisional billing to the metered consumers [B] (%) = Energy loss due to provisional billing to the metered consumers/ Energy input in the circle	(21.32/349.19) = 6.10%			

Source: Field studies

From the sample study, the difference between the actual energy consumed by the consumers and billed by the circle to metered consumers on provisional basis has been arrived at 25.31%. To estimate the commercial loss due to provisional billing to the metered consumers, the LT sample study results were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on provisional basis to the metered consumers will be 84.22 MU as against 62.90 MU billed by the DISCOM. Therefore, the commercial loss

(as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 21.32 MU, i.e. 6.10% with respect to the total energy input in the circle (349.19 MU).

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume. – II of this report.

Loss due to collection inefficiency

Total energy billed and energy realized and losses due to collection inefficiency of the circle are presented in the following Table.

Table 31: Commercial loss due to collection inefficiency in EDC Mathura (June to Sept. 2012)

Particulars	MU
Energy billed [A]	221.96
Energy realized [B]	182.59
Energy lost (MU) **[C] = [A] – [B]**	**39.37**
Energy input in the circle (MU) [D]	349.19
Percentage of energy loss due to collection inefficiency (%) [E] = [C]/[D]	**11.27%**

Source: Field studies

The above table shows that the department has billed around 221.96 MU and against that realized only 182.59 MU due to non-recovery of bills from the consumers. Hence, the energy loss incurred by the department due to collection inefficiency was 39.37 MU, 11.27% of the energy input in the circle.

Loss due to theft/pilferage of energy

Table 32 shows the energy loss due to due to theft/pilferage of energy with respect to the total energy input in EDC Mathura.

Table 32: Commercial loss due to theft/pilferage in EDC Mathura (June to Sept. 2012)

Particulars	In (MU)	In percentage
Total commercial loss (MU) [A]	102.22	29.27%
Losses on account of efficient metering, billing inefficiency, provision billing to the metered consumers and collection inefficiency (MU) [B]	63.76	18.26%
Energy loss due to theft/pilferage (MU) [C] = [A] – [B]	**38.46**	
Energy input in the circle (MU) [D]	349.19	
Percentage of energy loss due to theft/pilferage (%) [E] = [C]/[D]	**--**	**11.01%**

Source: Field studies

As shown above, total commercial loss in the circle was 102.22 MU. Commercial loss on account of deficient metering, provision billing to the metered consumers, billing and collection inefficiency comes to 63.76 MU. Accordingly, the commercial loss due to theft and pilferage of energy in EDC Mathura circle was computed at 38.46 MU i.e. 11.01% of the total energy loss in the circle.

4.3 Electricity Urban Distribution Circle (EUDC) IV Lucknow

4.3.1 AT&C losses of EUDC IV Lucknow circle from June to September 2012

The following Table shows the estimated AT&C losses of EUDC IV Lucknow circle.

Table 33: Estimated AT&C losses of EUDC IV Lucknow (June to Sept. 2012)

Particulars	MU	In percentage
Energy input in the circle (MU) [A]	440.47	
Energy billed (MU) [B]	282.40	
T&D Losses (MU) [C] = [A]- [B]	158.07	
T&D Losses (%) [D] = ([A]-[B])/[A]	---	35.89%
Revenue Billed (` Crore) [E]	86.27	
Revenue realized (` Crore) [F]	76.93	
Collection Efficiency (%) [G]=[F]/[E]	---	89.17%
AT&C Losses (MU) [H] = [A]-([B]*[G])	188.65	
AT&C Losses (%) [I] = ([A]-([B]*[G]))/[A]	---	42.83%

Source: MVVNL, Field studies

As shown in Table 33:

- The actual energy input in the circle during the study period was 440.47 MU. Against that the circle has billed 282.40 MU, which led to T&D losses of 158.07 MU i.e. 35.89%.
- Against the energy billed, the circle has billed ` 86.27 Crore and realized only ` 76.93 Crore. Hence, the collection efficiency of the circle was 89.17%.
- Based on the above, the AT&C losses of the circle have been computed at 42.83% i.e. energy loss of 188.65 MU against the energy input of 440.47 MU.

4.3.2 Technical loss of EUDC IV Lucknow

The component wise technical loss is shown in the following Table.

Table 34: Component wise technical loss in EUDC IV Lucknow circle (June to Sept. 2012)

Particulars	MU	Component wise technical loss (%)
HT loss from 132 kV to 11 kV [A]	22.54	
Technical loss below 11 kV [B]	51.09	5.12%
Total technical loss [C]=[A]+[B]	**73.63**	11.60%
Energy input in the circle [D]	440.47	
Percentage of technical loss in terms of energy input in the circle (%) [E] = [C]/[D]	**---**	**16.72%**

Source: MVVNL, Field studies

As seen in Table 34, the total technical loss in EUDC IV Lucknow was 73.63 MU, which is 16.72% of the total energy input (440.47 MU) in the circle. The HT and LT technical loss account for 5.12% and 11.60% with respect to the total energy input in the circle.

4.3.3 Commercial loss of EUDC IV Lucknow circle

The total commercial loss of the circle has been arrived at by deducting the technical loss of the circle from the overall AT&C losses of the circle. The estimated commercial loss of EUDC IV Lucknow circle is computed below:

Table 35: Commercial loss of EUDC IV Lucknow (June to Sept. 2012)

Particulars	MU	Loss (%)
AT&C losses (MU) [A]	188.65	42.83%
Technical loss (MU) [B]	73.63	16.72%
Commercial loss (MU) [C] = [A] – [B]	**115.03**	
Energy input in the circle [D]	440.47	
Commercial loss (%) [E] = [C]/[D]	**---**	**26.11%**

Source: Field studies

It can be seen that the commercial loss of the EUDC IV Lucknow circle was almost 26%. The component wise analysis of the commercial loss has been discussed in the following section.

4.3.4 Component wise commercial loss in EUDC IV Lucknow

Loss due to deficient metering

Commercial loss due to deficient metering of the consumers in EUDC IV Lucknow circle is shown in Table 36.

Table 36: Commercial loss due to deficient metering in EUDC IV Lucknow (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to deficient metering in EUDC IV Lucknow [A]	48.61	33.55	15.07	30.99%
Percentage of energy loss due to deficient metering (%) [B] = Commercial loss due to deficient metering /Energy input in the circle	(15.07/440.47) = 3.42%			

Source: Field studies

From the sample LT study in the EUDC IV Lucknow circle, the difference between the actual energy consumed by the consumers with defective meters and billed by the circle on provisional billing has been arrived at 30.99% (i.e. percentage of energy loss due to deficient metering). To estimate the commercial loss due to deficient metering, the LT sample study results on deficient metering were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of deficient metering will be 48.61 MU as against 33.55 MU billed by the DISCOM. Hence, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to deficient metering was computed at 15.07 MU, i.e. 3.42% with the energy input (440.47 MU) in the circle.

Loss due to billing inefficiency

Table 37 shows the commercial loss due to billing inefficiency. The actual findings from the sample have been extrapolated on the overall un-metered consumers of the circle.

Table 37: Commercial loss due to billing inefficiency in EUDC IV Lucknow (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to billing inefficiency (MU)	Energy loss due to energy billed by the DISCOM (%)
Commercial loss due to billing inefficiency in EUDC IV Lucknow [A]	73.93	50.94	22.98	31.09%
Percentage of energy loss due to billing inefficiency [B] (%) = Energy loss due to billing inefficiency/ Energy input in the circle	(22.98/440.47) = 5.22%			

Source: Field studies

From the sample LT study in the EUDC IV Lucknow, the difference between the actual energy consumed by the consumers and billed by the circle to such consumers on provisional basis has been arrived at 31.09%. To estimate the commercial loss due to billing inefficiency, the LT sample study results on billing inefficiency were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of billing inefficiency will be 73.93 MU as against 50.94 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 22.98 MU i.e. 5.22% with respect to the total energy input in the circle (440.47 MU).

Detailed computation of component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume – II of this report.

Commercial Loss due to provisional billing to the metered consumers

The commercial loss due the factors highlighted above is presented in the following Table:

Table 38: Commercial loss on provisional billing to the metered consumers in EUDC IV Lucknow (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to provisional billing to metered consumers in EUDC IV Lucknow [A]	21.03	19.63	1.40	6.67%
Percentage of energy loss due to provisional billing to the metered consumers [B] (%) = Energy loss due to provisional billing to the metered consumers/ Energy input in the circle	(1.40/440.47) = 0.32%			

Source: Field studies

From the sample study in EUDC IV Lucknow, the difference between the actual energy consumed by the consumers and billed by the circle to metered consumers on provisional basis has been arrived at 6.67%. To estimate the commercial loss due to provisional billing to the metered consumers, the LT sample study results were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on provisional basis to the metered

consumers will be 21.03 MU as against 19.63 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 1.40 MU, i.e. 0.32% with respect to the total energy input in the circle (440.47 MU).

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume – II of this report.

Loss due to collection inefficiency

Total energy billed and energy realized and losses due to collection inefficiency of the circle are presented in the following table.

Table 39: Commercial loss due to collection inefficiency in EUDC IV Lucknow (June to Sept. 2012)

Particulars	MU
Energy billed (MU) [A]	282.40
Energy realized (MU) [B]	251.81
Energy lost (MU) [C] = [A] – [B]	**30.59**
Energy input in the circle (MU) [D]	440.47
Percentage of energy loss due to collection inefficiency (%) [E] = [C]/[D]	**6.94%**

Source: Field studies

The above Table shows that the department has billed around 282.40 MU and against that realized only 251.81 MU due to non-recovery of bills from the consumers. Hence, the energy loss incurred by the department due to collection inefficiency was 30.59 MU, around 6.94%of the total energy input (440.47 MU) in the circle.

Loss due to theft/pilferage of energy

Table 40 shows the commercial loss due to theft/pilferage of energy in EUDC IV Lucknow circle from June to September 2012.

Table 40: Commercial loss due to theft/pilferage in EUDC IV Lucknow (June to Sept. 2012)

Particulars	In (MU)	In percentage
Total commercial loss (MU) [A]	115.03	26.11%
Losses on account of efficient metering, billing inefficiency, provision billing to the metered consumers and collection inefficiency (MU) [B]	70.04	15.90%
Energy loss due to theft/pilferage (MU) [C] = [A] – [B]	**44.98**	
Energy input in the circle (MU) [D]	440.47	
Percentage of energy loss due to theft/pilferage (%) [E] = [C]/[D]	**---**	**10.21%**

Source: Field studies

As shown above, total commercial loss in the circle was 115.03 MU. Commercial loss on account of efficient metering, provision billing to the metered consumers, billing and collection inefficiency comes to 70.04 MU. Accordingly, the commercial loss due to theft and pilferage of energy in EUDC IV Lucknow circle was computed at 44.98 MU i.e. 10.21% of the total energy loss in the circle.

4.4 Electricity Distribution Circle (EDC) Varanasi

4.4.1 AT&C losses of EDC Varanasi circle from June to September 2012

The following table shows the estimated AT&C losses of EDC Varanasi circle.

Table 41: Estimated AT&C losses of EDC Varanasi (June to Sept. 2012)

Particulars	MU	In percentage
Energy input in the circle (MU) [A]	332.89	
Energy billed (MU) [B]	257.23	
T&D Losses (MU) [C] = [A]- [B]	75.66	
T&D Losses (%) [D] = ([A]-[B])/[A]	---	22.73%
Revenue Billed (` Crore) [E]	70.30	
Revenue realized (` Crore) [F]	48.32	
Collection Efficiency (%) [G]=[F]/[E]	---	68.74%
AT&C Losses (MU) [H] = [A]-([B]*[G])	156.08	
AT&C Losses (%) [I] = ([A]-([B]*[G]))/[A]	---	46.89%

Source: PuVVNL, Field studies

It can be seen from Table 41:

- The actual energy input in the circle during the study period was 332.89 MU. Against that the circle has billed 257.23 MU, which led to T&D losses of 75.66 MU i.e. 22.73%.
- Against the energy billed, the circle has billed ` 70.30 Crore and realized only ` 48.32 Crore. Hence, the collection efficiency of the circle was 68.74% (lowest among the four circles).
- Based on the above, the AT&C losses of the circle have been computed at 46.89% i.e. energy loss of 156.08 MU against the energy input of 332.89 MU.

4.4.2 Technical loss of EDC Varanasi

Component wise technical loss is shown in the following Table.

Table 42: Component wise technical losses in EDC Varanasi circle (June to Sept. 2012)

Particulars	MU	Component wise technical loss (%)
HT loss from 132 kV to 11 kV [A]	16.58	4.98%
Technical loss below 11 kV [B]	**37.89**	11.38%
Total technical loss [C]=[A]+[B]	**54.47**	
Energy input in the circle [D]	332.89	
Percentage of technical loss in terms of energy input in the circle (%) [E] = [C]/[D]	**---**	**16.36%**

Source: PuVVNL, Field studies

As seen in Table 42, the total technical loss in EDC Varanasi circle was 54.47 MU, which is 16.36%of the total energy input (332.89 MU) in the circle. The HT and LT technical loss account for 4.98% and 11.38% with respect to the total energy input in the circle.

4.4.3 Commercial loss of EDC Varanasi circle

Estimated commercial loss of EDC Varanasi circle is presented below:

Table 43: Commercial loss of EDC Varanasi (June to Sept. 2012)

Particulars	MU	Loss (%)
AT&C losses (MU) [A]	156.08	46.89%
Technical loss (MU) [B]	54.47	16.36%
Commercial loss (MU) [C] = [A] – [B]	**101.61**	
Energy input in the circle [D]	**332.89**	
Commercial loss (%) [E] = [C]/[D]	**---**	**30.52%**

Source: Field studies

It can be seen that the commercial loss of the EDC Varanasi circle was almost 31%. Component wise analysis of the same is described in the following section.

4.4.4 Component wise commercial loss in EDC Varanasi

Loss due to deficient metering

Commercial loss due to deficient metering of the consumers in EDC Varanasi circle is shown in the following table.

Table 44: Commercial loss due to deficient metering in EDC Varanasi (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to deficient metering in EDC Varanasi [A]	18.42	16.72	1.70	9.23%
Percentage of energy loss due to deficient metering (%) [B] = Commercial loss due to deficient metering /Energy input in the circle	(1.70/332.89) = 0.51%			

Source: Field studies

From the sample LT study in the EDC Varanasi circle, the difference between the actual energy consumed by the consumers with defective meters and billed by the circle on provisional billing has been arrived at 9.23% (i.e. percentage of energy loss due to deficient metering). To estimate the commercial loss due to deficient metering, the LT sample study results on deficient metering were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of deficient metering will be as against 16.72 MU billed by the DISCOM. Hence, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to deficient metering was computed at 1.70 MU, i.e. 0.51% with the energy input (332.89 MU) in the circle.

Loss due to billing inefficiency

Commercial loss due to billing inefficiency in the circle is shown below.

Table 45: Commercial loss due to billing inefficiency in EDC Varanasi (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to billing inefficiency (MU)	Energy loss due to energy billed by the DISCOM (%)
Commercial loss due to billing inefficiency in EDC Varanasi [A]	15.29	14.15	1.15	7.50%
Percentage of energy loss due to billing inefficiency [B] (%) = Energy loss due to billing inefficiency/ Energy input in the circle	(1.15/332.89) =0.34%			

Source: Field studies

From the sample LT study in the EDC Varanasi circle, the difference between the actual energy consumed by the consumers and billed by the circle to such consumers on provisional basis has been arrived at 7.50%. To estimate the commercial loss due to billing inefficiency, the LT sample study results on billing inefficiency were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on account of billing inefficiency will be 15.29 MU as against 14.15 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 1.15 MU i.e. 0.34% with respect to the total energy input in the circle (332.89 MU).

Detailed computation of component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume– II of this report.

Commercial loss due to provisional billing to the metered consumers

The commercial loss due the factors highlighted above is presented in the following Table:

Table 46: Commercial loss due to provisional billing to the metered consumers in EDC Varanasi (June to Sept. 2012)

Particulars	Energy to be billed as per field studies (MU)	Energy billed by the DISCOM (MU)	Energy loss due to provisional billing to the metered consumers (MU)	Energy loss with respect to energy billed by the DISCOM (%)
Commercial loss due to provisional billing to metered consumers in EDC Varanasi [A]	19.47	18.01	1.46	7.50%
Percentage of energy loss due to provisional billing to the metered consumers [B] (%) = Energy loss due to provisional billing to the metered consumers/ Energy input in the circle	(1.46/332.89) =0.44%			

Source: Field studies

From the sample study, the difference between the actual energy consumed by the consumers and billed by the circle to the metered consumers on provisional basis has been arrived at 7.50%. To estimate the commercial loss due to provisional billing to the metered consumers, the LT sample study results were extrapolated on the circle first and compared the same with the energy billed by the DISCOM to such consumers from June to September 2012. As per the LT sample study, it was estimated that energy billed on provisional basis to the metered consumers will be 19.47 MU as against 18.01 MU billed by the DISCOM. Therefore, the commercial loss (as the difference between the LT study result and billed by the DISCOM) due to billing inefficiency was computed at 1.46 MU, i.e. 0.44% with respect to the total energy input in the circle (332.89 MU).

Detailed computation regarding component wise energy loss in all the four circles is enclosed as "Annexure V" in Volume– II of this report.

Loss due to collection inefficiency

Total energy billed and energy realized and losses due to collection inefficiency of the circle are presented in the following Table.

Table 47: Commercial loss due to collection inefficiency in EDC Varanasi (June to Sept. 2012)

Particulars	MU
Energy billed (MU) [A]	257.23
Energy realized (MU) [B]	176.81
Energy lost (MU) **[C] = [A] – [B]**	**80.42**
Energy input in the circle (MU) [D]	332.89
Percentage of energy loss due to collection inefficiency (%) [E] = [C]/[D]	**24.16%**

Source: Field studies

The above table shows that the department has billed around 257.23MU and against that realized only 176.81MU due to non-recovery of bills from the consumers. Hence, the energy loss incurred by the department due to collection inefficiency was 80.42MU, around 24.16%of the total energy input (332.89 MU) in the circle.

Loss due to theft/pilferage of energy

Table 48 shows the commercial loss due to energy theft/pilferage in EDC Varanasi from June to September 2012.

Table 48: Commercial loss due to theft/pilferage in EDC Varanasi (June to Sept. 2012)

Particulars	In (MU)	In percentage
Total commercial loss (MU) [A]	101.61	30.52%
Losses on account of efficient metering, billing inefficiency, provision billing to the metered consumers and collection inefficiency (MU) [B]	84.72	25.45%
Energy loss due to theft/pilferage (MU) [C] = [A] – [B]	**16.88**	
Energy input in the circle (MU) [D]	332.89	
Percentage of energy loss due to theft/pilferage (%) [E] = [C]/[D]	**---**	**5.07%**

Source: Field studies

Total commercial loss in the circle was 101.61 MU. Commercial loss on account of efficient metering, provision billing to the metered consumers, billing and collection inefficiency comes to 84.72 MU. Accordingly, the commercial loss due to theft and pilferage of energy in EDC Varanasi circle was computed at 16.88 MU i.e. 5.07% of the total energy loss in the circle.

4.5 Technical loss in the circles and reasons thereof:

(i) **Non Up-gradation/non –augmentation of distribution infrastructure:** It has been observed that the utility has not been able to augment or up-grade its infrastructure keeping in pace with the load growth in the circles. Majority of the 11kV feeders particularly the rural feeders are lengthy. The conductors used is generally Weasel, which has limited current carrying capacity.

LT lines are the cause of major technical loss. They are poorly maintained without proper clearance between conductors and ground. This increases the chances of theft/pilferage from the LT lines.

Average load factor of the DTs are on the higher side resulting into frequent break-down of the DTs in the overloading condition.

(ii) **Poor power factor:** The reason for such higher technical loss is the poor power factor (PF) maintained in the sub-stations. The following table summarizes power factor vis-à-vis the sub-transmission losses observed in the sub-stations.

Table 49 : Power factor vis-à-vis sub-transmission losses in 33/11 kV Grid Sub-station (GSS)

Name of 33kV GSS	Circle	PF	Loss (%)
Pallavpuram FAS	EDC Meerut	0.80	4.00%
Bhola GSS	EDC Meerut	0.77	5.57%
Kathwari GSS	EDC Meerut	0.73	3.52%
Fatehganj	EUDC IV Lucknow	0.86	4.00%
Vikas Nagar	EUDC IV Lucknow	0.89	4.73%
Jankipuram-3	EUDC IV Lucknow	0.87	5.32%
Koshi Town	EDC Mathura	0.91	3.68%
Bajana	EDC Mathura	0.89	3.50%
Raja-ka-Talab	EDC Varanasi	0.87	3.55%
Gangapur	EDC Varanasi	0.90	3.13%
Christ Nagar	EDC Varanasi	0.78	4.89%

Source: Field studies

It has been observed that shunt capacitors in most of the sub-stations were not installed. In some of the sub-stations the shunt capacitors have recently been installed but are not functioning.

The PF at the DTs was also found on lower side as shown in the Table below. Poor quality of the equipments and lack of repair and maintenance are the main reasons for the poor PF at the DTs.

Table 50: Power factor in the DTs

DT meter no/Location	Circle	PF
11274008/Uday Park (Pallavpuram)	EDC Meerut	0.89
11272967/Uday Park (Pallavpuram)	EDC Meerut	0.87
11272968/Akhsar Dham	EDC Meerut	0.84
11353761/Vikas Nagar	EUDC IV Lucknow	0.84
11353140/Vikas Nagar	EUDC IV Lucknow	0.89
480397/Kashiraj Apartment (Kamakhya)	EDC Varanasi	0.85
362936/ Virat Complex (Maldahiya)	EDC Varanasi	0.83
11233883/Near Vodafone Store (Kamakhya)	EDC Varanasi	0.87
Narsi Village	EDC Mathura	0.86
Vihariji Colony	EDC Mathura	0.85
State Bank Colony	EDC Mathura	0.89

Source: Field studies

(iii) **Inadequate maintenance:** Poor maintenance is one of the key reasons for technical loss in the Sub-stations as well in the DTs. It has been observed that in a large number of Sub-stations the CT/PTs are damaged and the lines are directly connected with the feeders.

4.6 Commercial loss in the circles and reasons thereof:

4.6.1 Energy loss due to theft/pilferage

The study in the four circles has shown that around 11% to 20% of the energy was lost due to theft/pilferage. It is to be highlighted that the LT studies were carried out

at the areas, where vigilance raids are carried out by the department regularly. There are other areas in the circle, where vigilance check is not done by the department on a regular basis and the energy theft would be much higher in such areas.

Various modes of energy theft as observed during our field study are highlighted below.

1. **Energy theft by the agriculture consumers:** As mentioned in the previous section, the agriculture consumers are billed on their sanctioned load. To estimate the extent of energy theft by the agriculture consumers, we have carried out agriculture consumer study in the circles. The outcome of the agriculture consumer study in the circle is presented in Table 51.

Table 51: Outcome of agriculture study

Circle	Sanctioned load (HP)	Energy cons.- sanctioned load (MU)	Actual load (HP)	Energy cons. - actual load (MU)	Difference (MU) 6=(5-3)	% of energy loss
1	2	3	4	5	6	7
EDC Meerut	472.50	0.77	762.20	1.02	0.25	32.47%
EDC Mathura	580.00	0.95	630.50	1.03	0.08	8.42%
EUDC IV Lucknow	188.00	0.31	261.50	0.43	0.12	38.71%

Source: Field studies

Results of the agriculture survey shows that energy losses due to under - disclosed load of the agriculture consumers is due to the difference of actual ratings of the pump sets and the load sanctioned to the agriculture consumers by the DISCOMs, surveyed during the field study. This loss is clearly a case of theft of energy by the agriculture consumers. If the findings from the agriculture loss are extrapolated on the total agriculture consumption of the circle, the commercial losses on account of

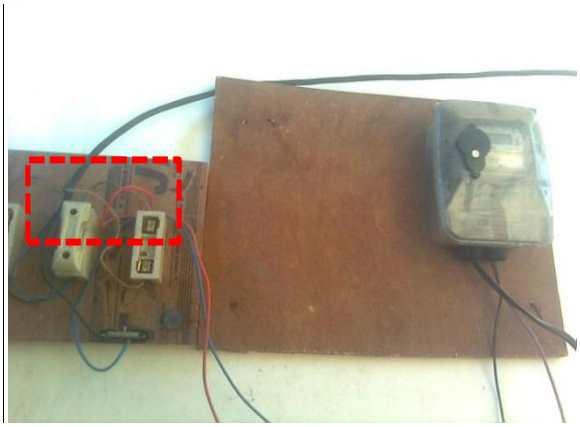
agriculture consumption would be around 65 MU i.e. 32% of the total energy theft in the circle.

The complete details and outcome of the agriculture study are enclosed as "Annexure VI" in Volume– II of this report.

2. **Meter bypass:** It has been noticed that in some consumer premises line from the electrical poles are directly connecting the Motor Controlled Panel /Remote Controlled Panel (MCP/RCP) – bypassing the meter and the same has been presented in the following Exhibit.

Exhibit 14: Energy theft by bypassing the meter

Energy theft through bypassing of the meter (Consumer no. 96579 – EDC Mathura)



Direct line has been connected bypassing the meter(Meter no. 16080342) in EDC Meerut circle

This practice of bypassing of meter is prevalent in the domestic connection. However, it is surprising that this illegal practice is followed by the economically well to do consumers. These types of consumers are having more than 3-4 air conditioners installed in their houses and other electrical appliances which consume high energy in their households and to avoid paying high amount of energy bills they are resorting to this kind of illegal practice. At the time of vigilance check the consumer connect the line with the meter to avoid detection and later on resume their illegal practice.

3. **Direct hooking from the pole:** This method of theft of energy is very common in all the four circles in Uttar Pradesh. Service wire from the pole is directly connected to the consumer premises for energy use.

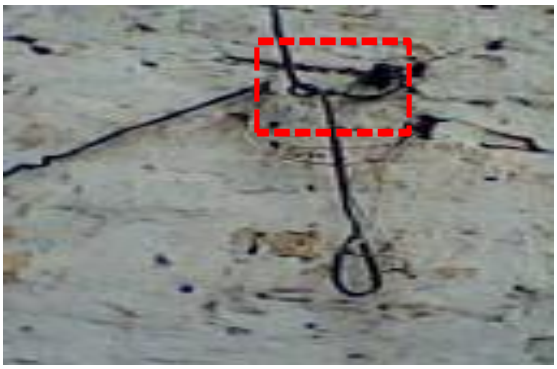
Exhibit 15: Energy theft by direct hooking from the electric pole

Energy theft from the pole
(EDC Meerut - Pallavpuram)

Energy theft from the pole
(EDC Mathura - Kosikalan)

4. **Illegal connection:** It was observed that connection was provided illegally by one consumer to other. This is another mode of energy theft. This practice is widely followed in the sub-urban and rural areas and the consumers in addition to theft of energy who by bypassing meter or hooking from the pole. The illegal connections are provided through a common boundary located inside the premises. In other cases, it was noticed that some of the flat rate consumers (department employees, un-metered consumers) were also involved in providing connection illegally to other consumers. Sampled photograph has been put into Exhibit 16.

Exhibit 16: Energy theft through illegal connection



Wires connecting to illegal consumer (EUDC IV Lucknow)

Wires connecting to illegal consumers (EDC Varanasi)

5. **Nexus between the consumers and meter readers:** The meter reading and billing agencies have been outsourced by the DISCOMs to bring efficiency in the system so that accurate metering and billing could be done. However, it is found that the field level personnel of the meter reading agencies are involved with the consumer's record lower energy consumption then actually consumed by the consumers. When, the difference in the recorded consumption and actual consumption is obtained by vigilance checks, the meters are burnt by the consumers.

4.6.2 Defective meters

High percentage of defective meters is one of the reasons for provisional billing and consequential commercial losses in the circles. More than 6% of the energy meters installed at the consumer premises are found to be defective. At the time of LT survey it was found that the defective meters have not been replaced for more than 3 months by the utility despite repeated applications filed by the consumers. . It is highlighted that the "Electricity Supply Code" issued by the UPSERC mandates the DISCOMs to replace the defective meters within 15 days. However, our field study found that this directive of the SERC has been overlooked by the DISCOMs.

In other cases, it was found that the consumers deliberately conceal the information regarding defective meters. With the assistance of the local linemen/meter reader, the consumer takes the benefit of provisional billings, resulting in commercial loss.

4.6.3 Other modes of losses

A number of HT industrial units particularly in EDC Mathura, EDC Varanasi and EUDC IV Lucknow circles are using lower CTs/PTs than that are actually required in relation to their contract demand. Lower CTs/PTs show the actual contract demand of the industries at lower level than drawn from the system. The fixed charges of the HT units are on contract demand and attract penal charges if the

industries put load more than the contracted demand. The utilities lose revenue in the penal form of fixed charges due to this unethical practice of the industries.

Unlike the technical loss, reducing the commercial loss does not require a large amount of investment. The commercial loss can be reduced by developing strategic objectives/road map to reduce the loss trajectory and adhering to the specified timeline. However, such things are clearly missing from the organizational goals of the DISCOMs in Uttar Pradesh.

5. Chapter 5: Extrapolation of the AT&C losses

5.1 Assumptions for extrapolation

- It was found during the field studies that the commercial loss in the industrial, commercial and other categories (railway traction, bulk supply, public lighting and water works) in the circles was around 10%. It can be inferred that around 90% of the commercial loss in the circles was mainly in the domestic and agriculture categories. Based on this consideration, 90% of the commercial loss in the circles has been allocated to the domestic and agriculture categories to extrapolate the commercial loss of each representative circle on the DISCOMs, respectively.

- It is also observed that as the sales mix of the domestic and agriculture consumers varies between the representative circles and the DISCOMs, the point estimate[12] of the AT&C losses of the DISCOMs would not be reasonable. In consultation with the FoR Secretariat, it was decided that range estimate[13] would be used to extrapolate the AT&C losses of the circles on the DISCOMs in the State of Uttar Pradesh. The standard deviation between the domestic and agriculture sales mix in the representative circles and those of the DISCOMs has been computed and the same has been utilized to extrapolate the AT&C losses range for the DISCOMs.

- It is further assumed that the technical loss component of the DISCOMs would remain at the same level as computed for the circles.

- The extrapolation of the AT&C losses has been done only for the study period i.e. from June to September 2012 and not for the full FY 2012-13.

[12] **Point estimate:** If an estimate of a population parameter is given by a single value, then the estimate is called point estimate of the parameter.
[13] **Range estimate:** If an estimate of a population parameter describes a range of values between which the parameter may be considered to lie, then the estimate is called range estimate of the parameter.

5.2 Extrapolation of circle wise AT&C losses on the four DISCOMs

Step 1: Allocation of the commercial loss in the circles on domestic and agriculture consumers

Firstly, 90% of the commercial loss of the circles during the period June – September 2012 has been allocated on the domestic and agriculture consumers. The formula for allocating the commercial loss of the circles on the domestic and agriculture consumers are mentioned below:

Allocation of 90% of the commercial loss to domestic and agriculture categories = *Total commercial loss of the circles [A] X 90% [B] (i.e. 90% of the commercial loss allocated to domestic and agriculture consumers)*

The following Table shows the 90% commercial loss allocation of the circles to the domestic and agriculture consumers during the period June – September 2012.

Table 52: Allocation of the commercial loss on domestic and agriculture consumers (June – Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Commercial loss in the circles [A]	92.88	102.22	115.03	101.61
Distributing 90% of the commercial loss (MU) on the domestic and agriculture consumers [B] = [A] *90%	83.59	92.00	103.52	91.45

Step 2: Computation of commercial loss factor on account of energy billed to the domestic and agriculture consumers in each of the four representative circles.

Here, the commercial loss factor on account of energy billed to the domestic and agriculture consumers in the circles has been computed. The objective of computing the commercial loss factor is to work out a unique factor for each of the four circles that can be applied on the energy input in the of the respective DISCOMs for extrapolation.

To compute the commercial loss factor, the allocated commercial loss with respect to energy input in the circles has been computed and then divided by the ratio of energy billed (MU) to the domestic and agriculture consumers with respect to total energy billed (MU) in the circles.

The formula for computing the commercial loss factor is presented below:

$$\textit{Commercial loss factor} = \frac{\textit{(Commercial loss (MU) allocated to domestic and agriculture consumers [A]/Energy input (MU) in the circles [B])}}{\textit{(Energy billed (MU) to the domestic and agriculture consumers[C]/Total energy billed (MU) in the circle [D])}}$$

The commercial loss factor of four representative circles is shown in the Table below:

Table 53: Commercial loss factors for the domestic and agriculture consumers (June – Sept. 2012)

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Commercial loss on account of domestic and agriculture consumers (MU) [A]	83.59	92.00	103.52	91.45
Energy input in the circles (MU) [B]	448.69	349.19	440.47	332.89
Energy billed (MU) to the domestic and agriculture consumers[C]	191.92	129.90	126.60	134.95
Total energy billed (MU) in the circle [D]	305.30	221.96	282.40	273.65
Commercial loss factor [E] = ([A]/ [B])/([C]/ [D])	0.29636	0.45019	0.52425	0.55706

Step 3: Computation of Standard Deviation of energy billed to the domestic and agriculture consumers in the four representative circles and the DISCOMs

The computation of Standard Deviation of energy billed to the domestic and agriculture consumers in the four representative circles and the DISCOMs is presented in the following Table.

Table 54: Standard deviation

	EDC Meerut	PVVNL	EDC Mathura	DVVNL	EUDC IV Lucknow	MVVNL	EDC Varanasi	PuVVNL
Energy billed to the domestic and agriculture consumers (%)	62.86%	54.00%	58.53%	62.20%	44.83%	55.30%	49.31%	61.90%
Standard Deviation	0.0627 or 6.27%		0.0259 or 2.59%		0.0740 or 7.40%		0.0890 or 8.90%	

Source: PVVNL, DVVNL, MVVNL, PuVVNL and Field studies

Step 4: Computation of lower and upper limits of the commercial loss of the DISCOMs.

To compute the lower and upper limits of commercial loss of the DISCOMs, the commercial loss factors of the circles computed in Step 2 have been multiplied with the domestic and agriculture sales mix of the DISCOMs by taking into account the Standard Deviations of domestic and agriculture sales mix between the four representative circles and DISCOMs . The formula for computation of lower and upper limits of the commercial loss of the DISCOM is presented below.

$$\textit{Lower limit of the commercial loss in the DISCOMs} = \textit{Commercial loss factors of the Circles [A]} \; X \; \textit{(Domestic and Agriculture Sales mix of the DISCOMs [B] – Standard Deviation[C])}$$

$$\textit{Upper limit of the commercial loss in the DISCOMs} = \textit{Commercial loss factors of the Circles [A]} \; X \; \textit{(Domestic and Agriculture Sales mix of the DISCOMs [B] + Standard Deviation[C])}$$

The lower and upper limits of the commercial loss for each DISCOM in the State of Uttar Pradesh are presented in the Table below:

Table 55: Lower and upper limits of commercial loss of the DISCOMs (June – Sept. 2012)

Particulars	PVVNL	DVVNL	MVVNL	PuVVNL
Commercial loss factor [A]	0.29636	0.45019	0.52425	0.55706
Domestic and agriculture sales mix of the DISCOMs (%) [B]	54.00%	62.20%	55.30%	61.90%
Standard Deviation (%) [C]	6.27%	2.59%	7.40%	8.90%
Lower limit of the commercial loss in the DISCOMs (%) [D] =[A]*([B]-[C])	14.15%	26.83%	25.11%	29.52%
Upper limit of the commercial loss in the DISCOMs (%) [D] =[A]*([B]+[C])	17.86%	29.17%	32.87%	39.44%

Step 5: Computation of extrapolation factor

It is assumed that 90% of the commercial loss incurred due to energy billed to the domestic and agriculture consumers. An extrapolation factor has been computed to extrapolate the total commercial loss of the DISCOMs. The formula for computing the extrapolation factor is shown below.

Extrapolation Factor = *100/90 =1.11 (will be applicable for all the DISCOMs)*

Step 6: AT&C losses of the DISCOMs

1. To extrapolate the AT&C losses of the DISCOMs, the lower and upper limits of the commercial loss due to energy billed to the domestic and agriculture

consumers is computed first. The formula for computation of lower and upper limits of the commercial loss is shown below:

Lower limit of commercial loss of the DISCOMs due to energy billed to the domestic and agriculture consumers (MU)	=	*Energy input in the DISCOM (MU)* X *Lower limit of the commercial loss in the DISCOMs (%) computed in Step 4*
Upper limit of commercial loss of the DISCOMs due to energy billed to the domestic and agriculture consumers (MU)	=	*Energy input in the DISCOM (MU)* X *Upper limit of the commercial loss in the DISCOMs (%)computed in Step 4*

2. The extrapolation factor computed here then applied on the lower and upper limits of the commercial loss of the DISCOMs to calculate the total commercial loss of the DISCOMs as shown below:

Total commercial loss of the DISCOMs – lower limit (MU)	=	*Lower limit of commercial loss of the DISCOMs* X *Extrapolation factor*
Total commercial loss of the DISCOMs – upper limit (MU)	=	*Upper limit of commercial loss of the DISCOMs* X *Extrapolation factor*

3. After calculating the total commercial loss (MU), the percentage of commercial loss in terms of energy input in the DISCOMs has been computed. The formula of the same is mentioned below:

Percentage of commercial loss of the DISCOMs – lower limit (%)	=	*Energy input in the DISCOM (MU)* / *Total commercial loss of the DISCOMs – lower limit (MU)*
Percentage of commercial loss of the DISCOMs – upper limit (%)	=	*Energy input in the DISCOM (MU)* / *Total commercial loss of the DISCOMs – upper limit (MU)*

4. The AT&C losses range of the DISCOMs arrived after adding the technical loss of the circles with the lower and upper limits of the commercial loss of the DISCOMs as shown in the following formula.

AT&C losses of the DISCOMs – lower limit	=	*Total commercial loss of the DISCOMs – lower limit* + *Technical loss*
AT&C losses of the DISCOMs – upper limit	=	*Total commercial loss of the DISCOMs – upper limit* + *Technical loss*

5. The AT&C losses range of the four DISCOMs is shown in the following Table.

Table 56: Extrapolating the circle wise losses on the DISCOMs (June – Sept. 2012)

Sl. No.	Particulars	PVVNL	DVVNL	MVVNL	PuVVNL
1	Energy input in the DISCOMs (MU) [A]	8353.95	5247.69	4617.07	5247.69
2	Extrapolation factor [B]	1.11	1.11	1.11	1.11
Computation of lower limit of the AT&C losses in the DISCOMs					
3	Lower limit of the commercial loss in the DISCOMs (%) [C]	14.15%	26.83%	25.11%	29.52%
4	Lower limit of commercial loss of the DISCOMs due to energy billed to the domestic and agriculture consumers (MU) [D] = [A] X [C]	1181.72	1337.25	1100.05	1472.15
5	Total commercial loss in the DISCOMs [E] = [D] X [B]	1313.02	1485.83	1222.28	1635.72
6	Percentage of commercial loss in terms of energy input (%) [F] = [E]/[A]	15.72%	28.31%	26.47%	31.17%
7	Technical loss in terms of energy input (%) [G]	15.46%	18.44%	16.72%	16.36%
8	**AT&C losses (%)** [H]= [F]+[G]	31.18%	46.75%	43.19%	47.53%
Computation of upper limit of the AT&C losses in the DISCOMs					
9	Upper limit of the commercial loss in the DISCOMs (%) [I]	17.86%	29.17%	32.87%	39.44%
10	Lower limit of commercial loss of the DISCOMs due to energy billed to the domestic and agriculture consumers (MU)[J] = [A] X [I]	1492.07	1453.70	1440.12	1966.40
11	Total commercial loss in the DISCOMs [K] = [J] X [B]	1657.85	1615.22	1600.13	2184.89
12	Percentage of commercial loss in terms of energy input (%) [L] = [K]/[A]	19.85%	30.78%	34.66%	41.64%
13	Technical loss in terms of energy input (%) [M]	15.46%	18.44%	16.72%	16.36%

Sl. No.	Particulars	PVVNL	DVVNL	MVVNL	PuVVNL
14	**AT&C losses (%)** **[N] =** [L]+[M]	35.31%	49.22%	51.37%	58.00%

Step 7: Conclusion

The AT&C losses range of the DISCOMs as computed extrapolated above is shown in the following Table:

Table 57: AT&C losses of the DISCOMs (June to Sept. 2012)

Particulars	PVVNL		DVVNL		MVVNL		PuVVNL	
	LL	UL	LL	UL	LL	UL	LL	UL
AT&C losses	31.18%	35.31%	46.75 %	49.22%	43.19%	51.37%	47.53%	58.00%

LL: Lower Limit
UL: Upper Limit

From the above it can be concluded that the AT&C losses of the DISCOMs June to September 2012 were within the range as shown in the Table 57.

6. Chapter 6: Recommendations and way forward

This chapter suggests a set of recommendations that could help the DISCOMs in reducing losses in short, medium and long term periods. The recommendations are for each classified categories – "A", "B" and "C" as discussed earlier.

6.1 ABC Analysis of the AT&C losses

The study proposes a set of recommendations based on the component wise AT&C losses analysis from the field studies (as shown in Table 2 to Table 4) and highlights the deficiency in the present system. The recommendations proposed in this report have been categorized in three buckets – "A", "B" and "C" in order of their importance for the DISCOMs. A loss reduction framework based on the "ABC" analysis is proposed in the following Table.

Table 58: ABC framework -issues for the proposed interventions to reduce the AT&C losses

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
Category A		
(i) Commercial loss due to theft/ pilferage of energy *(The DISCOMs should treat this as the priority area for loss reduction as the existing losses could be reduced in the short and medium time period. To reduce these losses, minimum capital investment will be required. The DISCOMs need to strengthen its existing commercial practice.)*	*5.07% (EDC Varanasi) to 11.54% (EDC Meerut)*	Identify and regularizing the un-metered and flat rate agriculture consumers to reduce agriculture theft. Short and medium term interventions such as metering of the un-metered consumers, regular vigilance check to reduce the energy theft in unmetered connections other than agriculture.

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
		Load shedding to be implemented first in the high loss areas in case of shortage of electricity. DISCOMs may implement community metering system to create accountability on the consumers to assist the DISCOMs in detecting energy theft. Differential tariff by way of higher tariff in the high loss areas to be proposed to the regulator for approval in medium term.
(ii) Technical loss in the LT system *(The DISCOMs should also treat this as one of the priority areas for reduction of energy losses. Substantial capital investment would be required to minimize the technical loss in the LT system.)*	*10.31% (EDC Meerut) to 13.42% (EDC Mathura)*	Medium and long terms interventions to reduce the loss through implementation of the Ariel Bunched Cabling (ABC) and Advanced Metering Infrastructure (AMI).
Category B		
(iii) Commercial loss due to billing and collection inefficiencies *(The DISCOMs could strengthen its billing and collection department to reduce this energy loss in the short time period.)*	*4.20% (EDC Meerut) to 24.16% (EDC Varanasi)*	Short term measures to reduce the commercial loss due to collection inefficiency by way of linking the incentive for the staff with the increase in the billing and collection efficiency. To implement this scheme the DISCOMs should develop Key Performance Indicators (KPIs) and award scheme for the staff with an objective to reduce the commercial loss.

Components of AT&C losses	Energy loss range in the representative circles	Interventions proposed
		Regular vigilance check to break the nexus between the billing department/ agency and consumers. In addition, the DISCOMs may consider installing pre-paid meters in the medium and long terms.
(iv) Technical loss in the HT system *(The DISCOMs should take initiatives to reduce the technical loss in the HT system in the medium and long term. Substantial capital investment would be required to minimize the technical loss in the HT system.)*	*4.98% (EDC Varanasi) to 5.15% (EDC Meerut)*	Segregate the agriculture load from the rural feeders and provide High Voltage Distribution System (HVDS) for the agriculture consumers to reduce the loss in the agriculture connections.
Category C		
(v) Commercial loss due to deficient metering, billing inefficiency and provisional billing to the metered consumers *(The DISCOMs could strengthen its billing and collection department to reduce this energy loss in the short time period.)*	*0.33%(EDC Mathura) to 6.10% (EDC Mathura)*	Short term measures to reduce the commercial loss due to collection inefficiency by way of linking the incentive for the staff with the increase in the billing and collection efficiency. Regular vigilance check to break the nexus between the billing department/ agency and consumers. In addition, the DISCOMs may consider installing pre-paid meters in the medium and long terms.

6.2 Recommendations

6.2.1 Interventions recommended in the short and medium terms in the high energy loss areas (Category "A" Issues)

1. **Camps for the voluntary disclosure of actual loads of the agriculture consumers:** Under-disclosed agriculture load leads to revenue loss but also disrupts the long term load forecasting of the DISCOMs. The DISCOMs should organize mobile camps in the rural areas for voluntary disclosure of the actual load of the agriculture consumers. The consumers may be encouraged to voluntarily disclose actual load with the condition that no penalty would be imposed for their past under-disclosed load. In this way, the DISCOMs can bill the agriculture consumers correctly.

2. **Regular vigilance check:** The DISCOMs should conduct regular vigilance check in the rural area to identify un-metered connections and regularize them in a time bound manner. This is a common but an effective measure to control energy theft. At present, the vigilance checks are conducted at the time of reporting of theft cases or when the outstanding amount of the consumers accumulated over ` 5000. To reduce the theft cases, the utilities should conduct impromptu vigilance raids, where the energy loss is higher or revenue realization is very less.

3. **Community metering:** This type of arrangement can be implemented in the slum areas, as a matter of routine where the entire slum cluster would be metered at a single in public view (where tempering is difficult) and the community is billed based on the consumption determined by their individual meter read. The DISCOM will provide bulk supply to a single community meter and based on the meter read of the community meter will bill the consumers connected with community meter. The consumers on the other hand would share the billing amount based on their individual meter reading. Should one consumer pilfer

energy it will result in the remaining members of the community paying more than their actual share of energy bill.

4. **Implementation of load shedding first in the high loss areas in case of shortage of electricity:** The DISCOMs should consider implementing load shedding first in the high loss areas in case of shortage of electricity. This will built awareness among the consumers in the high loss areas that due to high energy loss, the DISCOMs are forced to implement load shedding in their areas and in turn would create pressure on the consumers involved in theft of energy for not doing the same.

5. **Implementation of differential tariff by way of higher tariff in the high loss areas:** The DISCOMs should propose differential tariff by way of higher tariff in the high loss areas. Higher tariff would force the consumers in the high loss areas to reduce theft of energy.

6. **Involving communities to reduce theft:** The DISCOMs should take initiatives to involve the Gram Panchayats and User Associations to reduce energy thefts. The objective of this initiative would be the commitment from the communities to curb theft cases in their localities. Many of the factors that are driving the increase in commercial loss are beyond the control and influence of the DISCOMs. Therefore, it is beneficial for the DISCOMs to canvassing support from the various community groups in this issue.

7. **Building awareness among the agriculture consumers:** The farmers often overlook the aspect of using energy efficient pump sets due to lack of knowledge. Further, improper selection of electric pump-sets leads to poor efficiency and wastage of energy. Our interactions with the farmers indicated that the pump sets do not give desired output and hence force them to replace their pump-sets with higher capacity.

It is suggested that the DISCOMs in Uttar Pradesh should conduct a pilot project in selected villages to check the efficiency level of the pump sets used by the farmers as well as to implement measures to improve the performance level of the pump sets. If the pilot project shows positive outcomes, the same should be replicated in other villages.

8. **Theft Analytics of the un-metered consumers:** The DISCOMs should undertake theft analytics of all the un-metered consumers. For this purpose, the DISCOMs should initiate checking of the pump sets and un-metered domestic connections to locate theft cases in their areas. Based on this checking detail profiles of the consumers involved in energy theft should be prepared. Profiling of these consumers will help the DISCOMs to prepare an action plan to curb energy theft and take appropriate action against such consumers.

9. **Metering of the un-metered connections:** Due to flat rate billing and subsidized billing, the agriculture connections are mostly un-metered. As a result of that actual energy consumption by the agriculture consumers cannot be known accurately. In view of this, all the agriculture consumers should be metered. The "National Tariff Policy" has also given a direction on this regard:

   "Metering of supply to agricultural / rural consumers can be achieved in a consumer friendly way and in effective manner by management of local distribution in rural areas through commercial arrangement with franchisees with involvement of Panchayat institutions, user associations, cooperative societies etc. Use of self closing load limitors may be encouraged as a cost effective option for metering in cases of "limited use consumers" who are eligible for subsidized electricity."

   Other non-agriculture un-metered connection should also be metered as per the prevalent Regulations of the State.

6.2.2 Interventions recommended in the medium and long term period in the high energy loss areas (Category "A" Issues)

10. **Aerial Bunched Cabling (ABC):** To reduce the direct theft from the LT line by hooking, ABC cabling in all congested area should be introduced. Cost of the ABC cables are high but in the long run it will benefit the DISCOMs as hooking is difficult. .

11. **Implementation of Advance Metering Infrastructure (AMI) on a larger scale:** AMI system allows the utility to monitor the consumption of the individual consumer at 15 minutes[14] interval. The consumers will be aware that the utility can monitor its consumption and any tempering or "by-passing" the meter will attract strict action from the utility.

6.2.3 Interventions recommended in the short and medium terms to reduce commercial loss (Category "B" and "C" Issues)

12. **Incentive scheme for the staff:** The DISCOMs in Uttar Pradesh should consider implementation of incentive/disincentive scheme by way of linking the incentive for the staff with the increase in the billing and collection efficiency. To implement this scheme the DISCOMs should develop Key Performance Indicators (KPIs) such as (a) increase in number of meter readings per meter reader (b) Increase in number of disconnection of the defaulting consumers, (c) reduction of time for replacing the defective meters, and (d) reduction of commercial loss. The KPIs should also indicate the targets for the staff and will be awarded as per their actual performance vis-à-vis the targets given in the KPIs.

13. **Break the nexus between the billing agencies and consumers:** Although, the DISCOMs conduct random checking of the meter reads recorded by the billing

[14] Source: http://www.electricenergyonline.com/?page=show_article&mag=32&article=256

agencies in a number of consumer premises, the frequency of such checks should be increased manifold to break the nexus between the billing agencies and the consumers. The billing agencies are employed to bring efficiency in the billing process of the DISCOMs. However, this type of nexus clearly undermines the objective to employ them. Severe penalty followed by debarring should be imposed on the billing agencies, if such cases are found as a matter of routine.

14. **Prepaid metering:** The un-metered and flat rate consumers should be encouraged for prepaid meters. Suitable rebate could be offered to the consumers opting for prepaid meters. However, it needs a proper marketing network to be established for availability of Prepaid Meter cards as well as for communication with the IT Server of the utility.

6.2.4 Interventions recommended in the long term to reduce the technical loss (Category "B" Issues)

15. **High Voltage Distribution System (HVDS) system:** The DISCOMs in Uttar Pradesh should consider implementing HVDS system in agriculture, wherein the HV line could be extended up to the pump sets, thus avoiding the LT line except to the extent of the service cable. States like Andhra Pradesh, Gujarat, Punjab, Haryana, Karnataka and Maharashtra have already implemented the HVDS system for agriculture usage.

16. **Feeder separation program (FSP):** The DISCOMs should speed-up the feeder separation work to segregate the agriculture load from other consumer categories. This would provide the DISCOMs facility to monitor and control agriculture consumption and reducing the commercial loss in the agriculture feeders.

6.2.5 Other recommendations

17. **Distribution franchisee (DF):** A distribution franchisee acts as an intermediary between the distribution licensee and its consumers. The licensee provides exclusive rights to an agency, which is solely responsible for managing the power distribution business in a defined geographical area. The Electricity Act 2003 also provides for the appointment of DF in specified area within the region of supply of the licensee, for which no separate license or approval is required from the regulator.

    The DISCOMs in Uttar Pradesh should consider introducing DF model in the urban areas of the circles. DF model has already been implemented in the Agra city and the same can be replicated in the other urban areas of the State.

18. **Component wise AT&C losses analysis:** The component wise AT&C losses analysis would provide a clear insight on the energy losses of the DISCOMs. It is recommended for the DISCOMs in Uttar Pradesh should adopt the component wise AT&C losses method to compute and report its energy losses. The component wise AT&C losses will not only provide the component and sub-component wise energy losses but can also used as a strategic tool for monitoring and framing future loss reduction initiatives. From the component wise AT&C losses, the decision makers in the DISCOMs can easily identify the high loss prone areas and frame their future loss reduction initiatives accordingly. A strategic framework for the SERCs/DISCOMs is suggested in "Appendix 3".

    The DISCOM Officials may know the components, where the energy losses are higher but they could not quantify the same from any scientific study.

19. **Revenue Cycle Management (RCM):** To improve the billing and revenue collection method of the utility, one of the options would be to implement Revenue Cycle Management (RCM). RCM will help in improving the cash flow and liquidity of the DISCOMs.

The RCM process involves and revolves around timely data generation and intervention. The primary data for the RCM is the metering and billing, integrated for the collections, which is used for various improvement initiatives. The RCM assumes importance in optimizing the cash flow cycle in the business. The primary objectives of RCM are:

- To improve the overall commercial process involving metering, billing and collection.
- To minimize bottleneck, if any, in the existing Meter-Billing-Collection (M-B-C) process.
- To implement method through which the actual cycle time for the whole process can be reduced, with minimal investment and with the existing infrastructure
- To implement corrective measures as the case may be to enhance efficiency improvement.
- To bring in technological interventions. This would assist for improvement or better management of the Revenue Cycle.

Three types of measures included in RCM are as follows:

(a) Revenue Enhancement Measures: Revenue enhancement in the form of categorization, revision of connected load based on actual etc. Applying system analysis and targeting tools on the existing consumer and billing database can enhance the hit rate of revenue enhancement activities.

- **Preparation of the profit centre concept with fixing of responsibility;**
- Development of suitable monitoring mechanism for tracking of the energy data to arrive at reasonable measure for assessment of actual energy and revenue data
- Analysis of consumer and billing database to identify potential areas of revenue enhancement

- Based on evaluation, identification of revenue enhancement measures which may be appropriate
- Development of a Cost Benefit Analysis (CBA) framework for various investment needs and prioritize finances
- **Identification of high revenue potential areas to prioritize revenue enhancement measures**
- Assistance in monitoring of the base Energy data as a whole;

(b) Loss reduction initiatives: Some of the loss reduction initiatives that merit further contemplation include High Voltage Distribution Systems, Vigilance Activities, and System Up-gradation etc. This will include:

- Cost Benefit Analysis of proposed loss reduction projects like HVDS, System Upgradation etc
- Identification of financing and sourcing options to make such projects feasible
- Assist in negotiations with potential financiers and suppliers
- Development of localized projects/schemes targeted at specific problem areas

(c) Customer Service Initiatives: The gap between desired and delivered level of service needs to be reduced. The same shall require adoption and adaptation of best practices in distribution services. The same shall involve:

- Undertake evaluation of typical consumption patterns for certain specific consumer categories;
- Centralize billing especially for HT industrial consumers so that it provides better customer service as well as control on revenues;
- Develop benchmarks for such industries as per the consumption norms reflected in consumers of similar nature;
- Analyze the consumption pattern, both on monthly basis and develop mechanism for deviation reporting for the top 1000 customers;

20. **Energy Accounting and Auditing:** The DISCOMs should conduct energy accounting and auditing to accurately measure the component wise AT&C losses across all the sub-divisions of the DISCOMs.

21. **Suggestion for future AT&C losses reduction studies:** At present the period of the AT&C losses reduction study is envisaged for 6 months. From the six months study, the seasonal factors affecting the AT&C losses could not be captured as well as the study results will not be accurate. Therefore, it is suggested that the period for the future AT&C losses reduction study should be increased to 18 months and 12 months should be envisaged for field study only.

7. Appendix 1: Formats prepared for collection of information from the DISCOMs

Format 1: No. of Circles, Divisions and Sub-divisions of the distribution utility

S.No.	Circle Name	Division Name	Name of the Sub-Divisions
	Circe 1	Division 1	
		Division 2	
		Division …n	
	Circe 2	Division 1	
		Division 2	
		Division …n	
	Circe 3	Division 1	
		Division 2	
		Division …n	

Format 2: Circle wise, division wise and category wise no. of consumers and energy sales

S.No.	Circle Name	Division Name	Category	FY 10-11	
				No. of Consumers	Sales (MU)
1	Circle 1	Division 1	Kutir Jyoti/BPL (metered)		
			Domestic (metered)		
			Commercial		
			LT Industry		
			HT Industry		
			Agricultural (metered)		
			Street Lights (metered)		
			Public Water Works		
			Railway Traction		
			Temporary Connections		
			Others (metered)		
			Total metered		
			Unmetered		
			Kutir Jyoti/BPL		
			Domestic		
			Commercial (		
			Agricultural		
			Others		
			Total (un-metered)		
		Division 2	Kutir Jyoti/BPL (metered)		
			Domestic (metered)		
			Commercial		
			LT Industry		
			HT Industry		
			Agricultural (metered)		
			Street Lights (metered)		
			Public Water Works		
			Railway Traction		
			Temporary Connections		
			Others (metered)		
			Total metered		
			Unmetered		
			Kutir Jyoti/BPL		
			Domestic		
			Commercial		
			Agricultural		
			Others		
			Total (un-metered)		
		Division 3	Kutir Jyoti/BPL (metered)		
			Domestic (metered)		
			Commercial		

S.No.	Circle Name	Division Name	Category	FY 10-11	
				No. of Consumers	Sales (MU)
			LT Industry		
			HT Industry		
			Agricultural (metered)		
			Street Lights (metered)		
			Public Water Works		
			Railway Traction		
			Temporary Connections		
			Others (metered)		
			Total metered		
			Unmetered		
			Kutir Jyoti/BPL		
			Domestic		
			Commercial		
			Agricultural		
			Others		
			Total (un-metered)		

Format 3: General information on Feeders and Sub-stations

S.No.	Circle Name	Type of Feeders	No. of Feeders				No. of Sub-stations	
			132 kV	66 kV	33 kV	11 kV	220/132	132/66/33
	Circle 1	Urban						
		Rural						
		Agricultural						
		LT Industry						
		HT Industry						
	Circle …n	Urban						
		Rural						
		Agricultural						
		LT Industry						
		HT Industry						

Format 4: Information regarding existing circle wise AT&C losses

S.No.	Circle Name	Division Name	Units Input	Units Billed	Distribution Losses	Amount Billed	Amount Realized	Collection Efficiency	Units Realized	AT&C Losses
	Circle 1	Division 1								
		Division 2								
		Division …n								
	Circle 2	Division 1								
		Division 2								
		Division …n								
	Circle …n	Division 1								
		Division 2								
		Division …n								

8. Appendix 2: Component wise AT&C losses for FY 2011-12

8.1 Summary of AT losses in the four circles in FY 2011-12

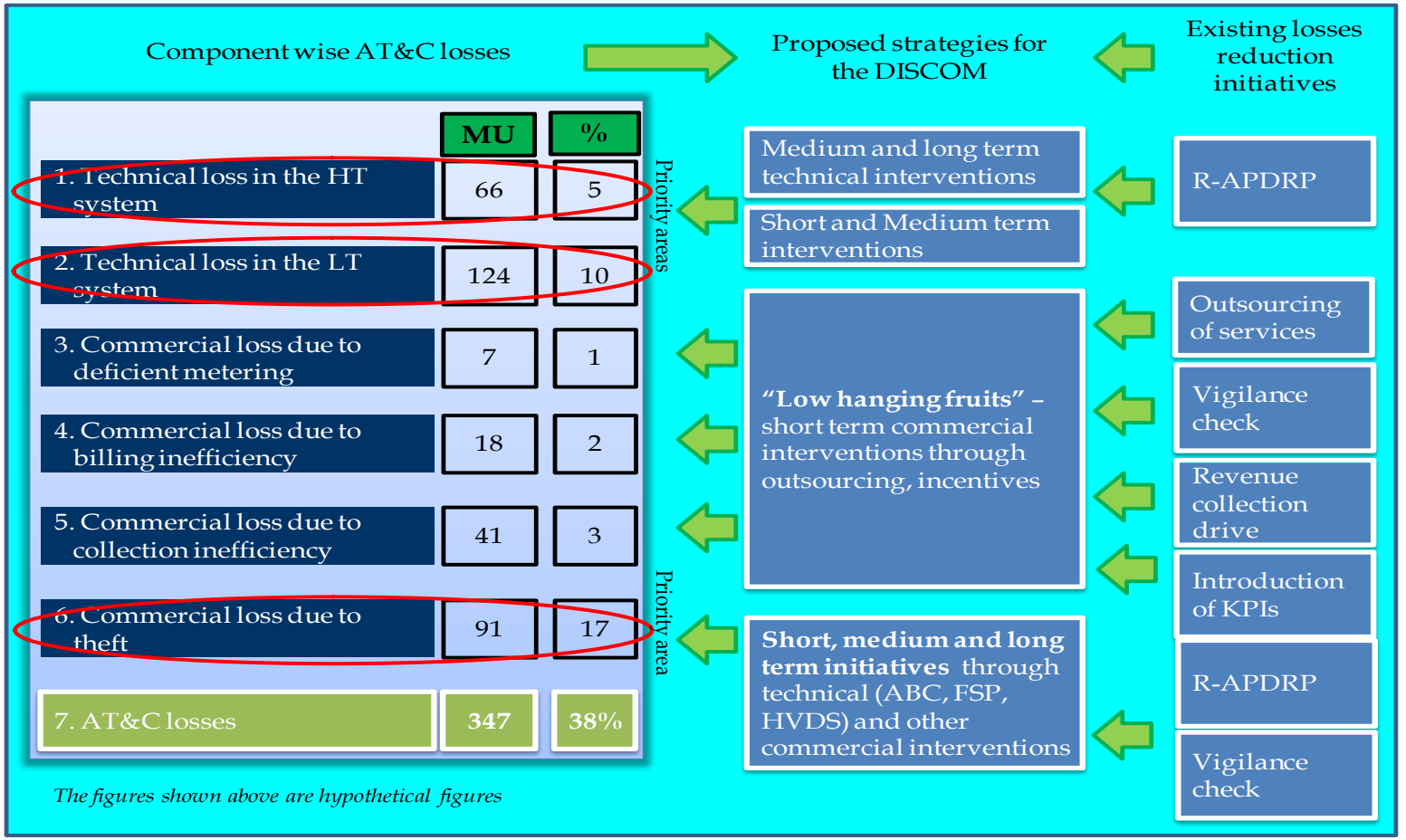
Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Energy input in the circle (MU) [A]	1279.26	1024.62	1174.52	1093.69
Unit billed (MU) [B]	821.32	597.38	729.61	779.89
T&D Losses (%) [C] = ([A]-[B])/[A]	35.80%	41.70%	37.88%	28.69%
Revenue Billed (` Crore) [D]	265.93	225.23	173.90	154.18
Revenue realized (` Crore) [E]	252.56	183.16	145.77	104.36
Collection Efficiency (%) [F]=[E]/[D]	94.97%	81.32%	83.82%	67.69%
AT&C Losses (%) [G] = ([A]-([B]*[F]))/[A]	39.03%	52.59%	47.93%	51.74%

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Energy input at 132 kV input point [A]	5.15%	5.02%	5.12%	4.98%
HT level loss from 132 kV to 11 kV [B]	9.73%	12.31%	11.24%	10.51%
Technical loss below 11 kV [C]	**14.88%**	**17.33%**	**16.36%**	**15.48%**

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
AT&C losses [A]	39.03%	52.59%	47.93%	51.74%
Technical loss [B]	14.88%	17.33%	16.36%	15.48%
Commercial loss [C] = [A] – [B]	**24.14%**	**35.26%**	**31.58%**	**36.25%**

Particulars	EDC Meerut	EDC Mathura	EUDC IV Lucknow	EDC Varanasi
Commercial loss due to deficient metering (%) [A]	0.53%	0.29%	1.30%	0.68%
Commercial loss due to billing inefficiency (%)[B]	1.44%	0.43%	3.48%	0.96%
Commercial loss due to provisional billing to metered consumers (%)[C]	1.90%	4.18%	0.29%	0.51%
Commercial loss due to collection inefficiency (%) [D]	3.23%	10.89%	10.05%	23.04%
Commercial loss due to theft/pilferage (%) [E]	17.04%	19.47%	16.45%	11.05%
Total commercial loss (%)[F]	**24.14%**	**35.26%**	**31.58%**	**36.25%**

9. Appendix 3: Strategic framework for analysis of the AT&C losses



Note: KPI = Key Performance Indicator

Report

on

Component wise AT&C Losses Reduction study in the State of Uttar Pradesh

Volume II

Submitted by:

Medhaj Techno Concept Pvt. Ltd.

This report is prepared under the guidance of the Forum of Regulators

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1. Annexure I: Selection of representative circles

1.1 Selection of the four representative circles

Study on Assessment of component-wise AT&C Losses

Selection of representative circles in Uttar Pradesh

The FoR Secretariat

By

Medhaj Techno Concept Pvt. Ltd.

Selection criteria and Methodology

Selection criterion : Sales mix of the Circles

Zoning criteria I
DISCOM wise

Zoning criteria II
Geographical location

Zoning criteria IV
Agri. & Dom. Sales mix

Representative samples

Representative samples

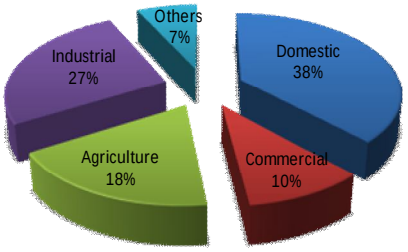
Representative samples

Circles	DISCOM wise	Geographical location wise	Agri. and Dom. Sales Mix
	Options analysis		

2

Sales mix in Uttar Pradesh

- Four distribution companies i.e. Madhyanchal, Purvanchal, Dakshinanchal and Paschimanchal DISCOMs serving around 0.94 Crore consumers in the state
- Sales recorded by all the four DISCOMs was around 40 thousand MU
- Sales mix in the state is dominated by Domestic (38%) followed by industries (27%) and Agriculture (18%).



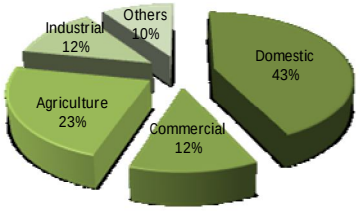
Consumer category	PUVVNL	PVVNL	MVVNL	DVVNL	Total
Domestic	4669.32	4871.05	3332.12	2128.00	15000.49
Commercial	1319.89	890.06	1329.11	465.90	4004.96
Agriculture	2509.48	2150.06	1263.41	1347.95	7270.90
Industrial	1324.13	6069.95	1262.66	1831.69	10488.43
Others	1057.40	357.39	505.23	905.31	2825.32
Total	**10880.21**	**14338.52**	**7692.52**	**6678.85**	**39590.11**

Other category includes public lighting, water works, temporary supply and railway traction
* Industrial includes both LT and HT industries

3

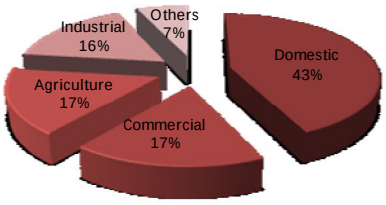
DISCOM wise sales mix

PUVVNL DISCOM



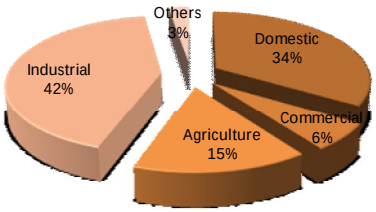
- Domestic and agriculture are the two most dominant categories, recorded 43% and 23% sales respectively.

MVVNL DISCOM



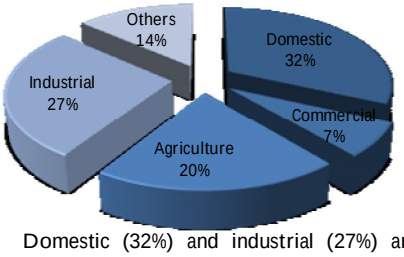
- Domestic (43%) and agriculture (17%) are the two main consumer categories in in terms of energy sale, followed by commercial (17%).

PVVNL DISCOM



- Industries (42%) and Domestic (34%) are main categories in **PVVNL**, followed by agriculture (15%)

DVVNL DISCOM



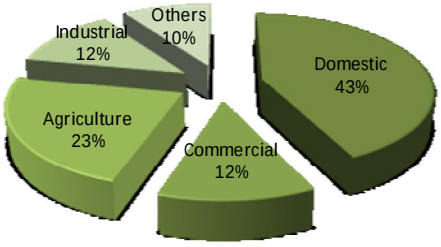
- Domestic (32%) and industrial (27%) are the two most dominant categories followed agriculture (20%) in **DVVNL**

4

Criterion 1
DISCOM wise analysis

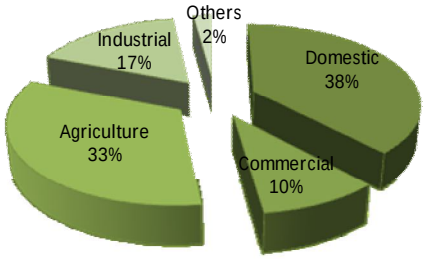
5

PUVVNL DISCOM

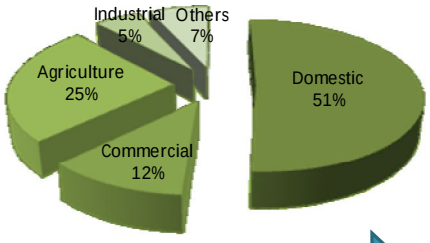


- Puvvnl DISCOM has 18 circles i.e. UEDC I Varanasi, UEDC II Varanasi, EDC Varanasi, EDC Ghazipur, EDC-1 Mirzapur, EDC-II Mirzapur, EDC Jaunpur, EDC Azamgarh, EDC Mau, EDC-1 Allahabad, EDC Fatehpur, EDC-2 Allahabad, UEDC-I , Allahabad, UEDC-II Allahabad, EDC Gorakhpur, EDC Deoria, EUDC Gorakhpur, EDC Basti.
- Proposed representative circles: EDC Varanasi & EDC 1 Mirzapur

EDC VARANASI



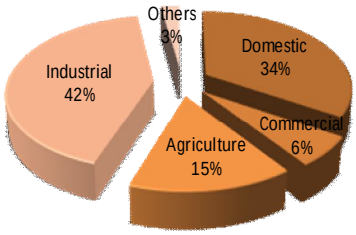
EDC 1 MIRZAPUR



Other circles

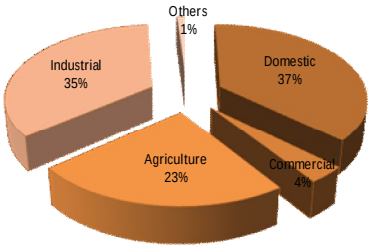
6

PVVNL DISCOM



- Pvvnl DISCOM comprises of 19 circles i.e. EUDC Meerut, EDC Meerut, EDC Bagpat, EUDC 1 Ghaziabad, EUDC 2 Ghaziabad, EDC Ghaziabad, EDC Hapur, EDC 1 Buland, EDC 2 Buland, EUDC Muzzafarnagar, EDC Muzzafarnagar, EUDC Saharanpur, EDC Saharanpur, EDC 1 Moradabad, EDC J.P. Nagar, EUDC Moradabad, EDC Rampur, EDC Bijnor, EUDC Noida.
- Proposed representative circles: EDC 1 Moradabad

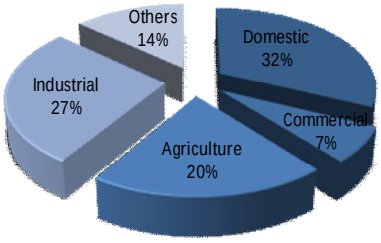
EDC MEERUT



Other circles

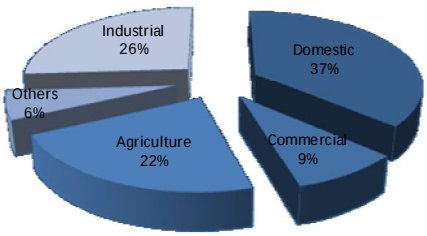
7

DVVNL DISCOM

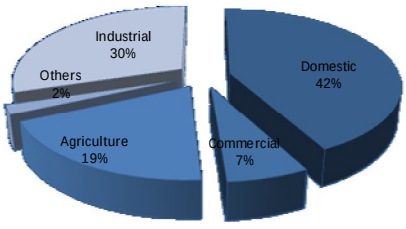


- Dvvnl DISCOM has 17 circles in viz. EDC Aligarh, EDC Firozabad, EUDC Mathura, EUDC Aligarh, EDC Agra, EDC Manipuri, EDC Etah, EDC Mathura, EDC Hathras, EDC Banda, EDC Etawah, EDC Kanpur, EUDC Jhansi, EDC Fkbd.. EDC Orai, EDC Jhansi, EDC Hamirpur.
- Proposed representative circles: EDC Firozabad & EDC Mathura

EDC FIROZABAD



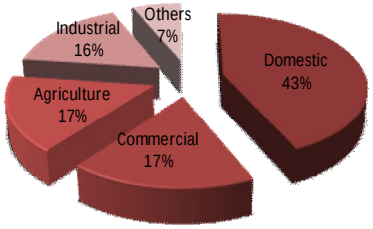
EDC MATHURA



Other circles

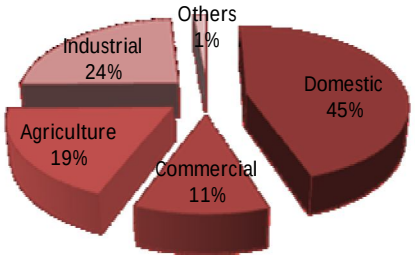
8

MVVNL DISCOM

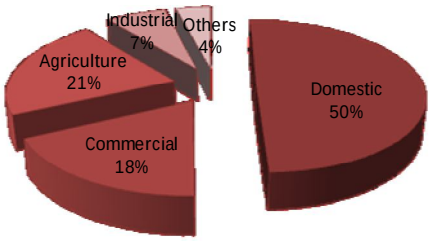


- Mvvnl DISCOM has 15 circles in viz. EDC Badaun, EDC Bareilly, EDC Shahjahanpur, EUDC Bareilly, EDC Faizabad, EDC Gonda, EDC Sultanpur, EUDC I Lesa, EUDC II Lesa, EUDC III Lesa, EUDC IV Lesa, EDC Hardoi, EDC Raibareili, EDC Sitapur, EDC Unnao .
- Proposed representative circles: EDC Bareilly & EUDC IV Lucknow

EDC BAREILLY



EUDC IV LUCKNOW



Other circles

9

Criterion II
Zoning as per the geographical location of the circles

10

Zoning of Circles as per geographical locations

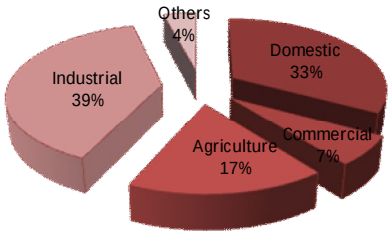
ZONE	CIRCLE
ZONE 1 (WEST)	EUDC Saharanpur
	EDC Saharanpur
	EUDC Muzzafarnagar
	EDC Muzzafarnagar
	EDC Bagpat
	EUDC Meerut
	EDC Meerut
	EDC Bijnor
	EUDC 1 Ghaziabad
	EUDC 2 Ghaziabad
	EDC Ghaziabad
	EUDC Noida
	EDC 1 Buland
	EDC 2 Buland
	EDC 1 Moradabad
	EDC J.P. Nagar
	EUDC Moradabad
	EDC Rampur
	EUDC Mathura
	EDC Aligarh
	EDC Hathras
	EDC Agra
	EDC Badaun
	EUDC Bareilly
	EDC Firozabad
	EDC Etah
	EDC Etawah
	EDC Mainpuri
	EDC Bareilly
	EDC Fkbd.
	EDC Shahjahanpur

ZONE	CIRCLE
ZONE 2 (CENTRAL)	EDC Hardoi
	EDC Sitapur
	EUDC I Lucknow
	EUDC II Lucknow
	EUDC III Lucknow
	EUDC IV Lucknow
	EDC Jhansi
	EUDC Jhansi
	EDC Orai
	EDC Hamirpur
	EDC Kanpur
	EDC Unnao
	EDC Banda
	EDC, Fatehpur
	EDC Raibareili
ZONE 3 (EAST)	UEDC I Varanasi
	UEDC II Varanasi
	EDC Varanasi
	EDC Ghazipur
	EDC-1 Mirzapur
	EDC-II Mirzapur
	EDC Jaunpur
	EDC Azamgarh
	EDC Sultanpur
	EDC-2 Allahabad
	UEDC-I Allahabad
	UEDC-II Allahabad
	EDC-1 Allahabad
	EDC Basti
	EDC Gorakhpur
	EDC Deoria
	EUDC Gorakhpur
	EDC Mau

11

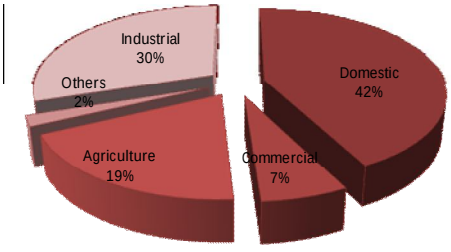
Sales mix in geographical Zone I

ZONE 1 – WESTERN DISTRICTS

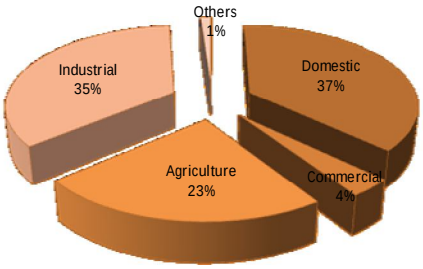


- Zone 1 comprises of 31 circles i.e. Saharanpur, Muzzafarnagar, Bagpat Meerut, Bijnor, Ghaziabad, Shahjahanpur, Noida, Mathura, Aligarh, Hatras, Etah, Etawah, Firozabad, Moradabad, Fk'bad, Mainpuri etc.
- Proposed representative circles: EDC Mathura & EDC 1 Moradabad.

EDC MATHURA



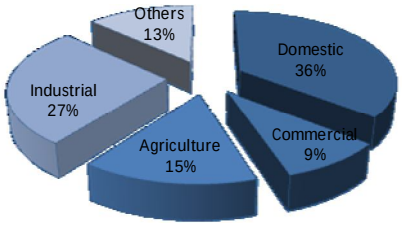
EDC MEERUT



12

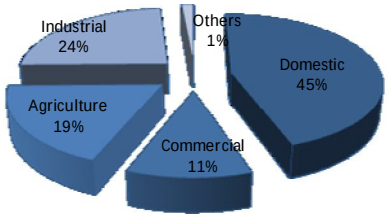
Sales mix in geographical Zone II

ZONE II – CENTRAL DISTRICTS

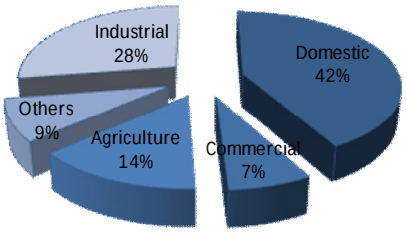


- Zone 1I (central districts of U.P.) comprises of 15 circles viz. Orai, Jhanshi, Lucknow, Hamirpur, Kanpur, Unnao, Banda, Fatehpur & Raibareili
- Proposed representative circles: EUDC IV Lucknow and EDC Orai

EUDC IV LUCKNOW



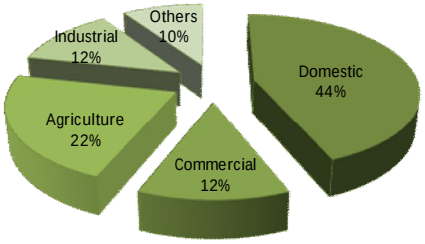
EDC ORAI



13

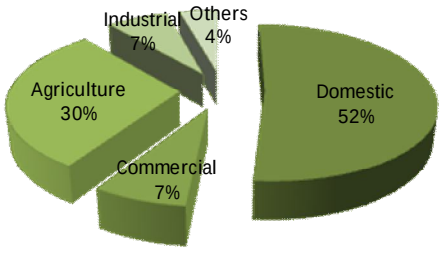
Sales mix in geographical Zone III

ZONE III – EASTERN DISTRICTS

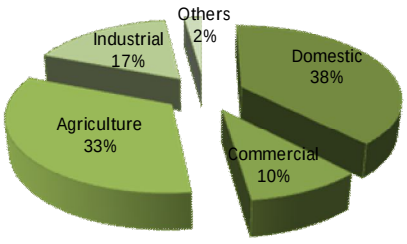


- Zone 1II (eastern districts of U.P.) comprises of 18 circles i.e. Allahabad, Varanasi, Ghazipur, Mirzapur, Jaunpur, Azamgarh, Mau etc.
- Proposed representative circles: EDC 2 Allahabad and EDC Varanasi.

EDC 2 ALLAHABAD



EDC VARANASI



14

Criterion III
Sales mix of agriculture & domestic categories

15

Dominance of Agriculture & Domestic consumption

- Following scores have been assigned to each circle based on the agriculture and domestic consumption:
  - Agriculture and domestic consumption > 80% - **3**
  - Agriculture and domestic consumption between 70% - 80% - **2**
  - Agriculture and domestic consumption between 60% - 70% - **1**
  - Agriculture and domestic consumption <60% - **None**

- Ranking of the circles has been done based on the scoring assigned to each circles i.e.
  - Circles with higher score ranked high
  - Circles with lower score ranked low

16

Scoring and ranking of circles

Sl. No.	Circles	Agriculture sales (in %)	Domestic Sales (in %)	Total (3+4) (in %)	Weightage
(1)	(2)	(3)	(4)	(5)	(6)
1	EDC Bagpat	55	35	90	3
2	EDC Azamgarh	20	65	85	3
3	EDC Saharanpur	45	39	84	3
4	EDC-2 Allahabad	30	52	82	3
5	EDC Ghazipur	52	28	80	3
6	EDC Deoria	12	67	79	2
7	EDC Faizabad	38	40	78	2
8	EDC Jaunpur	49	29	78	2
9	EDC Badaun	45	32	77	2
10	EDC-1 Mirzapur	25	51	76	2
11	EDC Banda	34	41	75	2
12	EDC Gonda	26	47	73	2
13	EDC Basti	20	53	73	2
14	EDC Mainpuri	35	37	72	2
15	EUDC IV Lucknow	21	50	71	2
16	EDC Gorakhpur	0	71	71	2
17	EDC Varanasi	33	38	71	2
18	EDC Rampur	16	54	70	2
19	EDC Sitapur	35	35	70	2
20	EDC Hathras	41	28	69	1
21	EDC Agra	24	45	69	1
22	EDC Jhansi	14	55	69	1
23	EDC Raibareili	34	34	68	1
24	EDC Etah	29	39	68	1
25	EDC 1 Buland	23	44	67	1
26	EDC Sultanpur	19	48	67	1
27	EDC Bijnor	34	32	66	1
28	EDC Hapur	27	39	66	1
29	EUDC Moradabad	0	65	65	1
30	EDC Bareilly	19	45	64	1
31	EUDC Jhansi	1	63	64	1
32	EDC Gorakhpur	11	53	64	1
33	EDC Firozabad	24	39	63	1
34	EDC Shahjahanpur	20	42	62	1
35	EDC Mathura	42	19	61	1
36	EDC Muzzafar nagar	32	29	61	1
37	EDC J.P. Nagar	41	20	61	1
38	EDC 1 Moradabad	21	39	60	1
39	EDC Meerut	21	39	60	1

17

Option Analysis for selection of samples

18

Selection of circles – Option Analysis

Circle	Name of the DISCOM	Discom Wise	As per Geographical location	Combination of Agri & Dom.
EUDC IV Lucknow	MVVNL	√	√	2
EDC 1 Moradabad	PVVNL	√	√	1
EDC-2 Allahabad	PUVVNL		√	3
EDC Varanasi	PUVVNL	√	√	2
EDC Mathura	DVVNL	√	√	1
EDC Saharanpur	PVVNL			3
EDC-1 Mirzapur	PUVVNL	√		2
Shahjahanpur	PVVNL			1
EDC Bagpat	PVVNL			3
EDC Azamgarh	PUVVNL			3
EDC Orai	DVVNL		√	None
EDC Ghazipur	PUVVNL			3
EDC Deoria	PUVVNL			2
EDC Faizabad	MVVNL			2
EDC Jaunpur	PUVVNL			2
EDC Badaun	MVVNL			2
EDC Gonda	MVVNL			2
EDC Basti	PUVVNL			2
EDC Gorakhpur	PUVVNL			1
EDC Meerut	PVVNL			1
EDC Rampur	PVVNL			2
EDC Sitapur	MVVNL			2
EDC Bareilly	MVVNL	√		1
EDC Firozabad	DVVNL	√		None

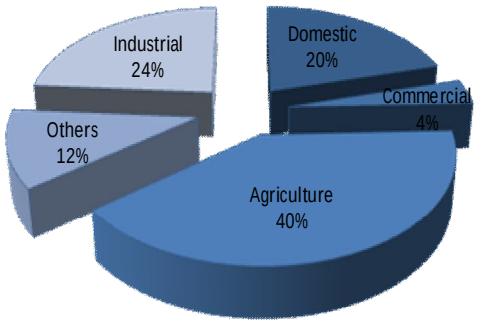
19

- EUDC IV Lucknow & EDC Varanasi are meeting all the three selection criteria and has a score of 2 in terms of dominance in agriculture and domestic consumption.
- EDC Meerut & EDC Mathura are meeting all the three selection criteria and has a score of 1 in terms of dominance in agriculture and domestic consumption.
- EDC 2 Allahabad is meeting two selection criteria with high concentration of agriculture and domestic consumption i.e. score 3
- Bagpat, Azamgarh, Ghazipur and Saharanpur have high score in terms of dominance in agriculture and domestic consumption but not meeting other selection criteria

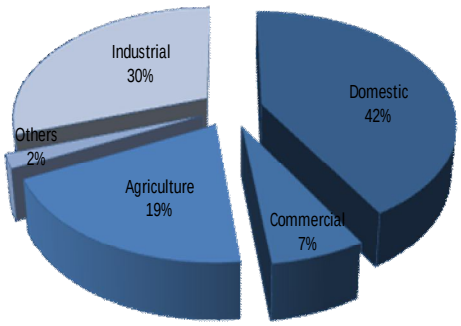
20

1.2 Appendix I - DVVNL DISCOM

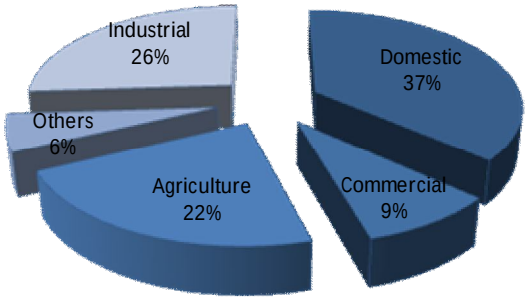
EDC Agra



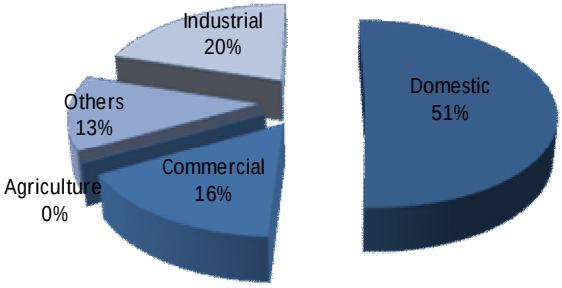
EDC Mathura



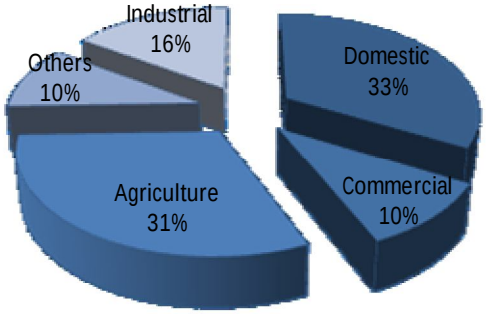
EDC Firozabad



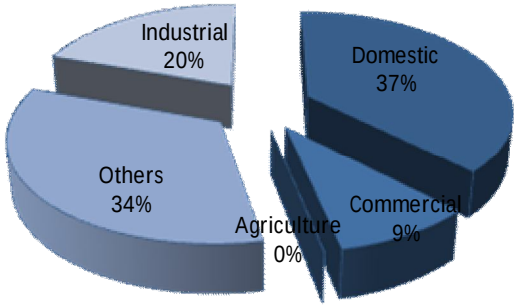
EUDC Mathura



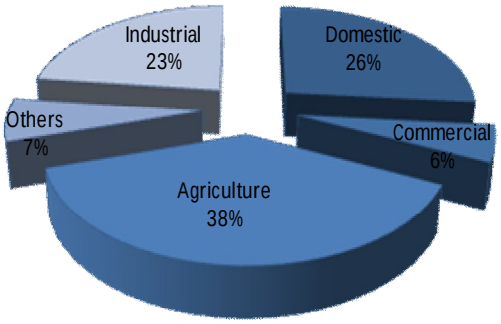
EDC Mainpuri



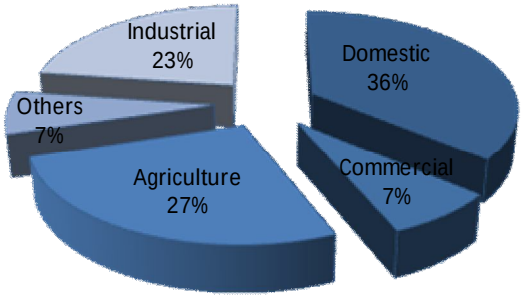
EUDC Aligarh



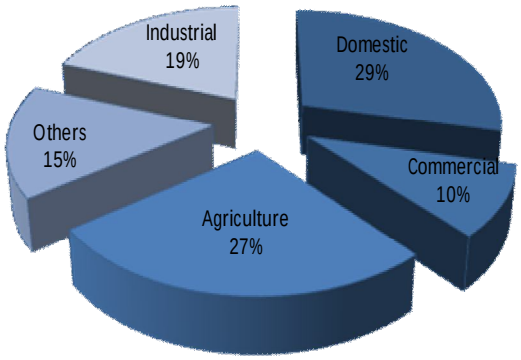
EDC Hatras



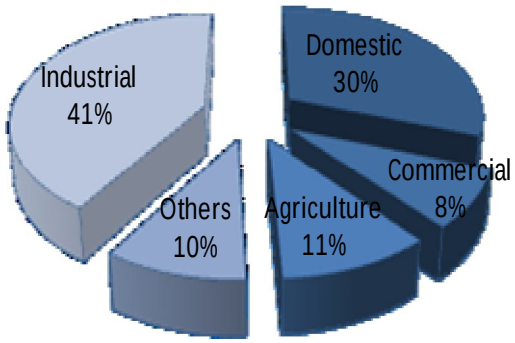
EDC Etah



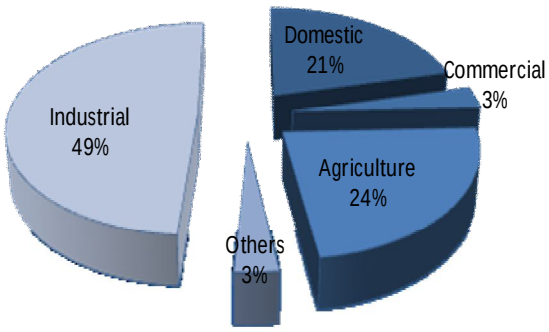
EDC Farukhabad



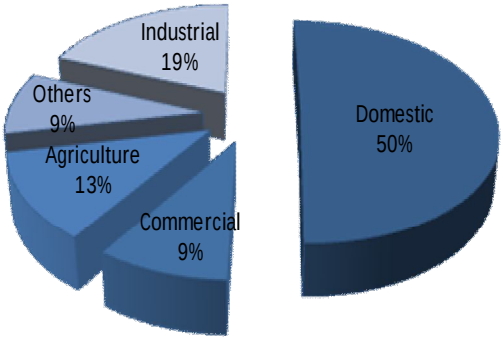
EDC Etawah



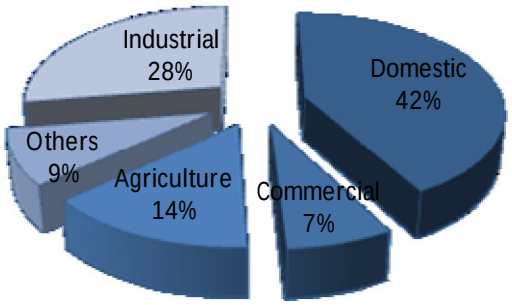
EDC Kanpur



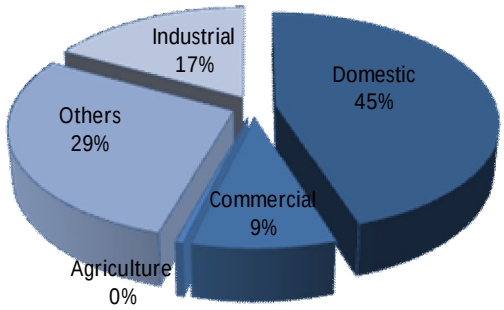
EDC Jhansi



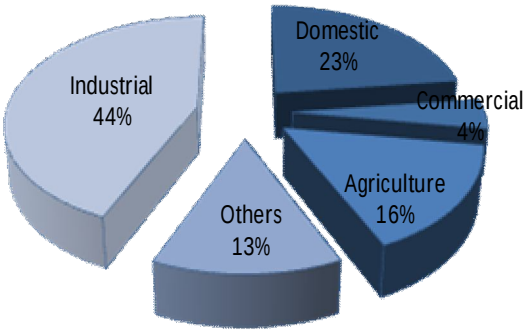
EDC Orai



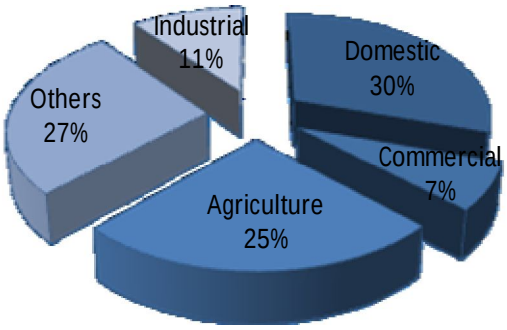
EUDC Jhanshi



EDC Hamirpur

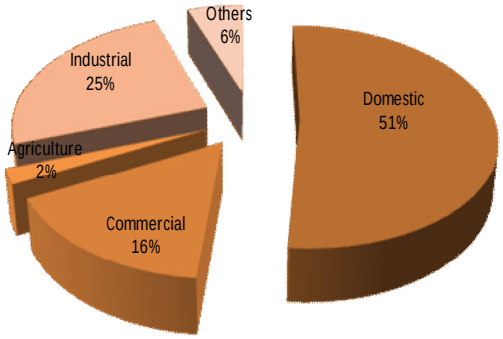


EDC Banda

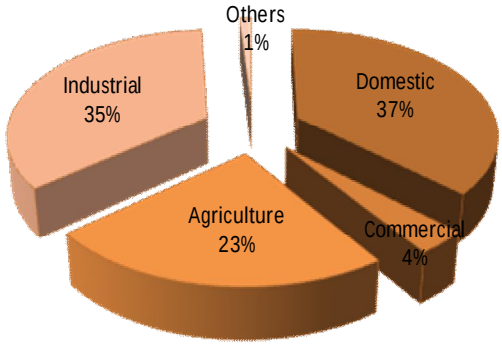


1.3 Appendix II - PVVNL DISCOM

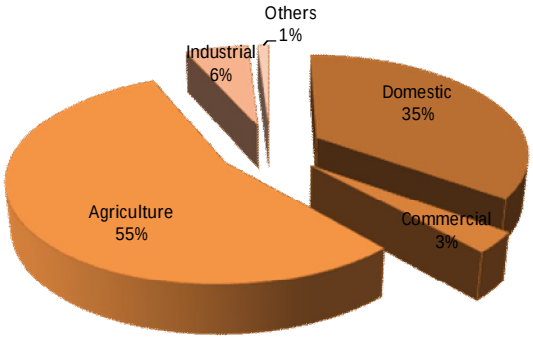
EUDC Meerut



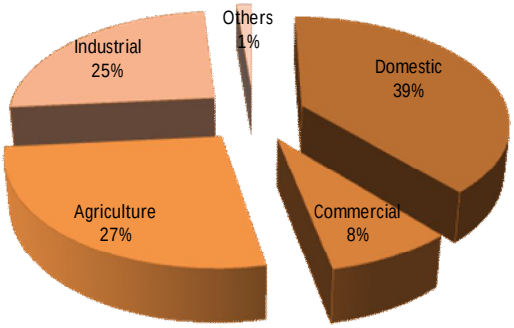
EDC Meerut



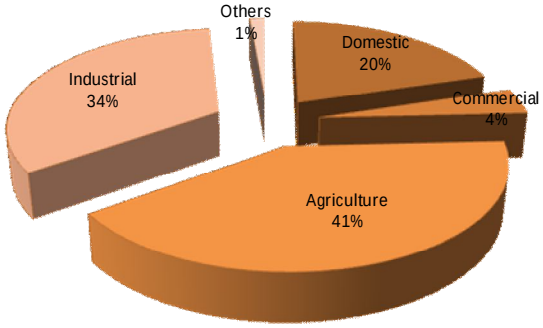
EDC Bagpat



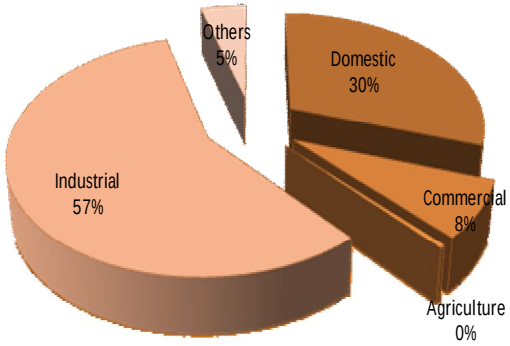
EDC Hapur



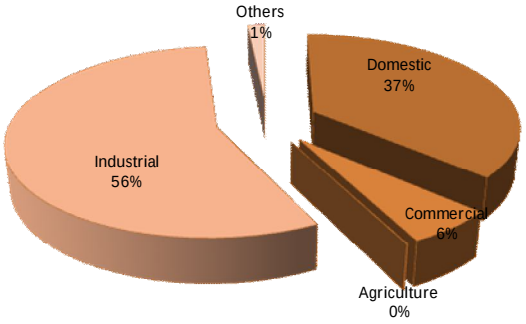
EDC JP Nagar



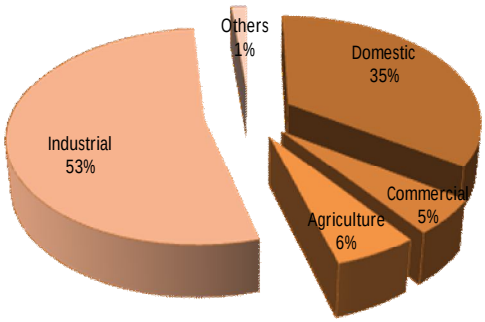
EUDC I Ghaziabad



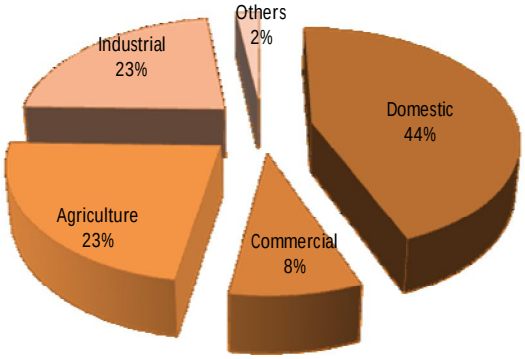
EUDC II Ghaziabad



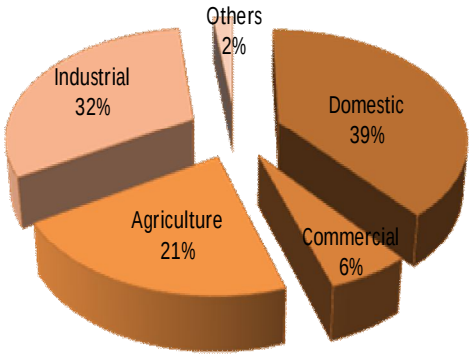
EDC Ghaziabad



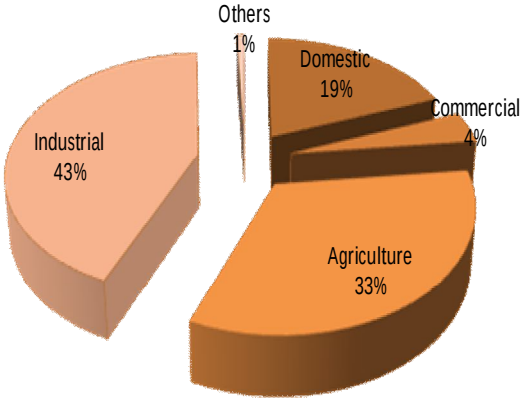
EDC I Bulandshar



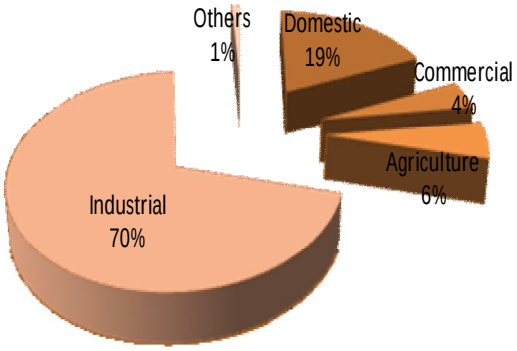
EDC I Moradabad



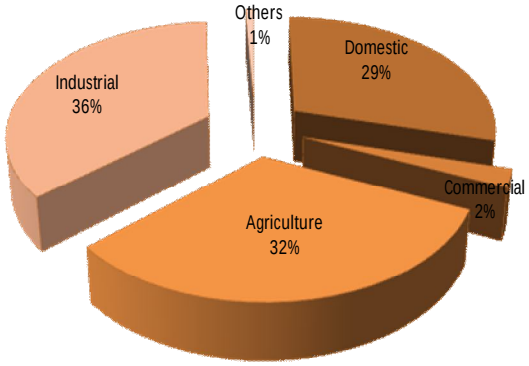
EDC II Bulandshar



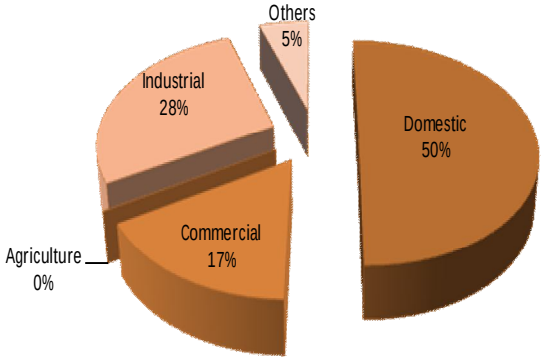
EUDC Muzaffarnagar



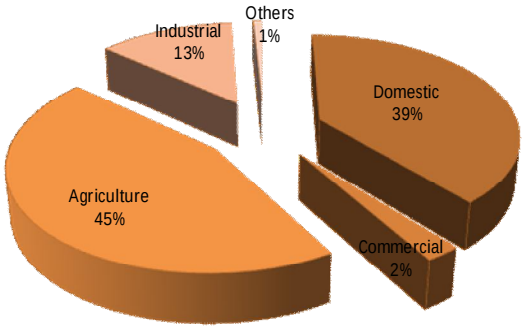
EDC Muzaffarnagar



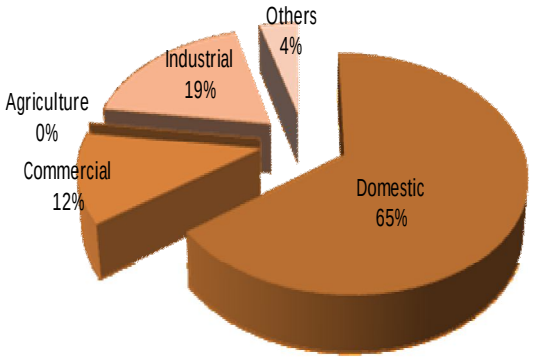
EUDC Saharanpur



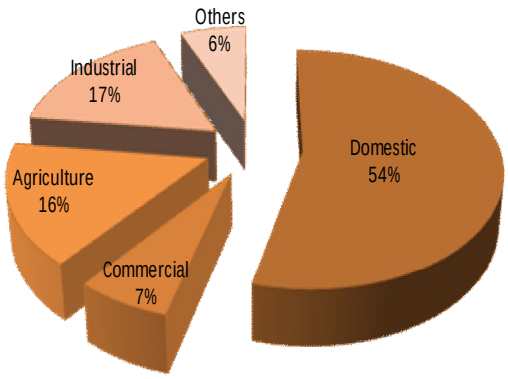
EDC Saharanpur



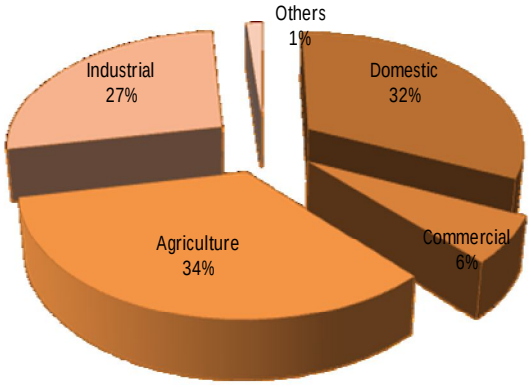
EDC Moradabad

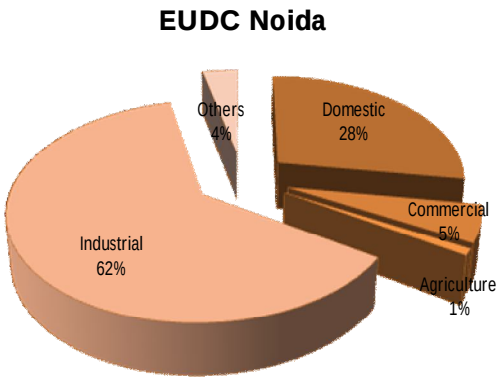


EDC Rampur



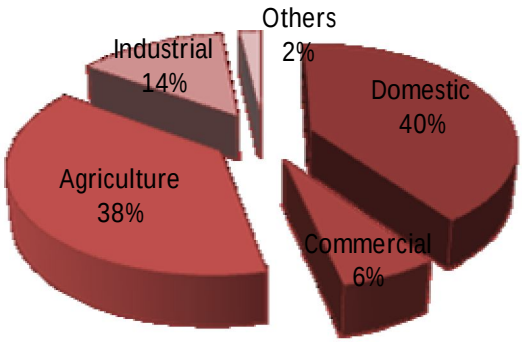
EDC Bijnor



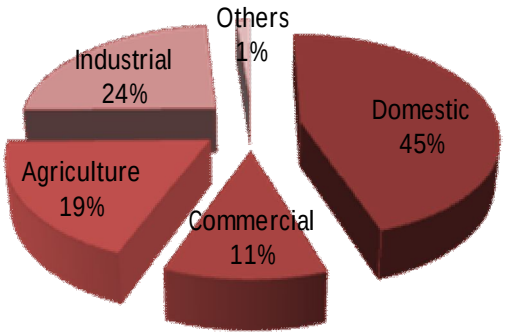

EUDC Noida
Others
4%
Domestic
28%
Commercial
5%
Agriculture
1%
Industrial
62%

1.4 Appendix III - MVVNL DISCOM

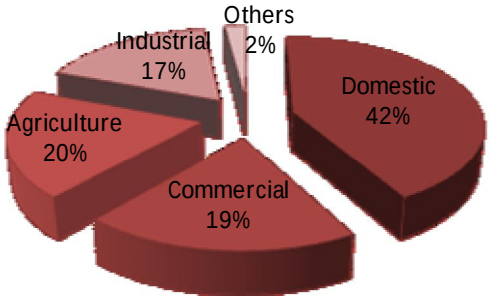
EDC Faizabad



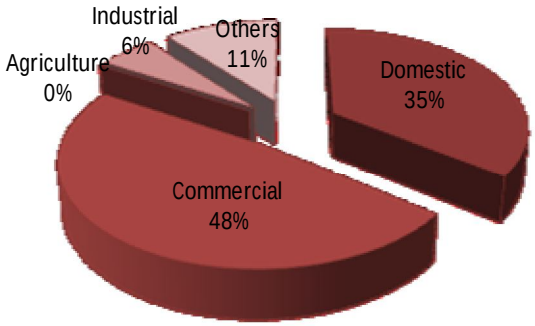
EDC Bareilly



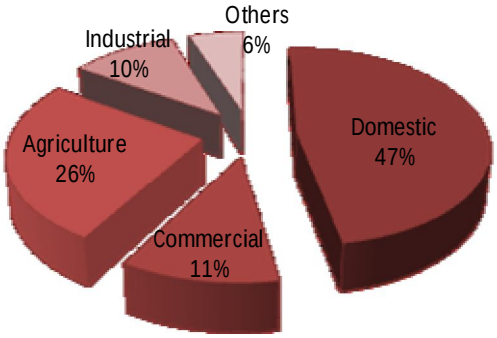
EDC Shahjahanpur



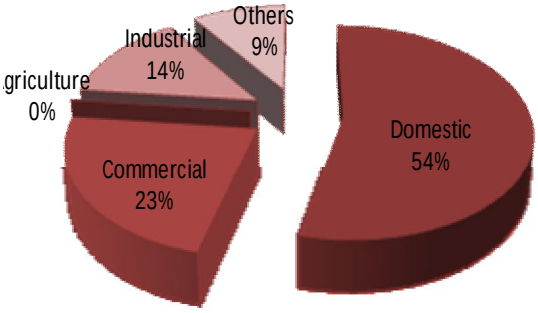
EUDC I LESA



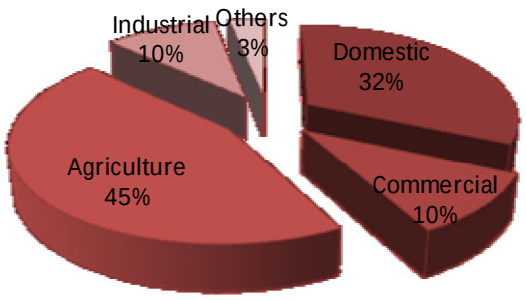
EDC Gonda



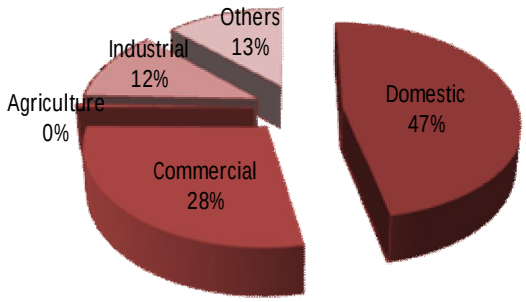
EUDC Bareilly



EDC Badaun



EUDC II LESA



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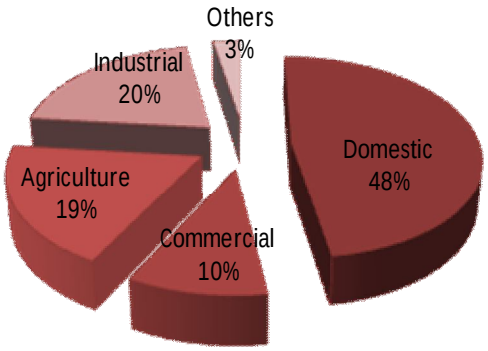

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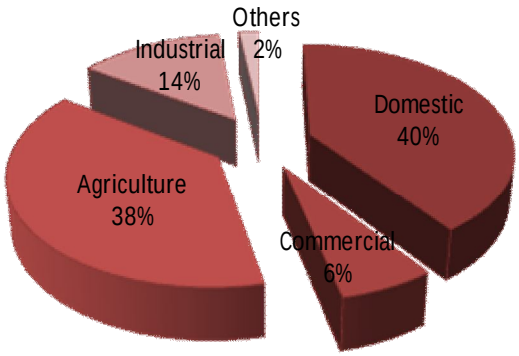

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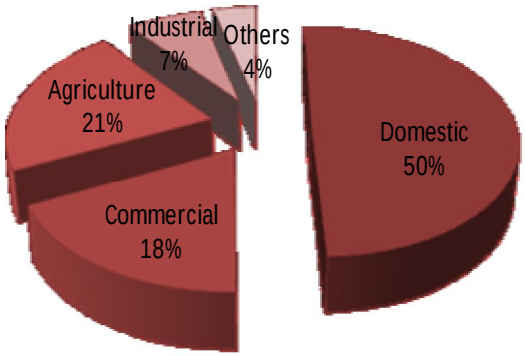

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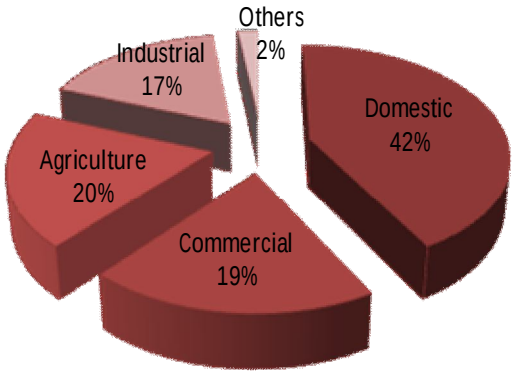

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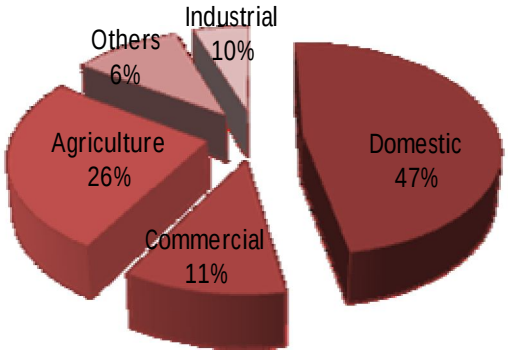

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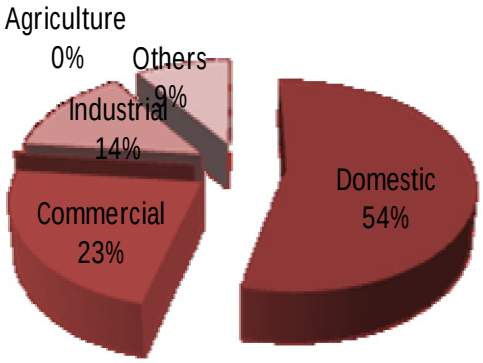

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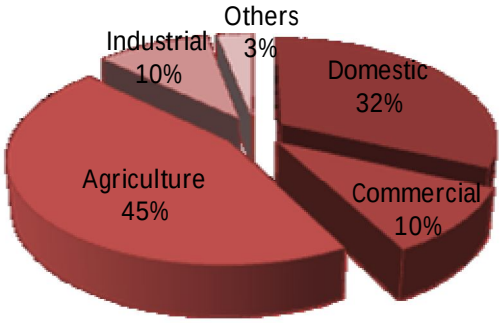

1.5 Appendix IV – PuVVNL DISCOM

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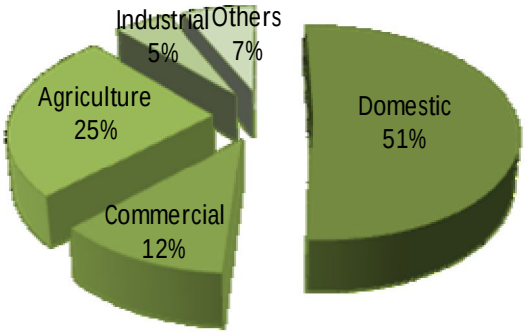

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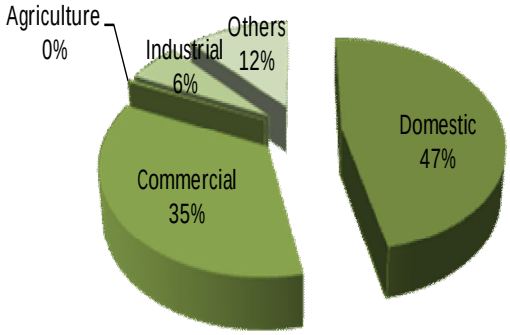

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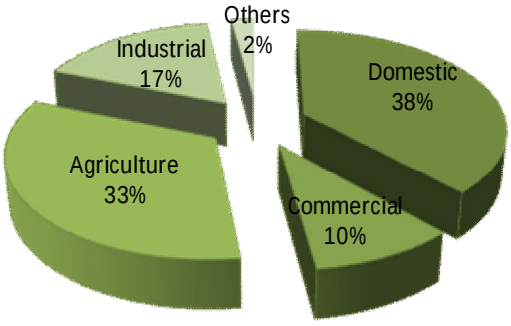

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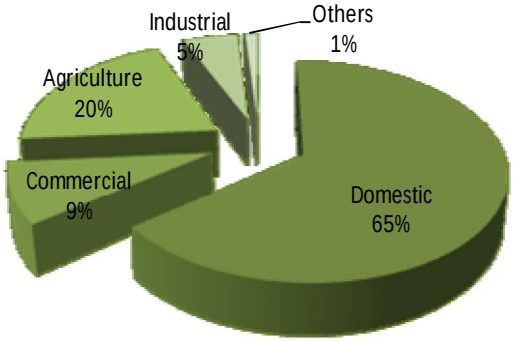

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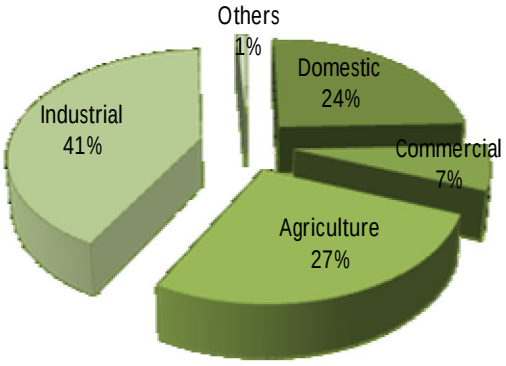
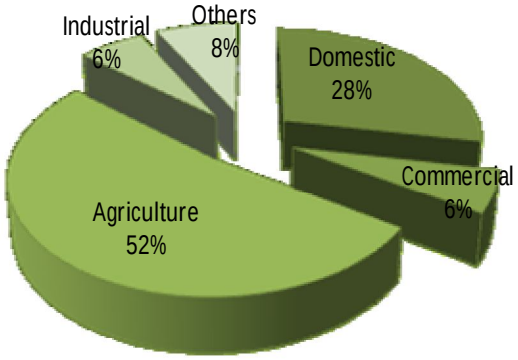


EDC Ghazipur



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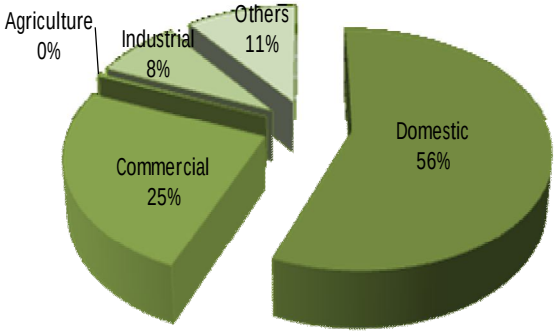
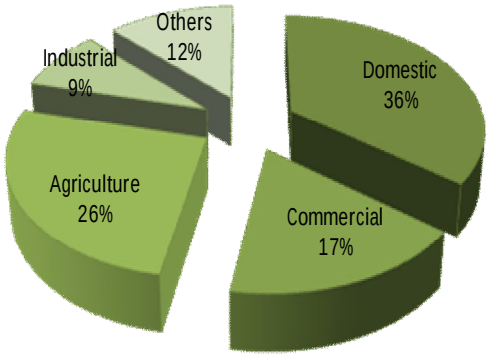


EDC Mau



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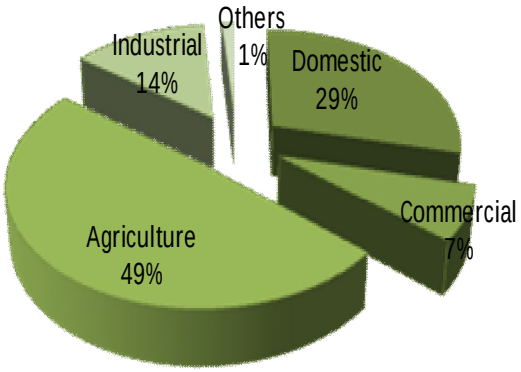
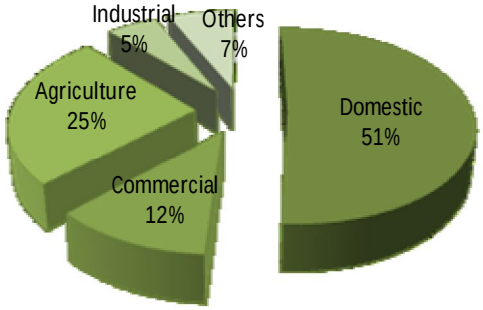


UEDC II Allahabad



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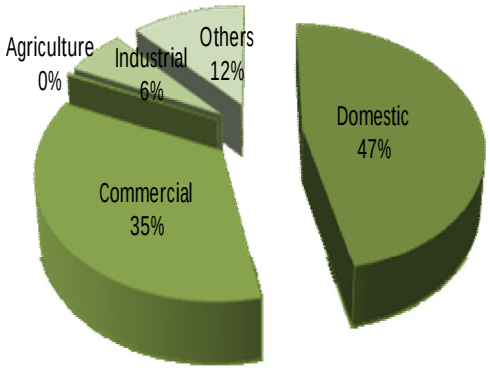

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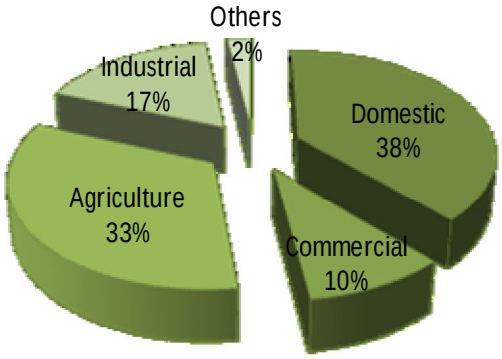
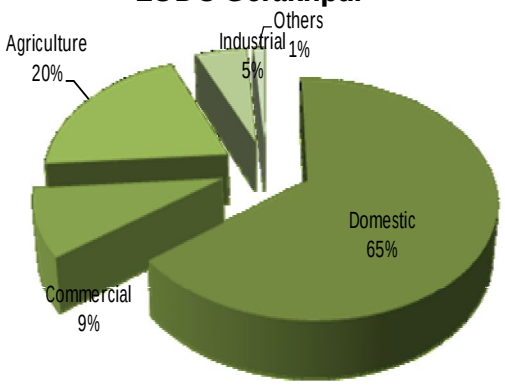


EUDC Gorakhpur



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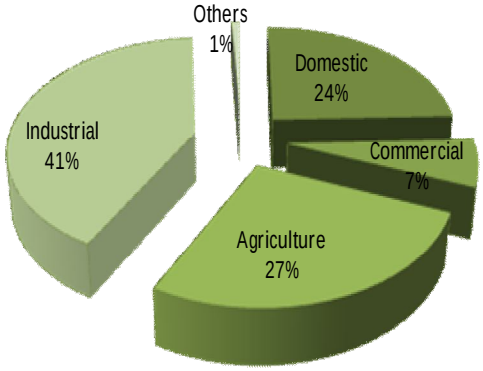

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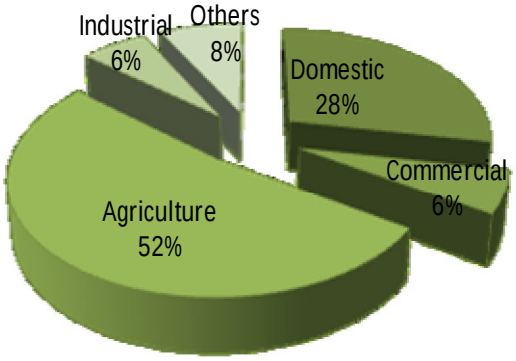

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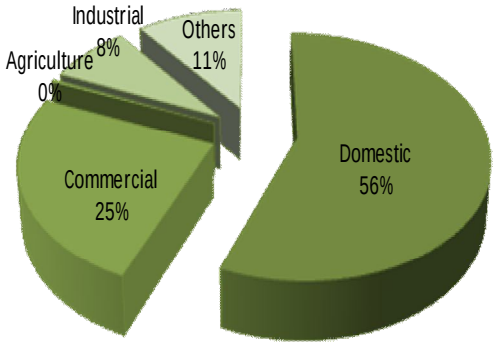
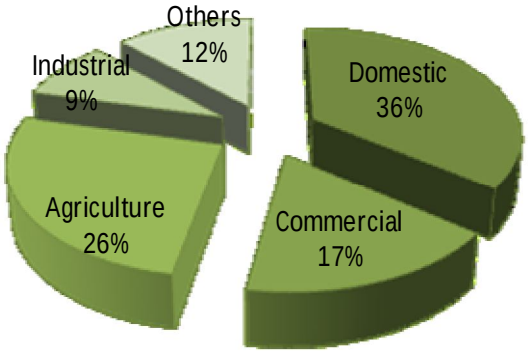
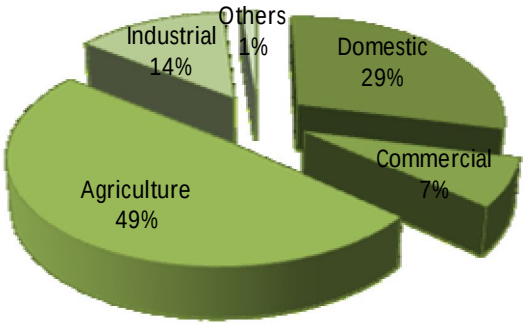


EDC Basti



EDC Deoria



2. Annexure II: Substation and feeder details in the circles

2.1 EDC Meerut

Name of 33 kV GSS	Type	Name of 11 kV Feeder
Pallavpuram FAS	Urban	E -packet feeder
	Urban	F-packet feeder
	Urban	Second Phase feeder
	Urban	MIG feeder
	Urban	Substation feeder
	Urban	Mor Garden feeder
	Urban	HIG feeder
Chur GSS	Rural	Chur
	Rural	Radhna
	Rural	Mundela
	Rural	Baparsi
	Rural	Kalandhi
Bhamoree GSS	Rural	Radhna feeder
	Rural	Khera feeder
	Rural	Substation feeder
Medical GSS	Urban	Rali feeder
	Urban	Cold store feeder
	Urban	Kinapur feeder
	Urban	Sayal feeder
	Urban	Gokulpur feeder
	Urban	Meerut feeder
Saroorpur GSS	Rural	Kakerpur feeder
	Rural	Hari feeder
	Rural	Saroorpur feeder
	Rural	Daher feeder
	Rural	Pachali feeder
Hastinapur GSS	Urban	Makhan nagar feeder
	Urban	Tadpura feeder
	Urban	Ganesh puram feeder
	Urban	Hastinapur feeder
	Urban	Nidawali feeder
	Urban	Tarapur feeder
Behsooma GSS	Rural	Behsooma feeder
	Rural	Mehmoodpur feeder
	Rural	Batawali feeder
Sisoli GSS	Rural	Samyepur feeder

Name of 33 kV GSS	Type	Name of 11 kV Feeder
	Rural	Amhera saini feeder
	Rural	Bhagbhanpur feeder
	Rural	Pachgayo feeder
	Rural	Sisoli feeder
Kagipur GSS	Urban	Cold store feeder
	Urban	Hapur feeder
	Urban	Meerut feeder
Kharkhoda GSS	Urban	Kharkhoda town feeder
	Urban	Govind puri feeder
	Urban	Bhadhloi feeder
	Rural	Nalpur feeder
	Rural	Talheta feeder
	Rural	Bejoli feeder
	Rural	Dhantela feeder
	Urban	Cold store feeder
Modipuram GSS	Rural	Guun feeder
	Industrial	Suger mill feeder
	Rural	Bhurabral feeder
	Rural	Saidpur feeder
	Rural	Etera feeder
	Rural	Cattel feeder
	Urban	Stabdi feeder
	Industrial	Udyogpuram-2 feeder
	Urban	Byepass feeder
	Urban	Gangool road feeder
Hasanpur GSS	Rural	Madhra feeder
	Rural	Bhatipura feeder
	Rural	Hasanpur feeder
	Rural	Aamarpur feeder
	Rural	Rachodi feeder
	Rural	Medhrajpur feeder
Kithore GSS	Rural	Gasupur feeder
	Rural	Kithore feeder
	Rural	Kithore town feeder
	Rural	Cold store feeder
Laliyana GSS	Rural	Bondra feeder
	Rural	Substation feeder
	Rural	Bharoli feeder
Sakauti GSS	Rural	Sakauti feeder
	Rural	Mator feeder

Name of 33 kV GSS	Type	Name of 11 kV Feeder
	Rural	Mahelka feeder
	Rural	Mandora feeder
	Rural	Sugar mill feeder
Mahalka GSS	Rural	Mahalka feeder
	Rural	Chindayori feeder
	Rural	Kheri tappa feeder
	Rural	Batnoor feeder
Lawad GSS	Rural	Bhagbhanpur feeder
	Rural	Meethepur feeder
	Rural	Lawad feeder
	Rural	Beeta feeder
	Rural	Mahel cold storage feeder
Siwaya GSS	Rural	Siwaya feeder
	Rural	Bharala feeder
	Rural	Dhanju feeder
	Rural	Toll plaza feeder
Sardana naher GSS	Rural	Loi feeder
	Rural	Bohol feeder
	Rural	Dental feeder
	Rural	Ekarri feeder
	Rural	Daurala feeder
	Rural	Ganeshpuram feeder
	Rural	Khirva joilapur feeder
Bana GSS	Rural	Kastala feeder
	Rural	Bana feeder
	Rural	Incholi feeder
	Rural	Kunkura feeder
	Rural	Trivani glass feeder
	Rural	Industry feeder
Salawa GSS	Rural	Manikanal feeder
	Rural	Jawalanagar feeder
	Rural	Jaisinghpur feeder
	Rural	Aachi feeder
Bhola GSS	Rural	Bhola feeder
	Rural	Jani feeder
	Rural	Satbai feeder
	Rural	Rohta feeder
	Rural	Nek feeder
Raghunathpur GSS	Rural	Nanu feeder
	Rural	Jani kala feeder

Name of 33 kV GSS	Type	Name of 11 kV Feeder
	Rural	Siwal khass feeder
	Rural	Ukhlina feeder
	Rural	Bherampur feeder
Rohta GSS	Rural	Rasna feeder
	Rural	Chindori feeder
	Rural	Rohta feeder
	Rural	Badam feeder
Kathwari GSS	Rural	Kalina feeder
	Rural	Khewali feeder
	Rural	Meerpur feeder
	Rural	Karnawali feeder
	Rural	Kalyanpur feeder
	Rural	Rampur feeder
Partapur GSS	Industrial	Indus. State-1 feeder
	Urban	Rithani feeder
	Industrial	Indus. State-2 feeder
	Industrial	Indus. State-2 feeder
Malyana GSS	Industrial	IOC feeder
	Urban	Rashi nagar feeder
	Urban	Malyana town-1
	Urban	Malyana town-2
	Urban	Malyana town-3
Morkhurd GSS	Rural	Morkhurd feeder
	Rural	Saffpur farojpur feeder
	Rural	Substation feeder

2.2 EDC Mathura

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
Kosi	Urban	Kosi town
	Urban	Gopal bagh
	Industrial	Industrial area
	Rural	Jav
	Rural	STW
	Urban	Restaurant
Barsana	Rural	Nand gaon rural
	Urban	Nand gaon town
	Urban	Varsana town

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
	Rural	Hathiya
	Independent	Rangili mahal
	Rural	Sancholi
Dhanota	Rural	Dhanota
	Rural	Roopnagar
Sherghad	Rural	Dalota
	Rural	Jatwari
	Rural	Ujhani
	Rural	Agrola
	Rural	Bhata
	Rural	Ova
	Rural	Shergarh
	Rural	Kajroth
	Rural	Bisamvra
	Rural	Paigaon
	Rural	Falin
Kotwan	Rural	Kotwan
	Rural	Bathan
	Independent	Svarntex
	Independent	Shamken
	Independent	Swastik
	Independent	Shivanshu
Dalota	Rural	Aaduta
	Rural	Basai
	Rural	Javali
Chhatikara	Rural	Chaumuhan
	Rural	Pasoli
	Independent	GLA University
	Rural	Sanjay
	Rural	Ajahai
	Independent	GL Bajaj
Varun beverage	Independent	
Vacmate	Independent	
Pashupati fabrics	Independent	
Mahan protein	Independent	
Jindal saw pipe	Independent	
Devyani foods	Independent	
Ginni filament	Independent	
Raya	Rural	Sonai rural

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
	Rural	Anora
	Rural	Neemgaon rural
Raya	Rural	Cold Storage
	Rural	Raya 1
	Rural	Raya 2
Mant	Rural	Hernaul
	Rural	Dangauli
	Rural	Jawara
Naugheel	Rural	Naugheel
	Rural	Baghai
	Rural	Kolhar
	Rural	Sultanpur
Bajana	Rural	Kalhar
	Rural	Mudiliya
Managari	Rural	Managadi
Sureer	Rural	Tenti gaon
	Rural	Vidholi
	Rural	Sureer
Laxmi nagar	Urban	Town 1
	Urban	Karav
	Urban	Town 2
	Urban	Pani gaon
	Urban	Rawal
Gokul	Rural	Manohpur
	Urban	Gokul town
	Rural	Mahavan
Govardhan	Rural	Jatipura rural
	Urban	Goverdhan 1
	Rural	Jatipura town
	Rural	Radha kund
	Urban	Goverdhan 2
	Rural	Adingh
	Rural	Palson
Sonkh	Rural	Sonkh rural
	Urban	Sonkh town
	Rural	Maharaja cold
Jajampatti	Rural	Rashulpur
	Rural	Oal
	Rural	Magorra

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
	Rural	Sub station
Chhata	Urban	Chhata1
	Urban	Chhata 2
	Rural	Radhera
	Rural	Ranvari
	Rural	Akbarpur
	Independent	11 kV BPCL
	Independent	11kV Bholebaba
	Independent	11 kV User Agro
	Independent	11 kV Excel College
Vrindawan	Rural	By Pass
Chhatikara	Rural	Chhatikara rural
	Rural	Ral
	Rural	Bati
Chetanya vihar	Rural	Jonai
	Rural	HRO
	Rural	Sub station
Datiya	Rural	Satoha
	Rural	Khamini
Govindpur	Rural	Gaughat
	Rural	Saraswati cold
Masani	Urban	Saraswati kund
	Urban	Deeng gate
	Independent	Om textile
	Urban	Kacchi sadak
Navada	Rural	Techman
	Rural	Narholi
Baldov	Urban	Baldov
	Rural	Daulatpur
	Rural	Mahavan
	Rural	Jatora rural
	Rural	Jatora cold
Barauly	Rural	Madora
	Rural	Akos
	Rural	Kachnor
Madora	Rural	Kajoli ghat
	Rural	Katrota
Aurangabad	Rural	Railwaybad
	Rural	Dhan gaun

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
	Rural	Gaushala
Side-B	Industrial	Industrial
	Rural	Barari
	Rural	Hospital
	Rural	Dhangaon
Farah	Rural	DD Dham
	Rural	CIRG
	Rural	Raipura Jatt
	Urban	Farah town
	Industrial	Makdum

2.3 EUDC IV Lucknow

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
Malihabad	Rural	Purva
	Rural	Kakori
	Rural	Ishapur
	Rural	Jamulia
	Rural	Rahta
	Urban	Malihabad town
Mall	Urban	Mall
	Rural	Atari
	Rural	Narainpur
	Rural	Shankarpur
Rehman kheda	Rural	CIST
	Rural	State rural
Kakori	Rural	Durgaganj
	Rural	Kakori shaheed smarak
	Urban	Kakori town
	Rural	Sub station
Dubagga	Rural	Jehta
	Rural	Amethiya
	Urban	LDA
	Rural	Dubagga
	Urban	Avas vikas
Fatehganj	Rural	Bharosa
	Urban	Polytechnic
	Urban	G.B.Pant

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
	Rural	Hanskheda
	Rural	Narayanpur
	Rural	Kakori rural
	Urban	Reliance feeder
	Rural	Rehmankheda
	Industrial	Vindra plastic
Gosain ganj	Rural	Gosainganj
	Rural	Arjunganj
	Rural	Paharnagar
	Rural	Gangaganj
Samesi	Rural	Meerakh nagar
	Rural	Samesi
Mohanlal ganj	Rural	Karagar
	Rural	Sisendi
	Rural	Mohanlal ganj
	Rural	Samudayak swastha kendra
	Urban	Upal-1
	Urban	JMP feeder (new feeder)
	Rural	Utrathi
	Rural	Memora
	Urban	Upal-2
Uthrathiya	Urban	Telibagh + Ramabai rally
	Urban	South city-C ,Peeprauli
	Urban	South city AB, Sainik Nagar, Sailani vihar
	Urban	Neel matha
	Urban	Mohri bagh
Ambedkar university	Urban	Uthraithiya poshak
	Urban	Ramabai rally sthal
	Urban	Avas vikas poshak
	Urban	Ambedkar university
Gahru	Rural	Chandrawal
	Industrial	Industrial-2
	Industrial	Industrial-1
	Independent	NBRI
	Rural	Bani feeder
	Rural	Harauni
	Independent	I.T.R.C ENGG. Coll.
	Rural	Gahru feeder

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
GPRA , Jankipuram	Urban	Gayatri puram feeder
	Urban	Akansha Pocket-A feeder
	Urban	Akansha Pocket-B feeder
	Rural	Gudambba
	Rural	Kursi road feeder
		Spare feeder 1
		Spare feeder 2
Sahara estate	Urban	Sahara estate
	Urban	Sahara grace
Nadarganj	Rural	Chillawan
	Rural	Lucknow road
	Industrial	Industrial-4
	Industrial	Sheran wali
	Industrial	Industrial-3
	Industrial	Industrial-1
	Urban	Sarojini nagar
	Industrial	Industrial-2
	Industrial	United steels
	Rural	Gauri
	Industrial	Industrial-5
New University campus	Rural	Sewa feeder
	Urban	University campus
	Rural	Asti feeder
Ittaunja	Rural	Vishwa bank feeder
	Rural	Mahona/ Amaniganj
	Rural	Pump canal feeder
	Rural	Itaunja feeder
	Rural	Cold storage feeder
Bakshi Ka Talab	Rural	Sub station
	Rural	Bakshi Ka Talab
	Rural	Kathwara
	Rural	Viswa bank
	Rural	Itaunja feeder
	Rural	Makrandpur
	Independent	Airport feeder
Baurumau	Rural	Rehta
	Rural	Baurumau
	Rural	Sairpur feeder

Name of 33 kV GSS/Feeder	Type	Name of 11 kV Feeder
Sector-6,Jankipuram	Urban	Railway crossing feeder
	Urban	Sector 4,5
	Urban	Sub station
	Urban	60 ft. Feeder
	Urban	DPS
	Urban	Sector 1,2,3
	Urban	Kendriya vihar colony
Engineering College	Urban	Jankipuram-3
	Independent	Bharat petroleum
	Rural	Madiyaon
	Urban	Jankipuram-2
	Independent	Bio-tech
	Rural	Cold storage
	Urban	Jankipuram-1
	Urban	Sitapur road
	Urban	Antriksh feeder
Vikas nagar	Urban	Vikas nagar
	Urban	Lekhraj feeder
	Rural	Batha
	Urban	Begam Hazrat Mahal Nagar
	Urban	Vistar yojna
	Urban	Khurram Nagar
	Urban	Ring road
	Urban	Kamla Nehru Nagar
	Urban	Shekhopur
GSI	Urban	GSI-1
	Urban	GSI-2
	Urban	Tadikhana
	Rural	CGWB
	Urban	Sry-2 feeder
	Urban	State Bank feeder
	Urban	Sry-1 feeder
	Rural	Batha, saboli feeder

2.4 EDC Varanasi

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
Deendaspur	Rural	Baraura

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
	Rural	Deendaspur
Anei	Rural	Tari
	Rural	Akodha
	Rural	Biraon
	Rural	Jal Nigam
Sewapuri	Rural	Kapsethi
	Rural	Rameshwar
	Rural	Kalikadham
	Rural	Sakalpur
Karasara	Independent	Adalpura P/Canal
	Rural	Bunkar Colony
	Independent	Chhitauni P/C
	Rural	MaaSheetlaDham
	Rural	Karsara
	Independent	K.S.Anusandhan
	Rural	Ramna
Manduadih	Urban	Sunder Pur
	Urban	Besu 1
	Urban	Rajender Vihar
	Urban	Besu 2
	Independent	DLW - II
	Urban	Besu 3
	Urban	Brij Enclave
	Independent	D.L.W.-I
Raja-Ka-Talab	Rural	Kachhwa
	Rural	Pilakhini
	Rural	Sewapuri
	Independent	Cold Storage
	Rural	Jakhani
	Rural	Mehandiganj
	Rural	Raja-Ka-Talab
Sarnath	Rural	Choubepur
	Rural	Tullu
	Rural	World Bank
	Rural	Chiraigaon-I
	Urban	Chiraigaon-II
Ugapur	Rural	Chhitauni
	Rural	Kaithi
	Rural	Kadipur

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
Raunakala	Rural	Raunakala
	Rural	Aelli
	Rural	Munari
Cholapur	Rural	Mahagaon
	Rural	Cholapur
	Rural	Niyardih
	Rural	Dharhara
Lalpur	Rural	Bada Lalpur
	Rural	Chandmari
	Rural	V.D.A.
Rohania	Independent	Boon Exim
	Rural	Kotawa
	Rural	Pilakhini
	Rural	University
	Rural	Chhitauni
	Independent	Sambeam
	Independent	Jal Nigam
Gangapur	Rural	Gangapur - 1
	Rural	Gangapur-2
Lalpur	Rural	Amini
	Rural	Mirzamurad
	Rural	Lalpur
Thatra	Rural	Thatra
	Rural	Babu Sarai
	Rural	Bihra
	Rural	Rupapur
Jhakhani	Rural	Panchai
	Rural	Shahashapur
Cholapur	Rural	Mahagaon
	Rural	Cholapur
	Rural	Niyardih
	Rural	Dharhara
Christ Nagar	Rural	Sheorampur
	Rural	Shanbhopur
	Rural	Town / Aura
	Rural	World Bank
Haruha	Independent	33 kV Suraj
	Independent	33 kV Harihar
	Rural	Incoming 1

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
	Rural	Baragaon
	Independent	L. P. G.
	Independent	Aerodrum
	Rural	Harhua
	Rural	Ahrak
	Rural	Akla
Pindra	Rural	Basani
	Independent	Jal Nigam
	Rural	Pindra
	Rural	World Bank
	Rural	Dhaukal Ganj
	Independent	CSPKhalis Pur
	Rural	Cold Storage
	Rural	Babat Pur
	Rural	Phoolpur
Newada	Rural	Nehia
	Rural	Town
	Rural	Rajpur
Karakhiyan	Independent	Feeder 1
Sindhora	Rural	Sindhora
Uttara	Independent	Uttara Feeder
Babatpur Airport	Independent	Babatpur Airport
Yogeshwar Nath	Rural	Newazganj
	Rural	Sikandarpur
	Rural	Sikarganj
Chakiya	Rural	Utraut
	Rural	Saidupur
	Rural	Musakhand
	Rural	Chakiya
Chanduali	Rural	Incoming 1
	Rural	Baburi
	Rural	Saidraja
	Rural	Kanta
	Rural	Basni
	Rural	Chanduali
	Rural	Ali Nagar
Marufpur	Rural	Incoming 1
	Rural	Feeder 1
	Rural	Feeder 2

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
Barhuli	Rural	Feeder 1
	Rural	Feeder 2
Baburi	Rural	Baburi
	Rural	Jalkhor
Sahabganj	Rural	Sahabganj
	Rural	Rammaro
Bagahi	Rural	Bhatiza
	Rural	Daubatpur
Belaridhih	Rural	Pandeypur
	Rural	Milkipur
	Rural	Ali Nagar
Naugarh	Rural	Town
	Rural	Rithia
	Rural	Bhaisora
	Rural	Amdahan
Chakarghatta	Rural	Feeder 1
	Rural	Feeder 2
Jeevnathpur	Independent	Dairy
	Urban	Basant Nagar
	Urban	Ram Nagar - I
	Independent	Industrial - I
	Independent	Industrial - II
	Independent	Govt. Press
	Independent	Industrial - III
	Urban	Ram Nagar- II
Ram nagar	Independent	Swatic Steel
Zamania	Rural	Beera Sarai
Sahupuri	Independent	Sahu Chemical
	Independent	Mogalsarai Rly
Amra	Rural	Tubewell
	Rural	Dhina
	Rural	Rarua
	Rural	Kakarait
	Rural	Jevri
Bhupauli	Rural	Kunda
	Rural	Balawa
	Independent	Irrigation
Chandasi	Urban	Town - II
	Urban	Town - III

Name of 33 kV GSS/Feeder	Name of 11 kV Feeder	Name of 33 kV GSS/Feeder
	Urban	Town - I
	Urban	Chandasi
	Urban	Town - IV
Sahupuri	Urban	Katesar
	Independent	Eastern Railway
	Urban	IOC
	Rural	Ram Nagar
	Urban	G.T. Road
Chahaniya	Rural	Saraulli
	Rural	Mathela
	Rural	Balua
	Rural	Public Nalkoop
	Rural	Mahuar
	Rural	Ramauli
Dhanapur	Rural	Nagwa P / Canal
	Rural	Beera Sarai
	Rural	Hingutar
	Rural	Awajapur
	Rural	Dhanapur
Kamalpur	Rural	Kamalpur
	Rural	Raitha
	Rural	Barhan
Sakaldiha	Rural	Kamalpur
	Rural	Chahaniya
	Rural	Sakaldiha-I
	Rural	Sakaldiha-II
	Rural	Nonar

3. Annexure III: Energy Loss in HT system

3.1 HT survey– EDC Meerut

Particulars	Consumption ('000 kWh)
Energy input	40781
Energy send from 11 kV feeders	38680
HT level loss from 132 to 11 kV	5.15%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
1623 (21/6/12)	5464 (19/7/12)	3841	2.92%	Pallampuram FAS	37285 (21/6/12)	62773 (19/7/12)	0.04	25487	**1019**	E -packet	50934 (21/6/12)	68186 (19/7/12)	17252	0.02	345	
										F-packet	71515 (21/6/12)	95772 (19/7/12)	24258	0.02	485	
										Second Phase	22746 (21/6/12)	30154 (19/7/12)	7408	0.02	148	
															978	4.0%
					86257 (21/6/12)	153994 (19/7/12)	0.04	67738	**2710**	MIG	63611 (21/6/12)	86280 (19/7/12)	22669	0.02	453	
										Substation	278 (21/6/12)	328 (19/7/12)	50	0.02	1	
										Mor garden	12306 (21/6/12)	13846 (19/7/12)	1541	1.00	1541	
										HIG	86257 (21/6/12)	119038 (19/7/12)	32782	0.02	656	
															2651	2.2%
2885 (21/6/12)	4809 (23/7/12)	1924	3.25%	Chur GSS	5907 (21/6/12)	6331 (23/7/12)	2.00	425	**849**	Chur	3212 (21/6/12)	3526 (23/7/12)	314	1.00	314	
										Radhna	2616 (21/6/12)	2897 (23/7/12)	281	1.00	281	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
										Mundela	76 (21/6/12)	187 (23/7/12)	111	2.00	222	
															818	3.7%
					6253 (21/6/12)	6759 (23/7/12)	2.00	506	**1012**	Baparsi	3270 (21/6/12)	3550 (23/7/12)	279	1.00	279	
										Kalandhi	2984 (21/6/12)	3327 (23/7/12)	343	2.00	686	
															965	4.7%
2087 (22/6/12)	3005 (24/7/12)	918	3.01%	Bhamoree GSS	309112 (22/6/12)	318016 (24/7/12)	0.10	8904	**890**	Radhna	309112 (22/6/12)	320499 (24/7/12)	11387	0.04	455	
										Khera	244712 (22/6/12)	255328 (24/7/12)	10616	0.04	425	
										Substation	60510 (22/6/12)	60510 (24/7/12)	0	0.04	0	
															880	1.2%
1798 (22/6/12)	4414 (24/7/12)	2616	2.84%	Medical GSS	39422 (22/6/12)	54745 (24/7/12)	0.12	15323	**1839**	Rali	18538 (22/6/12)	30816 (24/7/12)	12278	0.06	737	
										Cold store	7506 (22/6/12)	9656 (24/7/12)	2150	0.03	65	
										Kinapur	37289 (22/6/12)	54045 (24/7/12)	16756	0.06	1005	
															1807	1.8%
					48467 (22/6/12)	54325 (24/7/12)	0.12	5858	**703**	Sayal	27910 (22/6/12)	30119 (24/7/12)	2209	0.06	133	
										Gokulpur	27151 (22/6/12)	31192 (24/7/12)	4041	0.06	242	
										Meerut	27630 (22/6/12)	32895 (24/7/12)	5265	0.06	316	
															691	1.72%
(22/6/12)	(24/7/12)			Saroorpur GSS	(22/6/12)	(24/7/12)				Kakerpur	MNW (22/6/12)	(24/7/12)				
										Hari	MNW (22/6/12)	(24/7/12)				
										Saroorpur	MNW (22/6/12)	(24/7/12)				
										Daher	MNW (22/6/12)	(24/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
										Pachali	MNW (22/6/12)	(24/7/12)				
				Hastinapur GSS	(23/6/12)	(19/7/2012)				Makhan nagar	MNW (23/6/12)	(19/7/12)				
										Tadpura	MNW (23/6/12)	(19/7/12)				
										Ganesh puram	MNW (23/6/12)	(19/7/12)				
					560900 (23/6/12)	572776 (19/7/2012)	0.10	11876	**1188**	Hastinapur	934110 (23/6/12)	941949 (19/7/12)	7839	0.04	314	
										Nidawali	529754 (23/6/12)	540634 (19/7/12)	10880	0.04	435	
										Tarapur	508421 (23/6/12)	519034 (19/7/12)	10613	0.04	425	
															1173	1.21%
1438 (24/6/12)	1946 (20/7/12)	508	3.24%	Behsooma GSS	324535 (24/6/12)	333923 (20/7/12)	0.04	9388	376	Behsooma	600849 (24/6/12)	607409 (20/7/12)	6560	0.04	262	
					162061 (24/6/12)	164962 (20/7/12)	0.04	2901	116	Mehmoodpur	186084 (24/6/12)	187393 (20/7/12)	1309	0.04	52	
									492	Batawali	209999 (24/6/12)	214143 (20/7/12)	4144	0.04	166	
															481	2.25%
439 (24/6/12)	729 (30/7/12)	290	2.5%	Sisoli GSS	5665 (24/6/12)	7565 (30/7/12)	0.12	1900	228	Samyepur	5061 (24/6/12)	5122 (30/7/12)	61	0.06	4	
										Amhera saini	1011 (24/6/12)	4666 (30/7/12)	3654	0.06	219	
															223	2.22%
					15965 (24/6/12)	16422 (30/7/12)	0.12	457	55	Bhagbhanpur	2216 (24/6/12)	2587 (30/7/12)	371	0.06	22	
										Pachgayo	1805 (24/6/12)	2147 (30/7/12)	342	0.06	21	
										Sisoli	1965 (24/6/12)	2148 (30/7/12)	184	0.06	11	
															54	2.02%
									283						**277**	**2.18%**

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
1387 (21/6/12)	5722 (30/7/12)	4335	2.52%	Kagipur GSS	60754 (21/6/12)	67298 (30/7/12)	0.19	6544	1243	Cold store	81303 (21/6/12)	110957 (30/7/12)	29654	0.04	1186	4.60%
					74682 (21/6/12)	89593 (30/7/12)	0.20	14911	2982	Hapur	3088 (21/6/12)	4407 (30/7/12)	1320	2.00	2639	
										Meerut	68594 (21/6/12)	96303 (30/7/12)	27710	0.01	277	
															2916	2.21%
									4226						**4102**	2.91%
(22/6/12)	(29/7/12)			Kharkhoda GSS	- (22/6/12)	- (29/7/12)	0.04	36806	1472	Kharkhoda town	789400 (22/6/12)	(29/7/12)	-789400	0.00	-3158	
										Govind puri	MNW (22/6/12)	(29/7/12)	0	0.04	0	
					7861000 (22/6/12)	8127000 (29/7/12)	0.00	266000	1064	Bhadhloi	MNW (22/6/12)	(29/7/12)	0	2.00	0	
										Nalpur	334510 (22/6/12)	1392330 (29/7/12)	1057820	0.002	2116	
					301896000 (22/6/12)	314062000 (29/7/12)	0.00	12166000	4866	Talheta	MNW (22/6/12)	(29/7/12)	0	0.040	0	
										Bejoli	MNW (22/6/12)	(29/7/12)	0	0.040	0	
										Dhantela	23132 (22/6/12)	727457 (29/7/12)	704325	0.002	1409	
										Cold store	184479 (22/6/12)	518829 (29/7/12)	334350	0.002	669	
															2077	
3058 (22/6/12)	8153 (29/7/12)	5095	0.9%	Modipuram GSS	38422 (22/6/12)	47112 (29/7/12)	0.04	8690	348	Guun	10066 (22/6/12)	10196 (29/7/12)	130	2.50	325	
										Sugar mill	5332 (22/6/12)	6263 (29/7/12)	930	0.01	9	
															334	3.9%
					21786 (22/6/12)	22615 (29/7/12)	1.00	829	829	Bhurabral	388434 (22/6/12)	400840 (29/7/12)	12406	0.06	682	
										Saidpur	699794 (22/6/12)	702832 (29/7/12)	3038	0.04	122	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
															804	3.0%
					16490 (22/6/12)	20800 (29/7/12)	0.12	4310	517	Etera	30496 (22/6/12)	44234 (29/7/12)	13738	0.03	412	
										Cattel	1156 (22/6/12)	1771 (29/7/12)	615	0.06	37	
										Stabdi	26882 (22/6/12)	39655 (29/7/12)	12774	0.00	51	
															500	3.3%
					64107 (22/6/12)	92079 (29/7/12)	0.12	27973	3357	Udyogpuram-2	122757 (22/6/12)	147745 (29/7/12)	24988	0.04	1000	
										Byepass	14124 (22/6/12)	20576 (29/7/12)	6452	0.04	258	
										Gangool road	40405 (22/6/12)	91659 (29/7/12)	51254	0.04	2050	
															3308	1%
(28/6/12)	(23/7/12)			Hasanpur GSS	(28/6/12)	(23/7/12)				Madhra	MNW (28/6/12)	(23/7/12)				
										Bhatipura	MNW (28/6/12)	(23/7/12)				
										Hasanpur	MNW (28/6/12)	(23/7/12)				
										Aamarpur	MNW (28/6/12)	(23/7/12)				
										Rachodi	MNW (28/6/12)	(23/7/12)				
										Medhrajpur	MNW (28/6/12)	(23/7/12)				
(28/6/12)	(23/7/12)			Kithore GSS	(28/6/12)	(23/7/12)				Gasupur	MNW (28/6/12)	(23/7/12)				
										Kithore	MNW (28/6/12)	(23/7/12)				
										Kithore town	MNW (28/6/12)	(23/7/12)				
										Cold store	MNW (28/6/12)	(23/7/12)				
(28/6/12)	(23/7/12)			Laliyana GSS	(28/6/12)	(23/7/12)				Bondra	MNW (28/6/12)	(23/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
										Substation	MNW (28/6/12)	(23/7/12)				
										Bharoli	MNW (28/6/12)	(23/7/12)				
(28/6/12)	(23/7/12)			Sakauti GSS	(28/6/12)	(23/7/12)				Sakauti	MNW (28/6/12)	(23/7/12)				
										Mator	MNW (28/6/12)	(23/7/12)				
										Mahelka	MNW (28/6/12)	(23/7/12)				
										Mandora	MNW (28/6/12)	(23/7/12)				
										Sugar mill	MNW (28/6/12)	(23/7/12)				
(28/6/12)	(23/7/12)			Mahalka GSS	(28/6/12)	(23/7/12)				Mahalka	MNW (28/6/12)	(23/7/12)				
										Chindayori	MNW (28/6/12)	(23/7/12)				
										Kheri tappa	MNW (28/6/12)	(23/7/12)				
										Batnoor	MNW (28/6/12)	(23/7/12)				
(28/6/12)	(23/7/12)			Lawad GSS	(28/6/12)	(23/7/12)				Bhagbhanpur	MNW (28/6/12)	(23/7/12)				
										Meethepur	MNW (28/6/12)	(23/7/12)				
										Lawad	MNW (28/6/12)	(23/7/12)				
										Beeta	MNW (28/6/12)	(23/7/12)				
										Mahel cold store	MNW (28/6/12)	(23/7/12)				
539 (26/6/12)	1325 (24/7/12)	786	2.7%	Siwaya GSS	6467 (26/6/12)	7178 (24/7/12)	1.00	711	711	Siwaya	1225 (26/6/12)	1236 (24/7/12)	11	10.00	109	
										Bharala	1076 (26/6/12)	1135 (24/7/12)	58	10.00	582	
															691	2.92%
					31916 (26/6/12)	36333 (24/7/12)	0.01	4417	53	Dhanju	3272 (26/6/12)	3302 (24/7/12)	30	0.4	12	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
										Toll plaza	1827 (26/6/12)	1925 (24/7/12)	99	0.4	40	
									764						53	0.34%
2921 (26/6/12)	6767 (28/7/12)	3846	1.52%	Sardana naher	59456 (26/6/12)	60303 (28/7/12)	0.10	846	85	Loi	20794 (26/6/12)	21081 (28/7/12)	287	0.29	83	2%
					10985 (26/6/12)	11032 (28/7/12)	0.19	47	9	Bohol	133105 (26/6/12)	133169 (28/7/12)	64	0.06	4	
										Dental	28 (26/6/12)	123 (28/7/12)	96	0.04	4	
															8	14.14%
					58629 (26/6/12)	89412 (28/7/12)	0.12	30783	3694	Ekarri	11316 (26/6/12)	11565 (28/7/12)	249	2.00	498	
										Daurala	3813 (26/6/12)	4974 (28/7/12)	1161	2.00	2322	
										Ganeshpuram	578457 (26/6/12)	587228 (28/7/12)	8771	0.01	88	
										Khirva joilapur	93037 (26/6/12)	94734 (28/7/12)	1697	0.40	679	
									3788						3587	2.90%
3697 (4/7/12)	11915 (30/7/12)	8218	2.7%	Bana GSS	6287 (4/7/12)	6998 (30/7/12)	0.08	711	57	Kastala	3583 (4/7/12)	4405 (30/7/12)	823	0.04	33	
										Bana	2695 (4/7/12)	3253 (30/7/12)	558	0.04	22	
					-	-				-					55	2.97%
					10675900 (4/7/12)	11053800 (30/7/12)	0.02	377900	7936	Incholi	44321 (4/7/12)	98522 (30/7/12)	54201	0.04	2168	
										Kunkura	355840 (4/7/12)	426660 (30/7/12)	70820	0.04	2833	
										Trivani glass	25965 (4/7/12)	26740 (30/7/12)	775	0.02	15	
										Industry	678600 (4/7/12)	724977 (30/7/12)	46377	0.06	2783	
									7993						7799	1.73%
1688 (27/6/12)	2023 (28/7/12)	335	2.96%	Salawa GSS	13552 (27/6/12)	17390 (28/7/12)	0.06	3838	230	Manikanal	3244 (27/6/12)	6120 (28/7/12)	2876	0.04	115	
										Jawalanagar	3744 (27/6/12)	6497 (28/7/12)	2753	0.04	110	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
															225	2.21%
					9901 (27/6/12)	10492	0.16	591	95	Jaisinghpur	110 (27/6/12)	117 (28/7/12)	7	4.00	28	
										Aachi	3544 (27/6/12)	3705 (28/7/12)	161	0.40	64	
									325						92	2.36%
1269 (2/7/12)	2617 (28/7/12)	1348	1.85%	Bhola GSS	17657 (2/7/12)	21181 (28/7/12)	0.08	3524	282	Bhola	718079 (2/7/12)	722206 (28/7/12)	4127	0.02	83	
										Jani	878087 (2/7/12)	886580 (28/7/12)	8493	0.02	170	
															252	10.47%
					895411 (2/7/12)	904087 (28/7/12)	0.12	8676	1041	Satbai	19380 (2/7/12)	31302 (28/7/12)	11922	0.04	477	
										Rohta	9363 (2/7/12)	19941 (28/7/12)	10578	0.04	423	
									1323	Nek	17904 (2/7/12)	19922 (28/7/12)	2018	0.04	81	
															981	5.80%
1155 (2/7/12)	3173 (28/7/12)	2018	4.29%	Raghunathpur GSS	8436 (2/7/12)	8822 (28/7/12)	2.00	386	772	Nanu	8127 (2/7/12)	8241 (28/7/12)	114	2.00	228	
										Jani kala	415858 (2/7/12)	428564 (28/7/12)	12706	0.02	254	
										Siwal khass	8259 (2/7/12)	8395 (28/7/12)	136	2.00	272	
															754	2.30%
					6264 (2/7/12)	6553 (28/7/12)	4.00	290	1159	Ukhlina	3165 (2/7/12)	3458 (28/7/12)	293	2.00	585	
										Bherampur	2789 (2/7/12)	3060 (28/7/12)	271	2.00	542	
									1931						1127	2.76%
1363 (8/7/12)	2116 (28/7/12)	753	3.48%	Rohta GSS	134109 (8/7/12)	145734 (28/7/12)	0.06	11625	698	Rasna	652734 (8/7/12)	659072 (28/7/12)	6338	0.04	254	
										Chindori	397020 (8/7/12)	407667 (28/7/12)	10647	0.04	426	
															679	2.59%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
					3626 (8/7/12)	3698	0.41	71	29	Rohta	3148 (8/7/12)	3777 (28/7/12)	629	0.04	25	
										Badam	4273 (8/7/12)	4353 (28/7/12)	81	0.04	3	
									727						28	3.09%
1765 (9/7/12)	3197 (29/7/12)	1432	4.05%	Kathwari GSS	663112 (9/7/12)	669155 (29/7/12)	0.14	6043	846	Kalina	228801 (9/7/12)	233633 (29/7/12)	4832	0.04	193	
										Khewali	968301 (9/7/12)	978683 (29/7/12)	10382	0.06	623	
															816	3.52%
					8872 (9/7/12)	8879 (29/7/12)	1.00	7	7	Meerpur	2781 (9/7/12)	2877 (29/7/12)	96	0.02	2	
										Karnawali	8830 (9/7/12)	9075 (29/7/12)	245	0.02	5	
															7	1.25%
					38005 (9/7/12)	46210 (29/7/12)	0.06	8205	521	Kalyanpur	144843 (9/7/12)	152589 (29/7/12)	7746	0.06	465	
										Rampur	81589 (9/7/12)	82675 (29/7/12)	1086	0.04	43	
									1374						508	2.46%
490 (10/7/12)	1518 (28/7/12)	1028	4.74%	Partapur GSS	16099 (10/7/12)	19005 (28/7/12)	0.25	2906	727	Indus. State-1	60565 (10/7/12)	72211 (28/7/12)	11646	0.04	466	
										Rithani	33798 (10/7/12)	39929 (28/7/12)	6131	0.04	245	
															711	2.13%
					5399 (10/7/12)	6410 (28/7/12)	0.25	1011	253	Indus. State-2	2961 (10/7/12)	6410 (28/7/12)	3449	0.04	138	
									979	Indus. State-2	9834 (10/7/12)	12589 (28/7/12)	2755	0.04	110	
															248	1.82%
1621 (10/7/12)	2455 (28/7/12)	834	1.96%	Malyana GSS	42340 (10/7/12)	49154 (28/7/12)	0.12	6814	818	IOC	4546 (10/7/12)	11192 (28/7/12)	6647	0.02	133	
										Rashi nagar	8594 (10/7/12)	10126 (28/7/12)	1532	0.04	61	
										Malyana town-1	61591 (10/7/12)	72160 (28/7/12)	10569	0.02	211	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	1st read (incoming 11 kV) (Date)	2nd read (incoming 11 kV) (Date)	MF	Difference	Consm. 11 kV incoming	Name of 11 kV feeder	1st read (Date)	2nd read (Date)	Difference	MF	Consm. 11 kV	11 kV Loss
										Malyana town-2	30490 (10/7/12)	43840 (28/7/12)	13350	0.02	267	
										Malyana town-3	40505 (10/7/12)	46933 (28/7/12)	6428	0.02	129	
															801	2.02%
940 (1/7/12)	1597 (23/7/12)	657	3.60%	Morkhurd GSS	9665 (1/7/12)	10298 (23/7/12)	1.00	633	633	Morkhurd	1701 (1/7/12)	1974 (23/7/12)	273	0.80	218	
										Saffpur farojpur	1587 (1/7/12)	1947 (23/7/12)	360	1.00	360	
										Substation	0 (1/7/12)	0 (23/7/12)	0	0.00	579	8.66%
Total		**40781**													**38680**	

MNW: Meter not working

3.2 HT survey – EDC Mathura

Particulars	Consumption ('000 kWh)
Energy input	62,228
Energy send from 11 kV feeders	59,103
HT level loss from 132 to 11 kV	5.02%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
6187 (27/6/12)	9871 (18/7/12)	3684	2.06%	Kosi	Incoming -1	54158350 (27/6/12)	54161065 (18/7/12)	2715	2	5430	3.43%
					Kosi town	31274092 (27/6/12)	31275030 (18/7/12)	938	2	1876	
					Gopal bagh	24404075 (27/6/12)	24405030 (18/7/12)	955	2	1910	
					Industrial area	23978541 (27/6/12)	23979270 (18/7/12)	729	2	1458	
					Incoming 2	31537 (27/6/12)	32430 (18/7/12)	893	2	1786	2.46%
					Jav	2256134 (27/6/12)	2256488 (18/7/12)	354	1	354	
					STW	68438 (27/6/12)	68870 (18/7/12)	432	1	432	
					Restaurant	118762 (27/6/12)	119718 (18/7/12)	956	1	956	
7083 (3/7/12)	10059 (24/7/12)	2976	2.32%	Barsana	Incoming	26291 (3/7/12)	29198 (24/7/12)	2907	1.00	2907	3.23%
					Nand gaon rural	2273493 (3/7/12)	2273636 (24/7/12)	143	1.00	143	
					Nand gaon town	3234 (3/7/12)	3436 (24/7/12)	202	1.00	202	
					Varsana town	4351 (3/7/12)	4727 (24/7/12)	376	1.00	376	
					Hathiya	6413563 (3/7/12)	6414120 (24/7/12)	557	1.00	557	
					Rangili mahal	19870849 (3/7/12)	19872040 (24/7/12)	1191	1.00	1191	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Sancholi	692 (3/7/12)	1036 (24/7/12)	344	1.00	344	
4780 (3/7/12)	5068 (24/7/12)	288	2.08%	Dhanota	Incoming 1	5030819 (3/7/12)	5031101 (24/7/12)	282	1	282	3.55%
					Dhanota	1588478 (3/7/12)	1588606 (24/7/12)	128	1	128	
					Roopnagar	1400504 (3/7/12)	1400648 (24/7/12)	144	1	144	
				Sherghad	Incoming 1	MNW (3/7/12)	(24/7/12)				
					Dalota	MNW (3/7/12)	(24/7/12)				
					Jatwari	MNW (3/7/12)	(24/7/12)				
					Ujhani	MNW (3/7/12)	(24/7/12)				
					Agrola	MNW (3/7/12)	(24/7/12)				
					Bhata	MNW (3/7/12)	(24/7/12)				
					Ova	MNW (3/7/12)	(24/7/12)				
					Incoming 2	537127 (3/7/12)	545042 (24/7/12)	7915	0.02	158	1.74%
					Shergarh	308145 (3/7/12)	315910 (24/7/12)	7765	0.01	78	
					Kajroth	275600 (3/7/12)	283390 (24/7/12)	7790	0.01	78	
14631 (3/7/12)	15627 (24/7/12)	996	3.41%		Incoming 1	889826 (3/7/12)	890788 (24/7/12)	962	1	962	2.70%
					Bisamvra	349801 (3/7/12)	350235 (24/7/12)	434	1	434	
					Paigaon	946676 (3/7/12)	946832 (24/7/12)	156	1	156	
					Falin	380299 (3/7/12)	380645 (24/7/12)	346	1	346	
6913 (29/6/12)	8548 (28/7/12)	1635	2.14%	Kotwan	Incoming 1	677705000 (29/6/12)	677785000 (28/7/12)	80000	0.02	1600	1.44%
					Kotwan	1865880 (29/6/12)	1934640 (28/7/12)	68760	0.01	688	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Bathan	72751400 (29/6/12)	72782400 (28/7/12)	31000	0.01	310	
					Svarntex	76973770 (29/6/12)	76989700 (28/7/12)	15930	0.01	159	
					Shamken	270780460 (29/6/12)	270786000 (28/7/12)	5540	0.01	55	
					Swastik	479609270 (29/6/12)	479634000 (28/7/12)	24730	0.01	247	
					Shivanshu	98745260 (29/6/12)	98757000 (28/7/12)	11740	0.01	117	
1718 (2/7/12)	3958 (30/7/12)	2240	3.28%	Dalota	Incoming	7780.85 (2/7/12)	8671.28 (30/7/12)	890.43	1.2	1069	3.79%
					Aaduta	1712906 (2/7/12)	1713050 (30/7/12)	144	2.00	288	
					Basai	871170 (2/7/12)	871260 (30/7/12)	90	2.00	180	
					Javali	1976100 (2/7/12)	1976380 (30/7/12)	280	2.00	560	
59549 (3/7/12)	71779 (27/7/12)	12230	1.56%	Chhatikara	Incoming	4355120 (3/7/12)	4373420 (27/7/12)	18300	0.06	1098	1.48%
					Chaumuhan	276660 (3/7/12)	293760 (27/7/12)	17100	0.03	513	
					Pasoli	4332100 (3/7/12)	4336500 (27/7/12)	4400	0.03	132	
					GLA university	7849000 (3/7/12)	7851700 (27/7/12)	2700	0.03	81	
					Sanjay	11652 (3/7/12)	16112 (27/7/12)	4460	0.03	134	
					Ajahai	11098 (3/7/12)	16298 (27/7/12)	5200	0.03	156	
					GL Bajaj	1023574 (3/7/12)	1025774 (27/7/12)	2200	0.03	66	
				Varun beverage		75711590 (3/7/12)	75740000 (27/7/12)	28410	0.04	1136	
				Vacmate		563113000 (3/7/12)	563218000 (27/7/12)	105000	0.04	4200	
				Pashupati fabrics		65651670 (3/7/12)	65687250 (27/7/12)	35580	0.02	712	
				Mahan protein		8851952 (3/7/12)	8858900 (27/7/12)	6948	0.02	139	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
				Jindal saw pipe		111230100 (3/7/12)	111235500 (27/7/12)	5400	0.02	108	
				Devyani foods		4962200 (3/7/12)	4965300 (27/7/12)	3100	0.02	62	
				Ginni filament		122489816 (3/7/12)	122494400 (27/7/12)	4584	1	4584	
53102 (1/7/12)	57895 (16/7/12)	4793	2.19%	Raya	Incoming 1	4424 (1/7/12)	5329 (16/7/12)	905	2	1810	2.87%
					Sonai rural	8764 (1/7/12)	8982 (16/7/12)	218	4	872	
					Anora	5351 (1/7/12)	5549 (16/7/12)	198	2	396	
					Neemgaon rural	9472 (1/7/12)	9717 (16/7/12)	245	2	490	
7292 (1/7/12)	10286 (16/7/12)	2994	3.87%	Raya	Incoming 2	608486 (1/7/12)	622876 (16/7/12)	14390	0.2	2878	2.5%
					Cold storage	349217 (1/7/12)	350962 (16/7/12)	1745	0.4	698	
					Raya 1	21420 (1/7/12)	31300 (16/7/12)	9880	0.1	988	
					Raya 2	183642 (1/7/12)	194855 (16/7/12)	11213	0.1	1121	
6603 (2/7/12)	9347 (17/7/12)	2744	3.10%	Mant	Incoming 1	5662 (2/7/12)	8321 (17/7/12)	2659	1	2659	2.48%
					Hernaul	934 (2/7/12)	1720 (17/7/12)	786	1	786	
					Dangauli	6377 (2/7/12)	6867 (17/7/12)	490	1	490	
					Jawara	533995 (2/7/12)	535312 (17/7/12)	1317	1	1317	
2314 (3/7/12)	5374 (18/7/12)	3060	2.19%	Naugheel	Incoming 1	5658345 (3/7/12)	5659450 (18/7/12)	1105	2	2210	3.01%
					Naugheel	7098512 (3/7/12)	7143261 (18/7/12)	44749	0.03	1342	
					Baghai	298585000 (3/7/12)	298647150 (18/7/12)	62150	0.01	622	
					Kolhar	28600 (3/7/12)	46550 (18/7/12)	17950	0.01	180	
2626 (3/7/12)	3431	805	2.7%		Incoming 2	2622000 (3/7/12)	2661150 (18/7/12)	39150	0.02	783	3.45%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Sultanpur	170600 (3/7/12)	195800 (18/7/12)	25200	0.03	756	
				Bajana	Incoming 1	1070251 (3/7/12)	1137522 (18/7/12)	67271	0.08	5382	
					Kalhar	4679049 (3/7/12)	4723856 (18/7/12)	44807	0.04	1792	
					Mudiliya	MNW (3/7/12)	(18/7/12)				
5786 (20/7/12)	5961 (18/8/12)	175	2.35%	Managari	Incoming	1124886 (20/7/12)	1127734 (18/8/12)	2848	0.06	171	3.04%
					Managadi	829124 (20/7/12)	845692 (18/8/12)	16568	0.01	166	
3601 (21/7/12)	6243 (19/8/12)	2642	2.04%	Surir	Incoming 1	4466540 (21/7/12)	4531240 (19/8/12)	64700	0.04	2588	2.60%
					Tenti gaon	1121020 (21/7/12)	1141250 (19/8/12)	20230	0.02	405	
					Vidholi	3547162 (21/7/12)	3595432 (19/8/12)	48270	0.02	965	
					Sureer	7770280 (21/7/12)	7885340 (19/8/12)	115060	0.01	1151	
				Laxmi Nagar	Town 1	MNW (21/7/12)	(19/8/12)				
					Karav	MNW (21/7/12)	(19/8/12)				
					Town 2	MNW (21/7/12)	(19/8/12)				
					Pani gaon	18156.62 (21/7/12)	18571.26 (19/8/12)		0.04		
					Rawal	15523216 (21/7/12)	15948082 (19/8/12)		0.04		
4752 (23/7/12)	6171 (21/8/12)	1419	2.70%	Gokul	Incoming	2297998 (23/7/12)	2321010 (21/8/12)	23012	0.06	1381	2.91%
					Manohpur	949430 (23/7/12)	950666 (21/8/12)	1236	0.3	371	
					Gokul	30840 (23/7/12)	33125 (21/8/12)	2285	0.3	686	
					Mahavan	24804.6 (23/7/12)	25751.9 (21/8/12)	947.3	0.3	284	
4686 (9/7/12)	9243 (27/7/12)	4557	2.22%	Govardhan	Incoming 1	27840 (9/7/12)	29654 (27/7/12)	1814	2.00	3628	2.81%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Jatipura rural	18374 (9/7/12)	19098 (27/7/12)	724	1	724	
					Jatipura town	6128625 (9/7/12)	6129195 (27/7/12)	570	2.00	1140	
					Radha kund	4834 (9/7/12)	5665 (27/7/12)	831	2.00	1662	
					Incoming 2	179391 (9/7/12)	179805 (27/7/12)	414	2	828	2.66%
					Adingh	152751 (9/7/12)	153309 (27/7/12)	558	1	558	
					Palson	151554 (9/7/12)	151802 (27/7/12)	248	1	248	
1544 (9/7/12)	2743 (27/7/12)	1199	2.75%	Sonkh	Incoming	536200 (9/7/12)	542030 (27/7/12)	5830	0.2	1166	3.09%
					Sonkh rural	2825 (9/7/12)	3395 (27/7/12)	570	1	570	
					Sonkh town	33048 (9/7/12)	33536 (27/7/12)	488	1	488	
					Maharaja cold	29311 (9/7/12)	29383 (27/7/12)	72	1	72	
1840 (9/7/12)				Jajampatti	Rashulpur	MNW (9/7/12)	(27/7/12)				
					Oal	MNW (9/7/12)	(27/7/12)				
					Magorra	MNW (9/7/12)	(27/7/12)				
					Sub station	MNW (9/7/12)	(27/7/12)				
4643 (10/7/12)	7683 (28/7/12)	3040	2.24%	Chhata	Incoming	413817 (10/7/12)	462273 (28/7/12)	48456	0.05	2423	1.52%
					Chhata1	77220 (10/7/12)	88490 (28/7/12)	11270	0.05	564	
					Chhata 2	43210 (10/7/12)	53950 (28/7/12)	10740	0.05	537	
					Radhera	588753 (10/7/12)	611367 (28/7/12)	22614	0.02	452	
					Ranvari	92734 (10/7/12)	95822 (28/7/12)	3088	0.02	62	
					Akbarpur	6058132 (10/7/12)	6065548 (28/7/12)	7416	0.03	222	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					11 kV BPCL	766433 (10/7/12)	766433 (28/7/12)	0	0.01	0	
					11kV Bholebaba	607337 (10/7/12)	607360 (28/7/12)	23	1	23	
					11 kV User Agro	367391 (10/7/12)	367910 (28/7/12)	519	1	519	
					11 kV Excel College	81680 (10/7/12)	81687 (28/7/12)	7	1	7	
				Vrindawan	BY Pass	MNW (10/7/12)	(28/7/12)				
2602 (10/7/12)	(28/7/12)			Chhatikara	Chhatikara Rural	MNW (10/7/12)	(28/7/12)				
					Ral	MNW (10/7/12)	(28/7/12)				
					Bati	MNW (10/7/12)	(28/7/12)				
				Chetanya Vihar	Jonai	MNW (10/7/12)	(28/7/12)				
					HRO	MNW (10/7/12)	(28/7/12)				
					Sub station	MNW (10/7/12)	(28/7/12)				
1234 (10/7/12)	(28/7/12)			Datiya	Satoha	MNW (10/7/12)	(28/7/12)				
					Khamini	MNW (10/7/12)	(28/7/12)				
774 (11/7/12)	2249 (30/7/12)	1475	2.29%	Govindpur	Incoming	215560 (11/7/12)	263600 (30/7/12)	48040	0.03	1441	2.56%
					Gaughat	58591 (11/7/12)	86447 (30/7/12)	27856	0.03	836	
					Saraswati cold	220842 (11/7/12)	233536 (30/7/12)	12694	0.01	127	
1136 (12/7/12)	2426 (31/7/12)	1290	2.25%	Masani	Incoming	304960 (12/7/12)	311265 (31/7/12)	6305	0.2	1261	2.48%
					Saraswati Kund	44234 (12/7/12)	48651 (31/7/12)	4417	0.1	442	
					Deeng gate	8080 (12/7/12)	8937 (31/7/12)	857	0.1	86	
					Om textile	45799 (12/7/12)	45852 (31/7/12)	53.24	1	53	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Kacchi sadak	82105 (12/7/12)	88596 (31/7/12)	6491	0.1	649	
1212 (12/7/12)	2907 (31/7/12)	1695	2.74%	Navada	Incoming	684678 (12/7/12)	767102 (31/7/12)	82424	0.02	1648	3.24%
					Techman City	7803721 (12/7/12)	7915933 (31/7/12)	112212	0.01	1122	
					Narholi	9206735 (12/7/12)	9218560 (31/7/12)	11825	0.04	473	
				Baldov	Baldov	3514196 (12/7/12)	3773652 (31/7/12)	259456	0.04	10378	
					Daulatpur	3464440 (12/7/12)	3569085 (31/7/12)	104645	0.02	2093	
					Mahavan	MNW (12/7/12)	(31/7/12)				
					Jatora Rural	MNW (12/7/12)	(31/7/12)				
					Jatora Cold	MNW (12/7/12)	(31/7/12)				
1528 (13/7/12)	3014 (2/8/12)	1486	3.02%	Barauly	Incoming	513677 (13/7/12)	585730 (2/8/12	72053	0.02	1441	2.45%
					Madora	634476 (13/7/12)	646141 (2/8/12)	11665	0.01	117	
					Akos	217073 (13/7/12)	294355 (2/8/12)	77282	0.01	773	
					Kachnor	619552 (13/7/12)	671183 (2/8/12)	51631	0.01	516	
450 (13/7/12)	901 (2/8/12)	451	2.88%	Madora	Incoming	2596 (13/7/12)	2815 (2/8/12)	219	2	438	3.65%
					Kajoli Ghat	3722 (13/7/12)	3832 (2/8/12)	110	2	220	
					Katrota	770 (13/7/12)	871 (2/8/12)	101	2	202	
				Aurangabad	Railwaybad	MNW (13/7/12)	(2/8/12)				
					Dhan gaun	MNW (13/7/12)	(2/8/12)				
					Gaushala	MNW (13/7/12)	(2/8/12)				
2224 (14/7/12)	4027 (3/8/12)	1803	2.16%	Side-B	Incoming	4704 (14/7/12)	5145 (3/8/12)	441	4	1764	2.61%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS/ Feeder	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Industrial	5574 (14/7/12)	5668 (3/8/12)	94	4	376	
					Barari	3666 (14/7/12)	4084 (3/8/12)	418	1	418	
					Hospital	3342 (14/7/12)	3449 (3/8/12)	107	4	428	
					Rural	6872 (14/7/12)	6996 (3/8/12)	124	4	496	
2911 (14/7/12)	5462 (2/8/12)	2551	3.09%	Farah	Incoming	33030 (14/7/12)	36120 (3/8/12)	3090	0.8	2472	3.21%
					DD Dham	49961 (14/7/12)	51949 (3/8/12)	1988	0.4	795	
					CIRG	41294 (14/7/12)	42775 (3/8/12)	1481	0.4	592	
					Raipura Jatt	48760 (14/7/12)	49386 (3/8/12)	626	0.4	250	
					Farah Town	730290 (14/7/12)	745866 (3/8/12)	15576	0.04	623	
					Makdum	266364 (14/7/12)	269653 (3/8/12)	3289	0.04	132	
Total		**62,228**								**59,103**	

3.3 HT survey – EUDC IV Lucknow

Particulars	Consumption ('000 kWh)
Energy input	41,321
Energy send from 11 kV feeders	39,207
HT level loss from 132 to 11 kV	5.12%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
2868 (26/6/12)	3034 (22/7/12)	166	1.97%	Rehman Kheda	Incoming 1	19799 (26/6/12)	22511 (22/7/12)	2712	0.06	**163**	3.11%
					CIST	3478 (26/6/12)	7259 (22/7/12)	3781	0.02	76	
					State rural	37227 (26/6/12)	41330 (22/7/12)	4103	0.02	82	
6287 (26/6/12)	8814	2527	2.22%	Kakori	Incoming 1	397990 (26/6/12)	468515 (22/7/12)	70524	0.02	**1410**	4.27%
					Durgaganj	141600 (26/6/12)	209939 (22/7/12)	68339	0.01	683	
					Kakori Shaheed Smarak	839057 (26/6/12)	905740 (22/7/12)	66683	0.01	667	
					Incoming 2	15234660 (26/6/12)	16295120 (22/7/12)	1060460	0.001	**1060**	2.21%
					Kakori town	15296680 (26/6/12)	16332220 (22/7/12)	1035540	0.001	1036	
					Substation	1530 (26/6/12)	1680 (22/7/12)	150	0.01	2	
3268 (26/6/12)	6149	2881	2.61%	Dubagga	Incoming 1	100579 (26/6/12)	115589 (22/7/12)	15009	0.12	**1801**	1.34%
					Jehta	117313 (26/6/12)	135230 (22/7/12)	17917	0.04	699	
					Amethiya	183494 (26/6/12)	210449 (22/7/12)	26955	0.04	1078	
					Incoming 2	54546 (26/6/12)	72813 (22/7/12)	18267	0.06	**1005**	3.64%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					LDA	26771 (26/6/12)	36701 (22/7/12)	9930	0.04	397	
					Dubagga	28731 (26/6/12)	37879 (22/7/12)	9148	0.04	366	
					Avas vikas	14547 (26/6/12)	19673 (22/7/12)	5126	0.04	205	
2487 (27/6/12)	9048 (23/7/12)	6561	2.08%	Fatehganj	Incoming 1	10000 (27/6/12)	13838 (23/7/12)	3838	0.12	**461**	1.61%
					Bharosa	1561 (27/6/12)	2594 (23/7/12)	1033	0.02	21	
					Polytechnic	26616 (27/6/12)	34302 (23/7/12)	7686	0.04	307	
					G.B.Pant	26424 (27/6/12)	32679 (23/7/12)	6255	0.02	125	
					Incoming 2	70800 (27/6/12)	170200 (23/7/12)	99400	0.06	**5964**	4.28%
					Hanskheda	8233 (27/6/12)	23687 (23/7/12)	15454	0.02	309	
					Narayanpur	19351 (27/6/12)	52492 (23/7/12)	33141	0.04	1326	
					Kakori rural	6995 (27/6/12)	22298 (23/7/12)	15303	0.02	306	
					Reliance feeder	1274 (27/6/12)	42567 (23/7/12)	41293	0.02	826	
					Rehmankheda	606 (27/6/12)	2097 (23/7/12)	1491	0.06	89	
					Vindra Plastic	279 (27/6/12)	1230 (23/7/12)	951	3	2853	
1602 (28/6/12)	2509 (21/7/12)	907	2.33%	Gosain Ganj	Incoming 1	56013 (28/6/12)	61771 (21/7/12)	5758	0.04	**230**	1.64%
					Gosainganj	24334 (28/6/12)	28849 (21/7/12)	4515	0.04	181	
					Arjunganj	8067 (28/6/12)	9215 (21/7/12)	1148	0.04	46	
					Incoming 2	32636 (28/6/12)	38099 (21/7/12)	5463	0.12	**656**	0.13%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Paharnagar	50368 (28/6/12)	57846 (21/7/12)	7478	0.04	299	
					Gangaganj	45501 (28/6/12)	49946 (21/7/12)	4445	0.08	356	
				Samesi	Incoming 1	MNW (28/6/12)	(21/7/12)				
					Meerakh nagar	MNW (28/6/12)	(21/7/12)				
					Samesi	MNW (28/6/12)	(21/7/12)				
				Mohan Lal Ganj	Incoming 1	3287990 (28/6/12)	5028500 (21/7/12)	1740510	0.02	**34810.20**	2.83%
					Karagar	3615100 (28/6/12)	5363290 (21/7/12)	1748190	0.01	17481.90	
					Sisendi	19848300 (28/6/12)	20129250 (21/7/12)	280950	0.02	5619.00	
					Mohanlal ganj	20854500 (28/6/12)	20936037 (21/7/12)	81537	0.02	1630.74	
					Samudayak swastha kendra	207800 (28/6/12)	217150 (21/7/12)	9350	0.60	5610.00	
					Upal-1	5943500 (28/6/12)	6083730 (21/7/12)	140230	0.02	2804.60	
					JMP Feeder	33894.8 (28/6/12)	67789.6 (21/7/12)	33894.8	0.02	677.90	
					Incoming 2	542026.1 (28/6/12)	549662.1 (21/7/12)	7636	0.12	916.32	
					Utrathi	694712.1 (28/6/12)	706291.1 (21/7/12)	11579	0.04	463.16	
					Memora	MNW (28/6/12)	(21/7/12)				
					Upal-2	906687.1 (28/6/12)	906687.8 (21/7/12)	0.7	0.04	0.03	
(25/6/12)	(20/7/12)			Malihabad	Incoming 1	(25/6/12)	MNW (20/7/12)				
					Purva	(25/6/12)	MNW (20/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Kakori	(25/6/12)	MNW (20/7/12)				
					Ishapur	(25/6/12)	MNW (20/7/12)				
					Incoming 2	(25/6/12)	MNW (20/7/12)				
					Jamulia	(25/6/12)	MNW (20/7/12)				
					Rahta	(25/6/12)	MNW (20/7/12)				
					Malihabad town	(25/6/12)	MNW (20/7/12)				
				Mall	Incoming 1	(25/6/12)	MNW (20/7/12)				
					Mall	(25/6/12)	MNW (20/7/12)				
					Atari	(25/6/12)	MNW (20/7/12)				
					Incoming 2	(25/6/12)	MNW (20/7/12)				
					Narainpur	(25/6/12)	MNW (20/7/12)				
					Shankarpur	(25/6/12)	MNW (20/7/12)				
4411 (30/6/12)	9287 (21/7/12)	4876	2.43%	Uthrathiya	Incoming 1	(30/6/12)	(21/7/12)				
					Telibagh + Ramabai Rally	MNW (30/6/12)	(21/7/12)				
					South City-C, Peeprauli	MNW (30/6/12)	(21/7/12)				
					Incoming 2	MNW (30/6/12)	(21/7/12)				
					South City AB, Sainik Nagar, Sailani Vihar	MNW (30/6/12)	(21/7/12)				
					Neel Matha	MNW	(21/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(30/6/12)					
					Mohri Bagh	MNW (30/6/12)	(21/7/12)				
				Ambedkar University	Incoming 1	MNW (30/6/12)	(21/7/12)				
					Uthraithiya Poshak	MNW (30/6/12)	(21/7/12)				
					Ramabai Rally Sthal	MNW (30/6/12)	(21/7/12)				
					Incoming 2	MNW (30/6/12)	(21/7/12)				
					Avas Vikas Poshak	MNW (30/6/12)	(21/7/12)				
					Ambedkar University	MNW (30/6/12)	(21/7/12)				
5974 (3/7/12)	9997 (25/7/12)	4023	2.87%	Gahru	Incoming 1	89997 (3/7/12)	99680 (25/7/12)	9683	0.12	**1162**	2.58%
					Chandrawal	8173 (3/7/12)	8586 (25/7/12)	413	0.08	33	
					Industrial-2	62125 (3/7/12)	73997 (25/7/12)	11873	0.02	237	
					Industrial-1	163020 (3/7/12)	183979 (25/7/12)	20959	0.04	838	
					NBRI	2640 (3/7/12)	3220 (25/7/12)	579	0.04	23	
					Incoming 2	755408 (3/7/12)	892696 (25/7/12)	137288	0.02	**2746**	2.25%
					Bani	26339 (3/7/12)	39819 (25/7/12)	13480	0.04	539	
					Harauni	11346 (3/7/12)	61507 (25/7/12)	50161	0.04	2006	
					I.T.R.C Engg. Coll.	1588 (3/7/12)	1875 (25/7/12)	288	0.04	12	
					Gahru	24618 (3/7/12)	27786 (25/7/12)	3168	0.04	127	
4683	8313	3630	3.03%	GPRA ,	Incoming 1	202499	238256	35758	0.06	**2002**	2.52%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
(3/7/12)	(25/7/12)			Jankipuram		(3/7/12)	(25/7/12)				
					Gayatri Puram	201508 (3/7/12)	237318 (25/7/12)	35809	0.02	716	
					Akansha Pocket-A	36444 (3/7/12)	42523 (25/7/12)	6078	0.02	122	
					Akansha Pocket-B	3384 (3/7/12)	3945 (25/7/12)	561	0.02	11	
					Gudambba	165108 (3/7/12)	192681 (25/7/12)	27574	0.04	1103	
					Incoming 2	163846 (3/7/12)	188323 (25/7/12)	24477	0.062	**1518**	2.98%
					Kursi Road	542210 (3/7/12)	579020 (25/7/12)	36809	0.04	1472	
					Spare feeder 1	(3/7/12)	(25/7/12)				
					Spare feeder 2	(3/7/12)	(25/7/12)				
2321 (3/7/12)	3176 (25/7/12)	855	2.86%	Sahara Estate	Incoming 1	73246 (3/7/12)	87087 (25/7/12)	13842	0.06	**831**	1.33%
					Sahara Estate	88604 (3/7/12)	105129 (25/7/12)	16524	0.04	661	
					Sahara Grace	41945 (3/7/12)	49870 (25/7/12)	7925	0.02	158	
5940 (2/7/12)	9949 (25/7/12)	4009	2.77%	Nadarganj	Incoming 1	5207630 (2/7/12)	5989360 (25/7/12)	781730	0.0008	**625**	1.60%
					Chillawan	1831350 (2/7/12)	2133460 (25/7/12)	302110	0.0006	181	
					Lucknow road	524180 (2/7/12)	547310 (25/7/12)	23130	0.0004	9	
					Industrial-4	489310 (2/7/12)	1502930 (25/7/12)	1013620	0.0004	405	
					Sheran Wali	556630 (2/7/12)	605180 (25/7/12)	48550	0.0004	19	
					Incoming 2	64209 (2/7/12)	72132 (25/7/12)	7924	0.12	**951**	1.84%
					Industrial-3	62600	73072	10472	0.02	209	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(2/7/12)	(25/7/12)				
					Industrial-1	14042 (2/7/12)	17052 (25/7/12)	3010	0.04	120	
					Sarojini Nagar	63608 (2/7/12)	75474 (25/7/12)	11866	0.04	475	
					Industrial-2	11223 (2/7/12)	13005 (25/7/12)	1782	0.04	71	
					United Steels	20324 (2/7/12)	26082 (25/7/12)	5758	0.01	58	
					Incoming 3	112179 (2/7/12)	131528 (25/7/12)	19349	0.12	**2322**	1.75%
					Gauri	158955 (2/7/12)	185861 (25/7/12)	26906	0.08	2152	
					Industrial-5	19497 (2/7/12)	25940 (25/7/12)	6443	0.02	129	
5386 (3/7/12)	7452 (26/7/12)	2066	2.46%	New University Campus	Incoming 1	157578 (3/7/12)	182767 (26/7/12)	25190	0.08	**2015**	1.81%
					Sewa	151410 (3/7/12)	175957 (26/7/12)	24547	0.04	1080	
					University Campus	11007 (3/7/12)	12873 (26/7/12)	1866	0.04	82	
					Asti	251984 (3/7/12)	292813 (26/7/12)	40829	0.02	817	
1691 (4/7/12)	4154 (24/7/12)	2463	2.44%	Ittaunja	Incoming 1	167947 (4/7/12)	191588 (24/7/12)	23641	0.08	**1891**	3.50%
					Vishwa Bank	109138 (4/7/12)	124788 (24/7/12)	15651	0.04	626	
					Mahona/ Amaniganj	82022 (4/7/12)	98897 (24/7/12)	16875	0.04	675	
					Pump Canal	129477 (4/7/12)	146946 (24/7/12)	17469	0.03	524	
					Incoming 2	106563 (4/7/12)	122552 (24/7/12)	15989	0.03	**512**	3.15%
					Itaunja	62673 (4/7/12)	72011 (24/7/12)	9339	0.04	374	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Cold Storage	10954 (4/7/12)	17054 (24/7/12)	6100	0.02	122	
7645 (4/7/12)	10046 (24/7/12)	2401	2.90%	Bakshi Ka Talab	Incoming 1	461779 (4/7/12)	727297 (24/7/12)	265518	0.006	**1593**	0.82%
					Sub station	2017 (4/7/12)	2089 (24/7/12)	72	0.02	1	
					Bakshi Ka Talab	575401 (4/7/12)	596915 (24/7/12)	21514	0.04	861	
					Kathwara	228115 (4/7/12)	241365 (24/7/12)	13250	0.02	265	
					Viswa bank	533440 (4/7/12)	556091 (24/7/12)	22651	0.02	453	
					Incoming 2	76325 (4/7/12)	87860 (24/7/12)	11535	0.064	**738**	1.36%
					Itaunja	8012 (4/7/12)	9564 (24/7/12)	1552	0.02	31	
					Makrandpur	29847 (4/7/12)	59694 (24/7/12)	29847	0.02	597	
					Airport	29341 (4/7/12)	34352 (24/7/12)	5011	0.02	100	
3385 (4/7/12)	4011 (28/7/12)	626	2.58%	Baurumau	Incoming 1	67090 (4/7/12)	76927 (28/7/12)	9837	0.06	**610**	2.57%
					Rehta	73352 (4/7/12)	83229 (28/7/12)	9877	0.02	198	
					Baurumau	44357 (4/7/12)	53598 (28/7/12)	9241	0.02	185	
					Sairpur	84621 (4/7/12)	95212 (28/7/12)	10590	0.02	212	
2186 (9/7/12)	4268 (26/7/12)	2082	2.11%	Sector-6,Jankipuram	Incoming 2	22890 (9/7/12)	30765 (26/7/12)	7875	0.14	**1102**	2.27%
					Railway Crossing	40990 (9/7/12)	48544 (26/7/12)	7554	0.02	151	
					Sector 4,5	27035 (9/7/12)	73286 (26/7/12)	46251	0.02	925	
					Sub Station	210 (9/7/12)	275 (26/7/12)	65	0.02	1	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Incoming 2	138827 (9/7/12)	155627 (26/7/12)	16800	0.05	857	0.87%
					60 FT.	67238 (9/7/12)	82586 (26/7/12)	15348	0.02	307	
					DPS	81063 (9/7/12)	92018 (26/7/12)	10955	0.02	219	
					Sector 1,2,3	94468 (9/7/12)	107053 (26/7/12)	12586	0.02	252	
					Kendriya Vihar Colony	4419 (9/7/12)	5016 (26/7/12)	597	0.12	72	
4778 (9/7/12)	7498 (26/7/12)	2720	2.04%	Engg. College	Incoming 1	90577 (9/7/12)	102112 (26/7/12)	11535	0.10	**1154**	2.72%
					Jankipuram-3	106496 (9/7/12)	123864 (26/7/12)	17368	0.02	347	
					Bharat petroleum	46247 (9/7/12)	50994 (26/7/12)	4747	0.02	95	
					Madiyaon	142945 (9/7/12)	159852 (26/7/12)	16906	0.02	338	
					Jankipuram-2	123632 (9/7/12)	140716 (26/7/12)	17084	0.02	342	
					Incoming 2	55817 (9/7/12)	61862 (26/7/12)	6044	0.25	**1511**	1.13%
					Bio-tech	8738 (9/7/12)	9857 (26/7/12)	1119	0.02	22	
					Cold storage	59547 (9/7/12)	66007 (26/7/12)	6460	0.02	129	
					Jankipuram-1	177884 (9/7/12)	221548 (26/7/12)	43664	0.02	873	
					Sitapur road	129319 (9/7/12)	148294 (26/7/12)	18975	0.02	380	
					Antriksh	31286 (9/7/12)	35764 (26/7/12)	4479	0.02	90	
4122 (14/7/12)	6272 (27/7/12)	2150	2.12%	Vikas Nagar	Incoming 1	293444 (14/7/12)	319375 (27/7/12)	25931	0.04	**1037**	2.83%
					Vikas nagar	19409 (14/7/12)	29654 (27/7/12)	10245	0.02	205	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Lekhraj feeder	132052 (14/7/12)	144234 (27/7/12)	12181	0.02	244	
					Batha	163526 (14/7/12)	181297 (27/7/12)	17771	0.02	355	
					Begam Hazrat Mahal Nagar	145081 (14/7/12)	155278 (27/7/12)	10197	0.02	204	
					Incoming 2	113329 (14/7/12)	125213 (27/7/12)	11883	0.06	713	2.77%
					Vistar yojna	137350 (14/7/12)	150853 (27/7/12)	13503	0.02	270	
					Khurram nagar	124981 (14/7/12)	138880 (27/7/12)	13899	0.02	278	
					Station transformer	375 (14/7/12)	415 (27/7/12)	40	0.02	1	
					Ring road	75513 (14/7/12)	82733 (27/7/12)	7220	0.02	144	
					Incoming 3	100312 (14/7/12)	112120 (27/7/12)	11807	0.03	**354**	1.45%
					Kamla Nehru Nagar	134473 (14/7/12)	147766 (27/7/12)	13293	0.02	266	
					Shekhopur	16201 (14/7/12)	20362 (27/7/12)	4161	0.02	83	
9657 (14/7/12)	10911 (30/7/12)	1254	2.58%	GSI	Incoming 1	119750 (14/7/12)	130267 (30/7/12)	10517	0.04	**442**	2.01%
					GSI-1	11090 (14/7/12)	12108 (30/7/12)	1018	0.02	20	
					GSI-2	6556 (14/7/12)	7121 (30/7/12)	565	0.02	11	
					Tadikhana	229423 (14/7/12)	249226 (30/7/12)	19804	0.02	396	
					CGWB	3022 (14/7/12)	3280 (30/7/12)	258	0.02	5	
					Incoming 2	142137 (14/7/12)	155136 (30/7/12)	12999	0.06	**780**	3.02%
					SRY-2 FEEDER	141082 (14/7/12)	155779 (30/7/12)	14696	0.02	294	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					State Bank	22141 (14/7/12)	26214 (30/7/12)	4072	0.02	81	
					SRY-1	106965 (14/7/12)	118715 (30/7/12)	11750	0.02	235	
					Batha, saboli	78772 (14/7/12)	86075 (30/7/12)	7303	0.02	146	
Total		**41,321**								**39,207**	

3.4 HT survey – EDC Varanasi

Particulars	Consumption ('000 kWh)
Energy input	65,386
Energy send from 11 kV feeders	62,130
HT level loss from 132 to 11 kV	4.98%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
59790 (29/6/12)	62864 (29/7/12)	3074	2.98%	Deendaspur	Incoming 1	200994 (29/6/12)	210581 (29/7/12)	9587	0.06	575	2.23%
					Baraura	993799 (29/6/12)	1009467 (29/7/12)	15668	0.02	313	
					Deendaspur	236572 (29/6/12)	249022 (29/7/12)	12450	0.02	249	
										562	
				Anei	Incoming 1	216572 (29/6/12)	227854 (29/7/12)	11282	0.06	677	1.95%
					Tari	1257092 (29/6/12)	1278455 (29/7/12)	21363	0.02	427	
					Akodha	88739 (29/6/12)	89922 (29/7/12)	1182	0.20	236	
										664	
					Incoming 2	997961 (29/6/12)	1007449 (29/7/12)	9488	0.06	569	2.53%
					Biraon	732104 (29/6/12)	739021 (29/7/12)	6917	0.04	277	
					Jal Nigam	1031915 (29/6/12)	1045824 (29/7/12)	13910	0.02	278	
										555	
				Sewapuri	Incoming 1	36903 (29/6/12)	37813 (29/7/12)	910	0.60	546	1.32%
					Kapsethi	1002067 (29/6/12)	1008796 (29/7/12)	6729	0.04	269	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Rameshwar	685908 (29/6/12)	692648 (29/7/12)	6741	0.04	270	
										539	
					Incoming 2	360163 (29/6/12)	370416 (29/7/12)	10253	0.06	615	2.45%
					Kalikadham	321948 (29/6/12)	326511 (29/7/12)	4563	0.06	274	
					Sakalpur	262851 (29/6/12)	271009 (29/7/12)	8158	0.04	326	
										600	
28127 (1/7/12)	28422 (30/7/12)	295	3.03%	Karasara	Incoming 1	110086 (1/7/12)	113270 (30/7/12)	3184	0.06	191	1.32%
					Adalpura P/Canal	335316 (1/7/12)	336034 (30/7/12)	718	0.02	14	
					Bunkar Colony	303353 (1/7/12)	303872 (30/7/12)	519	0.06	31	
					Chhitauni P/C	153393 (1/7/12)	154407 (30/7/12)	1014	0.02	20	
					MaaSheetlaDham	277120 (1/7/12)	279246 (30/7/12)	2126	0.04	85	
					Karsara	896119 (1/7/12)	897062 (30/7/12)	943	0.04	38	
										189	
					Incoming 2	341848 (1/7/12)	343432 (30/7/12)	1584	0.06	95	1.39%
					K.S.Anusandhan	580799 (1/7/12)	581331 (30/7/12)	532	0.04	21	
					Ramna	30059 (1/7/12)	30095 (30/7/12)	36	2.00	72	
				Manduadih	Incoming 1	MNW (1/7/12)	(30/7/12)				
					Sunder Pur	MNW (1/7/12)	(30/7/12)				
					Besu 1	MNW (1/7/12)	(30/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Rajender Vihar	MNW (1/7/12)	(30/7/12)				
					Besu 2	MNW	(30/7/12)				
					Incoming 2	MNW	(30/7/12)				
					DLW - II	MNW (1/7/12)	(30/7/12)				
					Besu 3	MNW	(30/7/12)				
					Brij Enclave	MNW (1/7/12)	(30/7/12)				
					D.L.W.-I	MNW (1/7/12)	(30/7/12)				
				Raja-Ka-Talab	Incoming 1	38475 (1/7/12)	38653 (30/7/12)	177	2.00	355	1.51%
					Kachhwa	668379 (1/7/12)	676201 (30/7/12)	7823	0.02	156	
					Pilakhini	658163 (1/7/12)	667807 (30/7/12)	9645	0.02	193	
										349	
					Incoming 2	46326 (1/7/12)	46789 (30/7/12)	463	2.00	926	3.55%
					Sewapuri	258436 (1/7/12)	272010 (30/7/12)	13574	0.02	271	
					Cold Storage	179294 (1/7/12)	187715 (30/7/12)	8421	0.02	168	
					Jakhani	925114 (1/7/12)	930181 (30/7/12)	5067	0.03	152	
					Mehandiganj	978259 (1/7/12)	984633 (30/7/12)	6374	0.02	127	
					Raja-Ka-Talab	569779 (1/7/12)	578453 (30/7/12)	8674	0.02	173	
										893	
				Sarnath	Incoming 1	MNW (1/7/12)	(30/7/12)				
					Choubepur	MNW	(30/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(1/7/12)					
					Tullu (M50%)	MNW (1/7/12)	(30/7/12)				
					World Bank	MNW (1/7/12)	(30/7/12)				
					Chiraigaon-I	MNW (1/7/12)	(30/7/12)				
					Chiraigaon-II (U)	MNW (1/7/12)	(30/7/12)				
				Ugapur	Incoming 1	MNW (1/7/12)	(30/7/12)				
					Chhitauni	MNW (1/7/12)	(30/7/12)				
					Kaithi	MNW (1/7/12)	(30/7/12)				
					Incoming 2	MNW (1/7/12)	(30/7/12)				
					Kadipur	MNW (1/7/12)	(30/7/12)				
					Incoming 1	MNW (1/7/12)	(30/7/12)				
				Raunakala	Raunakala	MNW (1/7/12)	(30/7/12)				
					Aelli	MNW (1/7/12)	(30/7/12)				
					Munari	MNW (1/7/12)	(30/7/12)				
				Cholapur	Incoming 1	MNW (1/7/12)	(30/7/12)				
					Mahagaon	MNW (1/7/12)	(30/7/12)				
					Cholapur	MNW (1/7/12)	(30/7/12)				
					Incoming 2	MNW (1/7/12)	(30/7/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Niyardih	MNW (1/7/12)	(30/7/12)				
					Dharhara	MNW (1/7/12)	(30/7/12)				
				Lalpur	Incoming 1	MNW (1/7/12)	(30/7/12)				
					Bada Lalpur	MNW (1/7/12)	(30/7/12)				
					Chandmari	MNW (1/7/12)	(30/7/12)				
					V.D.A.	MNW (1/7/12)	(30/7/12)				
					Incoming 2	MNW (1/7/12)	(30/7/12)				
108779 (2/7/12)	112792 (31/7/12)	4013	2.99%	Rohania	Incoming 1	51083 (2/7/12)	51843 (31/7/12)	761	2.00	1521	2.10%
					Boon Exim	717147 (2/7/12)	728927 (31/7/12)	11780	0.02	236	
					Kotawa	12191 (2/7/12)	12403 (31/7/12)	212	3.00	636	
					Pilakhini	13505 (2/7/12)	13711 (31/7/12)	206	3.00	617	
										1489	
					Incoming 2	58604 (2/7/12)	59466 (31/7/12)	863	2.00	1726	1.90%
					Univercity	23405 (2/7/12)	23707 (31/7/12)	302	2.00	604	
					Chhitauni	12345 (2/7/12)	12548 (31/7/12)	203	3.00	609	
					Sambeam	1480400 (2/7/12)	1617640 (31/7/12)	137240	0.00	137	
					Jal Nigam	8446 (2/7/12)	8617 (31/7/12)	171	2.00	342	
										1693	
				Gangapur	Incoming 1	85464	85787	323	2.00	646	3.13%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(2/7/12)	(31/7/12)				
					Gangapur - 1	282331 (2/7/12)	282469 (31/7/12)	138	2.00	276	
					Gangapur-2	263762 (2/7/12)	263937 (31/7/12)	175	2.00	350	
										626	
149162 (3/7/12)	151573 (1/8/12)	2411	3.00%	Lalpur	Incoming 1	152252 (3/7/12)	155534 (1/8/12)	3283	0.30	985	2.88%
					Amini	1080647 (3/7/12)	1095145 (1/8/12)	14498	0.02	290	
					Mirzamurad	24211 (3/7/12)	24665 (1/8/12)	454	0.40	182	
					Lalpur	515399 (3/7/12)	539642 (1/8/12)	24243	0.02	485	
										956	
				Thatra	Incoming 1	551980 (3/7/12)	560662 (1/8/12)	8682	0.08	695	1.36%
					Thatra	1057763 (3/7/12)	1066141 (1/8/12)	8378	0.04	335	
					Babu Sarai	409043 (3/7/12)	426542 (1/8/12)	17500	0.02	350	
										685	
					Incoming 2	1128356 (3/7/12)	1144840 (1/8/12)	16484	0.04	659	1.64%
					Bihra	780858 (3/7/12)	795308 (1/8/12)	14450	0.02	289	
					Rupapur	267155 (3/7/12)	276144 (1/8/12)	8989	0.04	360	
										649	
68034 (4/7/12)	68665 (5/8/12)	631	2.38%	Jhakhani	Incoming 1	25851 (4/7/12)	26467 (5/8/12)	616	1.00	616	1.97%
					Panchai	6566 (4/7/12)	6725 (5/8/12)	159	2.00	319	
					Shahashapur	11916	12059	143	2.00	285	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(4/7/12)	(5/8/12)				
										604	
152957 (5/7/12)	156518 (5/8/12)	3561	2.99%	Cholapur	Incoming 1	664593 (5/7/12)	678525 (5/8/12)	13931	0.06	836	1.80%
					Mahagaon	263452 (5/7/12)	283121 (5/8/12)	19669	0.02	393	
					Cholapur	256952 (5/7/12)	267638 (5/8/12)	10686	0.04	427	
										821	
					Incoming 2	198869 (5/7/12)	209737 (5/8/12)	10868	0.08	869	1.22%
					Niyardih	455495 (5/7/12)	475067 (5/8/12)	19573	0.02	391	
					Dharhara	490049 (5/7/12)	501735 (5/8/12)	11686	0.04	467	
										859	
				Christ nagar	Incoming 1	987198 (5/7/12)	1009036 (5/8/12)	21838	0.04	874	4.89%
					Sheorampur	354919 (5/7/12)	369165 (5/8/12)	14246	0.04	570	
					Shanbhopur	135963 (5/7/12)	149013 (5/8/12)	13050	0.02	261	
										831	
					Incoming 2	458273 (5/7/12)	480165 (5/8/12)	21893	0.04	876	2.04%
					Town/Aura	309652 (5/7/12)	325752 (5/8/12)	16100	0.02	322	
					World Bank	569167 (5/7/12)	595959 (5/8/12)	26792	0.02	536	
										858	
				Haruha	33 kV Suraj	MNW (5/7/12)	(5/8/12)				
					33 kV Harihar	MNW (5/7/12)	(5/8/12)				

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Incoming 1	MNW (5/7/12)	(5/8/12)				
					Baragaon	MNW (5/7/12)	(5/8/12)				
					L. P. G.	MNW (5/7/12)	(5/8/12)				
					Aerodrum	MNW (5/7/12)	(5/8/12)				
					Incoming 2	MNW (5/7/12)	(5/8/12)				
					Harhua	MNW (5/7/12)	(5/8/12)				
					Ahrak	MNW (5/7/12)	(5/8/12)				
					Akla	MNW (5/7/12)	(5/8/12)				
77311 (8/7/12)	80964 (5/7/12)	3653	3.00%	Pindra	Incoming 1	900676 (8/7/12)	920429 (5/7/12)	19753	0.08	1580	0.16%
					Basani	697254 (8/7/12)	697778 (5/7/12)	524	1.00	524	
					Jal Nigam	526944 (8/7/12)	534421 (5/7/12)	7477	0.02	150	
					Pindra	649657 (8/7/12)	661823 (5/7/12)	12166	0.04	487	
					World Bank	335395 (8/7/12)	345829 (5/7/12)	10434	0.04	417	
										1578	
					Incoming 2	42434 (8/7/12)	43415 (5/7/12)	982	2.00	1963	0.12%
					Dhaukal Ganj	67013 (8/7/12)	68465 (5/7/12)	1452	0.40	581	
					CSPKhalis Pur	16029 (8/7/12)	16162 (5/7/12)	133	1.00	133	
					Cold Storage	342882 (8/7/12)	351823 (5/7/12)	8942	0.04	358	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Babat Pur	26636 (8/7/12)	27082 (5/7/12)	446	1.00	446	
					Phoolpur	12580 (8/7/12)	12802 (5/7/12)	222	2.00	444	
										1961	
4868 (9/7/12)	5768 (6/8/12)	900	2.96%	Newada	Incoming 1	66338 (9/7/12)	66851 (6/8/12)	513	1.00	513	0.63%
					Nehia	19608 (9/7/12)	19860 (6/8/12)	252	1.00	252	
					Town	8556 (9/7/12)	8685 (6/8/12)	129	2.00	258	
										510	
					Incoming 2	29334 (9/7/12)	29694 (6/8/12)	360	1.00	360	0.83%
					Rajpur	12751 (9/7/12)	12930 (6/8/12)	179	2.00	**357**	
10676 (9/7/12)	11365 (6/8/12)	689	3.05%	Karakhiyan	Incoming 1	17304 (9/7/12)	17972 (6/8/12)	668	1.00	668	0.45%
					Feeder 1	16991 (9/7/12)	17656 (6/8/12)	665	1.00	**665**	
38926 (9/7/12)	39420 (6/8/12)	494	3.00%	Sindhora	Incoming 1	24860 (9/7/12)	25339 (6/8/12)	479	1.00	479	0.63%
					Sindhora	26553 (9/7/12)	27029 (6/8/12)	476	1.00	**476**	
1356 (13/7/12)	1457 (10/8/12)	101	2.79%	Uttara	Uttara Feeder	14048 (13/7/12)	14245 (10/8/12)	196	0.50	**98**	
4001 (13/7/12)	4371 (10/8/12)	370	2.90%	Babatpur Airport	Babatpur Airport	6611 (13/7/12)	7330 (10/8/12)	719	0.50	**359**	
8619 (13/7/12)	8754 (10/8/12)	135	3.53%	Yogeshwar Nath	Incoming 1	7343 (13/7/12)	7473 (10/8/12)	130	1.00	130	1.78%
					Newazganj	4347 (13/7/12)	4393 (10/8/12)	46	1.00	46	
					Sikandarpur	5665 (13/7/12)	5708 (10/8/12)	42	1.00	42	
					Sikarganj	3000	3040	40	1.00	40	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(13/7/12)	(10/8/12)				
										128	
12906 (17/7/12)	15318 (11/8/12)	2412	3.04%	Chakiya	Incoming 1	67699 (17/7/12)	68882 (11/8/12)	1183	1.00	1183	1.16%
					Utraut	14713 (17/7/12)	15091 (11/8/12)	378	1.00	378	
					Saidupur	10105 (17/7/12)	10354 (11/8/12)	249	2.00	498	
					Musakhand	19537 (17/7/12)	19830 (11/8/12)	293	1.00	293	
										1169	
					Incoming 2	30557 (17/7/12)	31713 (11/8/12)	1156	1.00	1156	3.66%
					Chakiya	29458 (17/7/12)	30571 (11/8/12)	1113	1.00	**1113**	
140774 (17/7/12)	147048 (11/8/12)	6274	3.01%	Chanduali	Incoming 1	1007717 (17/7/12)	1042596 (11/8/12)	34879	0.06	2093	1.28%
					Baburi	1163139 (17/7/12)	1181100 (11/8/12)	17961	0.04	718	
					Saidraja	1063807 (17/7/12)	1079127 (11/8/12)	15320	0.04	613	
					Kanta	989640 (17/7/12)	1008007 (11/8/12)	18367	0.04	735	
										2066	
					Incoming 2	678227 (17/7/12)	701325 (11/8/12)	23099	0.06	1386	1.39%
					Basni	814755 (17/7/12)	837573 (11/8/12)	22818	0.02	456	
					Chanduali	940942 (17/7/12)	952154 (11/8/12)	11212	0.04	448	
					Ali Nagar	872229 (17/7/12)	883775 (11/8/12)	11546	0.04	462	
										1367	
				Marufpur	Incoming 1	79257	82557	3300	0.40	1320	1.74%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(17/7/12)	(11/8/12)				
					Feeder 1	77161 (17/7/12)	80448 (11/8/12)	3287	0.20	657	
					Feeder 2	77972 (17/7/12)	81170 (11/8/12)	3197	0.20	639	
										1297	
				Barhuli	Incoming 1	71629 (17/7/12)	74846 (11/8/12)	3217	0.40	1287	1.80%
					Feeder 1	72589 (17/7/12)	75718 (11/8/12)	3129	0.20	626	
					Feeder 2	71287 (17/7/12)	74477 (11/8/12)	3189	0.20	638	
										1264	
341810 (19/7/12)	343394 (13/8/12)	1584	3.63%	Baburi	Incoming 1	1990423 (19/7/12)	2180836 (13/8/12)	190413	0.004	762	1.26%
					Baburi	2001598 (19/7/12)	2182485 (13/8/12)	180887	0.002	362	
					Jalkhor	2055876 (19/7/12)	2251002 (13/8/12)	195126	0.002	390	
										752	
				Sahabganj	Incoming 1	68590 (19/7/12)	70502 (13/8/12)	1912	0.40	765	2.50%
					Sahabganj	22179 (19/7/12)	22636 (13/8/12)	457	0.80	366	
					Rammaro	31955 (19/7/12)	32905 (13/8/12)	950	0.40	380	
										746	
64950 (20/7/12)	66239 (13/8/12)	1289	3.93%	Bagahi	Incoming 1	1230250 (20/7/12)	1271527 (13/8/12)	41277	0.03	1238	1.21%
					Bhatiza	911843 (20/7/12)	942293 (13/8/12)	30450	0.02	609	
					Daubatpur	812055 (20/7/12)	842769 (13/8/12)	30715	0.02	614	
										1223	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
				Belaridhih	Incoming 1	MNW (20/7/12)	(13/8/12)				
					Pandeypur	MNW (20/7/12)	(13/8/12)				
					Milkipur	MNW (20/7/12)	(13/8/12)				
					Ali Nagar	MNW (20/7/12)	(13/8/12)				
				Naugarh	Incoming 1	MNW (20/7/12)	(13/8/12)				
					Town	MNW (20/7/12)	(13/8/12)				
					Rithia	MNW (20/7/12)	(13/8/12)				
					Bhaisora	MNW (20/7/12)	(13/8/12)				
					Amdahan	MNW (20/7/12)	(13/8/12)				
				Chakarghatta	Incoming 1	MNW (20/7/12)	(13/8/12)				
					Feeder 1	MNW (20/7/12)	(13/8/12)				
					Feeder 2	MNW (20/7/12)	(13/8/12)				
4825 (21/7/12)	14222 (16/8/12)	9397	3.00%	Jeevnathpur	Incoming 1	353561 (21/7/12)	377582 (16/8/12)	24021	0.12	2883	1.34%
					Dairy	75529 (21/7/12)	80668 (16/8/12)	5139	0.02	103	
					Basant Nagar	311891 (21/7/12)	331521 (16/8/12)	19630	0.08	1570	
					Ram Nagar - I	206068 (21/7/12)	220702 (16/8/12)	14635	0.08	1171	
										2844	
					Incoming 2	489323 (21/7/12)	521145 (16/8/12)	31822	0.12	3819	0.61%

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Industrial - I	395485 (21/7/12)	422143 (16/8/12)	26658	0.08	2133	
					Industrial - II	343546 (21/7/12)	364139 (16/8/12)	20593	0.08	1647	
					Govt. Press	53461 (21/7/12)	54218 (16/8/12)	757	0.02	15	
										3795	
					Incoming 3	288636 (21/7/12)	308750 (16/8/12)	20114	0.12	2414	0.79%
					Industrial - III	279519 (21/7/12)	298127 (16/8/12)	18608	0.08	1489	
					Ram Nagar- II	354564 (21/7/12)	365889 (16/8/12)	11325	0.08	906	
										2395	
35779 (22/7/12)	37400 (17/8/12)	1621	1.93%	Ram Nagar	Swatic Steel	453720 (22/7/12)	479924 (17/8/12)	26205	0.06	1572	3.01%
				Zamania	Beera Sarai	74328 (22/7/12)	74547 (17/8/12)	219	0.08	18	
				Sahupuri	Sahu Chemical	0 (22/7/12)	2 (17/8/12)	2	30	45	
					Mogalsarai Rly	1048759 (22/7/12)	1094702 (17/8/12)	45943	0	2757	
										2802	
28775 (22/7/12)	29467 (17/8/12)	692	2.62%	Amra	Incoming 1	872443 (22/7/12)	889290 (17/8/12)	16847	0.04	674	3.42%
					Tubewell	6124 (22/7/12)	6252 (17/8/12)	128	1.00	128	
					Dhina	9074 (22/7/12)	9204 (17/8/12)	130	1.00	130	
					Rarua	32270 (22/7/12)	32841 (17/8/12)	571	0.20	114	
					Kakarait	26218 (22/7/12)	26909 (17/8/12)	691	0.20	138	
					Jevri	29243 (22/7/12)	29943 (17/8/12)	700	0.20	140	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
										651	
819385 (22/7/12)	821324 (17/8/12)	1939	2.99%	Bhupauli	Incoming 1	1282562 (22/7/12)	1317207 (17/8/12)	34645	0.04	1386	1.68%
					Kunda	136902 (22/7/12)	140424 (17/8/12)	3522	0.20	704	
					Balawa	127695 (22/7/12)	130986 (17/8/12)	3291	0.20	658	
										1363	
					Incoming 2	984948 (22/7/12)	986186 (17/8/12)	1238	0.40	495	0.48%
					Irrigation	822940 (22/7/12)	831154 (17/8/12)	8215	0.06	**493**	
114288 (26/7/12)	121980 (18/8/12)	7692	3.00%	Chandasi	Incoming 1	1046750 (26/7/12)	1073186 (18/8/12)	26436	0.12	3172	2.73%
					Town - II	366742 (26/7/12)	394238 (18/8/12)	27497	0.06	1650	
					Town - III	1103054 (26/7/12)	1126988 (18/8/12)	23934	0.06	1436	
										3086	
					Incoming 2	606657 (26/7/12)	637777 (18/8/12)	31121	0.08	2490	2.63%
					Town - I	65865 (26/7/12)	66244 (18/8/12)	379	3.00	1137	
					Chandasi	385432 (26/7/12)	406886 (18/8/12)	21454	0.06	1287	
										2424	
					Incoming 3	447203 (26/7/12)	469696 (18/8/12)	22493	0.08	1799	1.80%
					Town - IV	69680 (26/7/12)	70269 (18/8/12)	589	3.00	**1767**	
										3%	
136440	145044	8604	3.01%	33 kV Sahupuri	Incoming 1	472710 (26/7/12)	508604 (18/8/12)	35894	0.12	4307	0.49%
					Katesar	864378	904270	39892	0.06	2394	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
						(26/7/12)	(18/8/12)				
					Eastern Railway	658792 (26/7/12)	663723 (18/8/12)	4931	0.04	197	
					IOC	554511 (26/7/12)	596894 (18/8/12)	42383	0.04	1695	
										4286	
					Incoming 2	828800 (26/7/12)	862451 (18/8/12)	33651	0.12	4038	1.05%
					Ram Nagar	990067 (26/7/12)	1039156 (18/8/12)	49089	0.04	1964	
					G.T. Road	491234 (26/7/12)	525105 (18/8/12)	33871	0.06	2032	
										3996	
				Chahaniya	Incoming 1	MNW (26/7/12)	(18/8/12)				
					Saraulli	MNW (26/7/12)	(18/8/12)				
					Mathela	MNW (26/7/12)	(18/8/12)				
					Balua	MNW (26/7/12)	(18/8/12)				
					Incoming 2	MNW (26/7/12)	(18/8/12)				
					Public Nalkoop	MNW (26/7/12)	(18/8/12)				
					Mahuar	MNW (26/7/12)	(18/8/12)				
					Ramauli	MNW (26/7/12)	(18/8/12)				
651750 (29/7/12)	655305 (19/8/12)	3555	3.00%	Dhanapur	Incoming 1	203274 (29/7/12)	205022 (19/8/12)	1749	0.40	699	1.39%
					Nagwa P/Canal	341216 (29/7/12)	346528 (19/8/12)	5312	0.02	106	
					Beera Sarai	400166 (29/7/12)	417027 (19/8/12)	16862	0.02	337	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
					Hingutar	280906 (29/7/12)	293217 (19/8/12)	12312	0.02	246	
										690	
					Incoming 2	1009040 (29/7/12)	1026654 (19/8/12)	17614	0.04	705	1.34%
					Awajapur	236236 (29/7/12)	253553 (19/8/12)	17317	0.02	346	
					Dhanapur	700236 (29/7/12)	717674 (19/8/12)	17439	0.02	349	
										695	
				Kamalpur	Incoming 1	28245 (29/7/12)	28972 (19/8/12)	727	0.80	582	2.61%
					Kamalpur	17426 (29/7/12)	17879 (19/8/12)	453	0.40	181	
					Raitha	8636 (29/7/12)	9143 (19/8/12)	507	0.40	203	
					Barhan	18402 (29/7/12)	18858 (19/8/12)	456	0.40	182	
										566	
				Sakaldiha	Incoming 1	543847 (29/7/12)	562410 (19/8/12)	18563	0.04	743	1.52%
					Kamalpur	134360 (29/7/12)	143435 (19/8/12)	9075	0.04	363	
					Chahaniya	548973 (29/7/12)	567385 (19/8/12)	18412	0.02	368	
										731	
					Incoming 2	557973 (29/7/12)	575975 (19/8/12)	18003	0.04	720	2.06%
					Sakaldiha-I	558468 (29/7/12)	560032 (19/8/12)	1564	0.20	313	
					Sakaldiha-II	290934 (29/7/12)	291392 (19/8/12)	458	0.40	183	
					Nonar	21179 (29/7/12)	21702 (19/8/12)	523	**0.40**	209	

1st read (Date)	2nd read (Date)	Difference	132 kV loss	33 kV GSS	Name of 11 kV feeder	1st read (11 kV) (Date)	2nd read (11 kV) (Date)	Difference	MF	Consp. 11 kV	11 kV loss
										705	
Total		**65,386**								**62,130**	

4. Annexure IV: Energy loss LT system

4.1 LT survey – EDC Meerut

Date	Location	Type	DT Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference* MF	PF (DT)	Energy loss (%)
5/8/2012	Uday Park, Pallampuram	Domestic	11274008	30712.5	30712.82	400	240	76.80	0.89	**7.29%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
5/8/2012	Consumer 1	10360131	5326		5328	2	2
	Consumer 2	UM101946	7948		7950	2	2
	Consumer 3		Locked		Locked		0
	Consumer 4	16080342	1051.1	Theft of energy directly through hooking	1051.1	0	0
	Consumer 5	6477023	861		862	1	1
	Consumer 6	16071171	1669		1670.8	2	2
	Consumer 7	10278142	3395		3396	1	1
	Consumer 8	6478304	2966		2971	5	5
	Consumer 9	6478301	703	Defective meter	703	0	0
	Consumer 10	6478332	1163	Defective meter	1163	0	0
	Consumer 11	10278141	5915		5917	2	2
	Consumer 12	16080970	2025		2026	1	1
	Consumer 13	16079605	2462		2463.9	2	2

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 14	OM101951	3894		3895	1	1
	Consumer 15	17130765	2414.7		2416.1	1	1
	Consumer 16	UM100863	3861		3862	1	1
	Consumer 17	Locked	H. no. 78				0
	Consumer 18	Locked	2976.2		2977.6	1	1
	Consumer 19	101158	H. no.80	Locked			0
	Consumer 20	UM101945	H. no. 81	Defective meter			0
	Consumer 21	UM101405	1217	Defective meter	1217	0	0
	Consumer 22	UM101407	locked	Locked	0		0
	Consumer 23	UM103841	5394		5395	1	1
	Consumer 24	UM102276	1188	Defective meter	1188	0	0
	Consumer 25	17132859	1286		1287	1	1
	Consumer 26	8194553	3997.2		3997.6	0	0
	Consumer 27	6738972	1794		1796	2	2
	Consumer 28	16061328	3414.3		3415.6	1	1
	Consumer 29	16070060	4426		4429	3	3
	Consumer 30	UM101949	6152		6155	3	3
	Consumer 31	UM102851	2575		2576	1	1
	Consumer 32	10362134	3711		3712	1	1
	Consumer 33	UM103848	13720		13725	5	5
	Consumer 34	10025414	1135		1137	2	2
	Consumer 35	10025416	7294		7295	1	1
	Consumer 36	10025152	6192		6193	1	1
	Consumer 37	6173524	3936		3939	3	3
	Consumer 38	UM101742	3522		3523	1	1

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 39	10365645	706		707	1	1
	Consumer 40	10025412	5708		5710	2	2
	Consumer 41	UM101034	4477		4479	2	2
	Consumer 42	10360863	3615		3616	1	1
	Consumer 43	10025150	5169		5170	1	1
	Consumer 44	10025147	8890		8892	2	2
	Consumer 45	UM100870	2939		2940	1	1
	Consumer 46	Locked		H. no. 51/2			0
	Consumer 47	734012	11648.6	Water supply TW	11672.6	24	12
Total						**83**	**71**

Date	Location	Type	DT Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference* MF	PF (DT)	Energy loss (%)
6/8/2012	Uday Park, Pallampuram	Domestic	11272967	63.62	63.72	250	120	12	0.87	8.33%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
6/8/2012	Consumer 1	6451463	141		142	1	1
	Consumer 2	17132513	45	Faulty meter display (Defective meter)	45	0	0
	Consumer 3	6479487	1008		1009	1	1
	Consumer 4	6733874	1095		1096	1	1
	Consumer 5	6733816	1184		1185	1	1
	Consumer 6	17132858	381		382	1	1
	Consumer 7	6745001	5	Faulty meter display (Defective meter)	5	0	0
	Consumer 8	6477879	584		585	1	1
	Consumer 9	17132856	2119.2		2120.2	1	1
	Consumer 10	6733845	1472		1473	1	1
	Consumer 11	6733849	957		958	1	1
	Consumer 12	17133909	3676		3678	2	2
Total						**11.00**	**11.00**

Date	Location	Type	DT Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference* MF	PF	Energy loss (%)
12/8/2012	Uday Park, Pallampuram	Domestic	11274048	270.48	270.8	400	240	76.80	0.89	**15.49%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
12/8/2012	Consumer 1	UM101153	2779		2781	2.00	2.00
	Consumer 2	16069134	1187		1189	2.00	2.00
	Consumer 3	16099882	3514		3516	2.00	2.00
	Consumer 4	16069135	3547		3548	1.00	1.00
	Consumer 5	UM101948	11851		11853	2.00	2.00
	Consumer 6	16069317	363		363.8	0.80	0.80
	Consumer 7	718585	8679.9		8680.8	0.90	0.90
	Consumer 8	16071365	806		806	0.00	0.00
	Consumer 9	UM101092	2333		2335	2.00	2.00
	Consumer 10	6421040	132		132.5	0.50	0.50
	Consumer 11	6478195	158		158.2	0.20	0.20
	Consumer 12	6733933	6		6	0.00	0.00
	Consumer 13	16317933	2641		2642	1.00	1.00
	Consumer 14	10025198	4582		4584	2.00	2.00
	Consumer 15	10025200	2471		2472	1.00	1.00
	Consumer 16	10195947	2190		2191	1.00	1.00
	Consumer 17	6477875	848		849	1.00	1.00
	Consumer 18	16070057	313		315	2.00	2.00
	Consumer 19	16079608	1910		1912	2.00	2.00
	Consumer 20	10025415	2704		2706	2.00	2.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 21	10195945	1379		1380	1.00	1.00
	Consumer 22	1080253	3514		3517	3.00	3.00
	Consumer 23	6739912	749		751	2.00	2.00
	Consumer 24	16080968	1271.4		1271.8	0.40	0.40
	Consumer 25	UM100857	1828		1830	2.00	2.00
	Consumer 26	16070055	1288.9		1289.8	0.90	0.90
	Consumer 27	UM100876	1173		1175	2.00	2.00
	Consumer 28	10025151	3328		3330	2.00	2.00
	Consumer 29	16080967	632.6		633.8	1.20	1.20
	Consumer 30	16070056	1286.1		1288.1	2.00	2.00
	Consumer 31	UM101698	2912		2913	1.00	1.00
	Consumer 32	UM100825	3728		3730	2.00	2.00
	Consumer 33	10360135	1573		1574	1.00	1.00
	Consumer 34	10365648	3609		3611	2.00	2.00
	Consumer 35	UM100858	2337		2339	2.00	2.00
	Consumer 36	UM101699	2603		2604	1.00	1.00
	Consumer 37	17130768	1620		1621	1.00	1.00
	Consumer 38	16826231	612		615	3.00	3.00
	Consumer 39	6755594	190		191	1.00	1.00
	Consumer 40	6010267	1721		1723	2.00	2.00
	Consumer 41	UM102975	4454		4456	2.00	2.00
	Consumer 42	6745083	608		609	1.00	1.00
	Consumer 43	17130769	1999		2001	2.00	2.00
	Consumer 44	647785	3194		3196	2.00	2.00
	Consumer 45			*Direct electric supply in House no. 112-B , no meter installed. Clear case of theft*			

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 46			*Direct electric supply in House no. 113-B , no meter installed. Clear case of theft*			
	Total					**64.90**	**64.90**

Date	Location	Type	Meter No.	2nd meter read	Capacity of DT (kVA)	MF	Difference * MF	PF (DT)	Energy loss (%)
6/8/2012	Appu Enclave	Domestic	11274303	265.992	400	240	372	0.91	**4.61%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
6/8/2012	Consumer 1	10026587	5074.00		5076.00	2.00	2.00
	Consumer 2	N087063	12915.80		12917.20	1.40	1.40
	Consumer 3	16066428	3377.00		3379.90	2.90	2.90
	Consumer 4	516800	9454.80		9456.80	2.00	2.00
	Consumer 5	7021425	96.00		98.00	2.00	2.00
	Consumer 6	4884127	10576.30		10579.20	2.90	2.90
	Consumer 7	6075606	11452.20		11455.50	3.30	3.30
	Consumer 8	10364071	6915.00		6917.00	2.00	2.00
	Consumer 9	64122	13405.80		13408.20	2.40	2.40
	Consumer 10	16070890	1289.00		1291.00	2.00	2.00
	Consumer 11	17133390	2599.00		2601.00	2.00	2.00
	Consumer 12	1616351	8862.60		8864.80	2.20	2.20
	Consumer 13	4433250	12875.20		12877.30	2.10	2.10
	Consumer 14	22859	6893.50		6895.50	2.00	2.00
	Consumer 15	9435897	1951.00		1954.00	3.00	3.00
	Consumer 16	51140	31492.80		31494.50	1.70	1.70
	Consumer 17	1616146	8978.90		8980.80	1.90	1.90
	Consumer 18	1666354	14999.80		15001.50	1.70	1.70
	Consumer 19	Ho. No CH-196	15598.20		15601.50	3.30	3.30
	Consumer 20	1616346	8720.60		8725.60	5.00	5.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 21	1616375	8539.50		8542.80	3.30	3.30
	Consumer 22	4884139	4953.90		4960.80	6.90	6.90
	Consumer 23	6733841	1242.00		1244.00	2.00	2.00
	Consumer 24	7336	8401.40		8403.50	2.10	2.10
	Consumer 25	309051144	23962.74		23963.80	1.06	1.06
	Consumer 26	30892	14808.23		14810.50	2.27	2.27
	Consumer 27	1616375	17533.77		17536.80	3.03	3.03
	Consumer 28	Ho. No. CH-187	25837.13		25839.50	2.37	2.37
	Consumer 29	65220	11862.29		11865.90	3.61	3.61
	Consumer 30	16061371	3126.00		3128.00	2.00	2.00
	Consumer 31	15812832	5092.00		5096.00	4.00	4.00
	Consumer 32	Ho. No.CH-191	177640.40		177643.50	3.10	3.10
	Consumer 33	Ho. No. CH-192	20716.43		20718.40	1.97	1.97
	Consumer 34	16070907	4539.00		4544.00	5.00	5.00
	Consumer 35	N008927	24215.50		24217.50	2.00	2.00
	Consumer 36	306059663	17390.39		17393.40	3.01	3.01
	Consumer 37	306064989	3555.89		3558.90	3.01	3.01
	Consumer 38	6477173	1117.00		1120.00	3.00	3.00
	Consumer 39	15830940	1984.00		1988.00	4.00	4.00
	Consumer 40	306030893	11919.38		11925.30	5.92	5.92
	Consumer 41	309053433	17603.69		17605.20	1.51	1.51
	Consumer 42	Ho. No. CH-180		Locked			0.00
	Consumer 43	Ho. No.CH-181	20200.83		20203.80	2.97	2.97
	Consumer 44	S025618	8114.20		8118.30	4.10	4.10
	Consumer 45	4625348	9147.80		9149.20	1.40	1.40
	Consumer 46	LF5152		Locked			0.00
	Consumer 47	4882888	23099.90		23101.20	1.30	1.30

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 48	N082167	46138.60		46142.80	4.20	4.20
	Consumer 49	6733903	2087.00		2090.00	3.00	3.00
	Consumer 50	4671094	22197.00		22200.00	3.00	3.00
	Consumer 51	4368809	1619.20		1623.50	4.30	4.30
	Consumer 52	6750476	281.00		283.00	2.00	2.00
	Consumer 53	306059693	10058.10		10064.20	6.10	6.10
	Consumer 54	307004920	12182.50		12186.40	3.90	3.90
	Consumer 55	Ho. No. CH-159	3321.96		3323.92	1.96	1.96
	Consumer 56	Ho. N0. CH-160		Locked			0.00
	Consumer 57	Ho. No. CH-161		Locked			0.00
	Consumer 58	306030792	5497.95		5499.80	1.85	1.85
	Consumer 59	306064128	19464.20		19469.80	5.60	5.60
	Consumer 60	30603078	13551.50		13554.20	2.70	2.70
	Consumer 61	306063497	9533.48		9536.28	2.80	2.80
	Consumer 62	6010350	2374.00		2378.00	4.00	4.00
	Consumer 63	6012674	2306.00		2309.00	3.00	3.00
	Consumer 64	306064121	22717.60		22719.70	2.10	2.10
	Consumer 65	306060003	23430.58		23433.80	3.22	3.22
	Consumer 66	N081126	16450.20		16455.10	4.90	4.90
	Consumer 67	UM100779	4948.00		4952.00	4.00	4.00
	Consumer 68	Ho. No. CH-135	21747.90		21749.20	1.30	1.30
	Consumer 69	N033225	21108.10		21112.20	4.10	4.10
	Consumer 70	N031902	5378.10		5378.10	0.00	0.00
	Consumer 71	Ho.no CH138	13701.30		13705.10	3.80	3.80
	Consumer 72	306033056	10224.00		10228.00	4.00	4.00
	Consumer 73	306028650	21774.01		21777.20	3.19	3.19
	Consumer 74	306034148	25620.40		25624.10	3.70	3.70

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 75	306059654	10653.58		10655.20	1.62	1.62
	Consumer 76	N200732	21827.90		21830.10	2.20	2.20
	Consumer 77	3045895	15907.90		15909.80	1.90	1.90
	Consumer 78	306064122	18435.57		18438.15	2.58	2.58
	Consumer 79	16316870	3628.00		3632.00	4.00	4.00
	Consumer 80	306028674	13100.50		13103.80	3.30	3.30
	Consumer 81	UM100515	3287.00		3289.00	2.00	2.00
	Consumer 82	N071731	12141.80		12145.90	4.10	4.10
	Consumer 83	306065217	15700.21		15709.19	8.98	8.98
	Consumer 84	N029797	24187.30		24190.50	3.20	3.20
	Consumer 85	UM100592	14875.70		14879.80	4.10	4.10
	Consumer 86	10195806	9198.00		9203.00	5.00	5.00
	Consumer 87	N031981	13391.10		13394.90	3.80	3.80
	Consumer 88	N031606	17328.00		17333.00	5.00	5.00
	Consumer 89	308010799	36057.40		36062.50	5.10	5.10
	Consumer 90	N031977	31720.00		31725.00	5.00	5.00
	Consumer 91	16080266	1578.00		1582.00	4.00	4.00
	Consumer 92	UM056669	6490.00		6494.00	4.00	4.00
	Consumer 93	7009423	9138.80		9140.90	2.10	2.10
	Consumer 94	N031649	13722.50		13725.80	3.30	3.30
	Consumer 95	Ho. N0. C-104		Locked			0.00
	Consumer 96	N031507	16705.30		16709.20	3.90	3.90
	Consumer 97	10026776	6286.00		6290.00	4.00	4.00
	Consumer 98	Ho. No.C-101		Locked			0.00
	Consumer 99	16313401	1796.00		1803.00	7.00	7.00
	Consumer 100	811652	6836.10		6839.20	3.10	3.10
	Consumer 101	N031973	33566.40		33569.80	3.40	3.40

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 102	N031907	26633.50		26639.50	6.00	6.00
	Consumer 103	1616370	21419.60		21422.60	3.00	3.00
	Consumer 104	309051139	22601.35		22604.80	3.45	3.45
	Consumer 105	6009158	3974.00		3976.00	2.00	2.00
	Consumer 106	1616873	12077.20		12081.20	4.00	4.00
	Consumer 107	308075631	11855.55		11858.12	2.57	2.57
	Consumer 108	029794		Locked			0.00
	Consumer 109	P92673	17280.50		17283.20	2.70	2.70
	Consumer 110	N008174	19495.20		19499.20	4.00	4.00
	Consumer 111	307066575	15779.65		15781.65	2.00	2.00
	Consumer 112	307039012	27060.10		27063.10	3.00	3.00
	Consumer 113	16079152	4081.00		4085.00	4.00	4.00
	Consumer 114	UM056906	9871.00		9875.00	4.00	4.00
	Consumer 115	10025834	4107.00		4110.00	3.00	3.00
	Consumer 116	307011556	17432.00		17435.30	3.30	3.30
	Consumer 117	N031918	12435.40		12438.10	2.70	2.70
	Consumer 118	301054386	20185.10		20188.10	3.00	3.00
Total						**354.85**	**354.85**

Date	Location	Type	DT Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference	PF (DT)	Energy loss (%)
19/8/2012	Appu Enclave	Domestic	11272968	608.08	608.43	400	240	84	0.9	**23.50%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
19/8/2012	Consumer 1	6010217	6026		6027.8	1.80	1.08
	Consumer 2	6755341	183		185.6	2.60	1.56
	Consumer 3			Locked (Tube Well)			
	Consumer 4	Ho. No. 41		Locked			
	Consumer 5	7002075	3398.9		3400.2	1.30	0.78
	Consumer 6	Ho. No. 39		Locked			
	Consumer 7	UM102813	5825		5828	3.00	1.80
	Consumer 8	7009428	6381.4		6382.9	1.50	0.90
	Consumer 9	6423182	672		674	2.00	1.20
	Consumer 10	10276503	9710		9712	2.00	1.20
	Consumer 11	Ho. No. 34					
	Consumer 12	Ho. No.33	Staff	Flat rate consumer			
	Consumer 13	6477176	1580		1582	2.00	1.20
	Consumer 14	10278542	730		734	4.00	2.40
	Consumer 15	Ho. No. 30/1	Staff	Flat rate consumer			
	Consumer 16	10027077	6454		6456.3	2.30	1.38
	Consumer 17	10113377	10131		10133.5	2.50	1.50
	Consumer 18	Ho. No. 29		Locked			
	Consumer 19	Ho. No. 28		Locked			
	Consumer 20	16070771	1929		1932	3.00	1.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 21	6011216	5096		5098.8	2.80	1.68
	Consumer 22	7002092	4792		4796.4	4.40	2.64
	Consumer 23	7008892		Not working			
	Consumer 24	10195900	4829		4831.8	2.80	1.68
	Consumer 25	7000798	6852.6		6858.4	5.80	3.48
	Consumer 26	6747955	754		756.8	2.80	1.68
	Consumer 27	7000782	5429		5431.2	2.20	1.32
	Consumer 28	6733540	4688		4689.9	1.90	1.14
	Consumer 29	Ho. No. 181		Not working			
	Consumer 30	10025411	5141		5143	2.00	1.20
	Consumer 31	Ho. No. 4		Locked			
	Consumer 32	6011969	1804		1807	3.00	1.80
	Consumer 33	10113638	10045		10047	2.00	1.20
	Consumer 34	6733892	2472		2474	2.00	1.20
	Consumer 35	17133122	4648		4651.3	3.30	1.98
	Consumer 36	Ho. No.8/1		Locked			0.00
	Consumer 37	1080258	5616		5619.6	3.60	2.16
	Consumer 38	16060886	4173		4176	3.00	1.80
	Consumer 39	7001486		Not working			
	Consumer 40	Ho. No.11		Locked			
	Consumer 41	7009237	10414.2		10417.5	3.30	1.98
	Consumer 42	7805017		Not working			
	Consumer 43	7009022	14089.4		14093.5	4.10	2.46
	Consumer 44	7001783	11289.2		11291.8	2.60	1.56
	Consumer 45	6478693	2772		2776.7	4.70	2.82
	Consumer 46	6477706	114		115	1.00	0.60
	Consumer 47	10360864	3922		3928	6.00	3.60

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 48	6750367	168		168.5	0.50	0.30
	Consumer 49	754333	93.2		93.5	0.30	0.18
	Consumer 50	6423185	913		915	2.00	1.20
	Consumer 51	6733896	2035		2038	3.00	1.80
	Consumer 52	6737609	109		113	4.00	2.40
	Consumer 53	6176479	3601		3604	3.00	1.80
	Consumer 54	16316581	2225		2228	3.00	1.80
	Total						**64.26**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference	PF (DT)	Energy loss (%)
21/8/2012	Akshar Dham	Domestic	11273070	255.07	255.33	400	240	62.4	0.84	27.24%

Sl. No.	Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
1	21/8/2012	Consumer 1	UM101702	630.00		634.00	4.00	4.00
2		Consumer 2	16080548	537.00		539.00	2.00	2.00
3		Consumer 3	16061311	5061.00		5063.50	2.50	2.50
4		Consumer 4	16070780	5061.20		5067.80	6.60	6.60
5		Consumer 5	17133420	1178.30		1180.80	2.50	2.50
6		Consumer 6	6178863	95.00		97.80	2.80	2.80
7		Consumer 7	16070779	1733.50		1735.80	2.30	2.30
8		Consumer 8			Locked		0.00	0.00
9		Consumer 9	6733764	2609.00		2612.50	3.50	3.50
10		Consumer 10	6478308	1556.00		1558.20	2.20	2.20
11		Consumer 11	Meters not installed		Theft from the pole		0.00	0.00
12		Consumer 12	4833812	17272.50		17275.80	3.30	3.30
13		Consumer 13	16283880	278.70		281.20	2.50	2.50
14		Consumer 14	8194546	908.10		910.20	2.10	2.10
15		Consumer 15	6477153	2139.00		2141.80	2.80	2.80
16		Consumer 16	6421113	106.00		108.00	2.00	2.00
17		Consumer 17	16313660	1563.00		1564.80	1.80	1.80
18		Consumer 18	6010261	2380.00		2382.50	2.50	2.50
19		Consumer 19	Locked		Tubewell		0.00	0.00
		Total					45.40	**45.40**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	PF (DT)	Energy loss (%)
21/8/2012	Akshar Dham	Domestic	11273071	211.78	211.92	400	240	67.2	0.93	**7.59%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
21/8/2012	Consumer 1	10113812	12119		12122.5	3.50	3.50
	Consumer 2	6477874	492.5		493.8	1.30	1.30
	Consumer 3	10114072	5653		5655.2	2.20	2.20
	Consumer 4	Ho. No. 48		Locked			0.00
	Consumer 5	6478910	15	Defective meter	15	0.00	0.00
	Consumer 6	10111166	9138.2		9139.8	1.60	1.60
	Consumer 7	16191235	93		94	1.00	1.00
	Consumer 8	Ho. No. 44	Staff	Flat rate consumer			0.00
	Consumer 9	Ho. No. 43		Locked			0.00
	Consumer 10	6733974	2340		2342.5	2.50	2.50
	Consumer 11	UM102815	2746		2748.2	2.20	2.20
	Consumer 12	Ho. No. 11		Locked			0.00
	Consumer 13	16061324	2015		2016.8	1.80	1.80
	Consumer 14	8194329	901.8		903.4	1.60	1.60
	Consumer 15	8194313	2420		2422.8	2.80	2.80
	Consumer 16	UM101039	3240		3242.8	2.80	2.80
	Consumer 17	6479031	14		14.5	0.50	0.50
	Consumer 18	10360858	2399		2402.5	3.50	3.50
	Consumer 19	16313680	1383		1385.8	2.80	2.80
	Consumer 20	10278998	5458.8		5460.2	1.40	1.40
	Consumer 21	Um101402	235		238.2	3.20	3.20

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 22	8194555	Defective meters	Ho. No. F-16			0.00
	Consumer 23	UM101700	3896		3898.2	2.20	2.20
	Consumer 24	Ho.no. 16 S	Meter not installed	Theft			0.00
	Consumer 25	10278996	4938		4939.8	1.80	1.80
	Consumer 26	16781012	281		282.8	1.80	1.80
	Consumer 27	10361037	2019		2021.5	2.50	2.50
	Consumer 28	10195949	2330.5		2332.2	1.70	1.70
	Consumer 29	Ho. No.19	Staff	Flat rate consumer			0.00
	Consumer 30	10114065	7394		7398.2	4.20	4.20
	Consumer 31	1080844	6086		6088.2	2.20	2.20
	Consumer 32	1082470	4732		4733.8	1.80	1.80
	Consumer 33	10112876	10202.8		10206.2	3.40	3.40
	Consumer 34	1080391	7491		7493.2	2.20	2.20
	Consumer 35	16065376	3298.8		3300.2	1.40	1.40
	Consumer 36	10195145	4209		4211.2	2.20	2.20
	Total					**62.10**	**62.10**

Date	Location	Type	DT Meter No.	1st read	2nd read	Capacity of DT (kVA)	Difference	Power factor	Energy loss (%)
24/8/2012	Akshar Dham	Domestic	11274118	481.38	482.25	400	208.8	0.94	23%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
24/8/2012	Consumer 1	16195070	1	Defective meter (theft)	1	0.00	0.00
	Consumer 2	6421032	158		162.8	4.80	4.80
	Consumer 3	6733643	1	Defective meter (theft)	1	0.00	0.00
	Consumer 4	10362133	2703.3		2708.2	4.90	4.90
	Consumer 5	10195150	3767		3769.8	2.80	2.80
	Consumer 6	10113565	3143		3145.2	2.20	2.20
	Consumer 7	10112874	3829		3831.2	2.20	2.20
	Consumer 8	UM102274	219		222.8	3.80	3.80
	Consumer 9	6477844	861.2		865.6	4.40	4.40
	Consumer 10	6451468	311.8		314.2	2.40	2.40
	Consumer 11	16826237	43		45	2.00	2.00
	Consumer 12	6178869	726.1		728.2	2.10	2.10
	Consumer 13	16313919	2380		2382.6	2.60	2.60
	Consumer 14	16080549	669.7		672.8	3.10	3.10
	Consumer 15	16061317	1638		1639.5	1.50	1.50
	Consumer 16	6477843	643		648	5.00	5.00
	Consumer 17	17132857		Ho. No. 121 - Defective meter		0.00	0.00
	Consumer 18	16071174	541		543	2.00	2.00
	Consumer 19	16826845	47		49.2	2.20	2.20

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 20	UM101744	3775		3778	3.00	3.00
	Consumer 21	16065038	3886		3889	3.00	3.00
	Consumer 22	16079610	3049		3052	3.00	3.00
	Consumer 23	16191238	1	Defective meter (theft)	1	0.00	0.00
	Consumer 24	6478908	524		526.4	2.40	2.40
	Consumer 25	16061318	2496		2499.8	3.80	3.80
	Consumer 26	16069737	4341		4344	3.00	3.00
	Consumer 27	17132854	176		178.2	2.20	2.20
	Consumer 28	16069136	3061.8		3064.2	2.40	2.40
	Consumer 29	1631351	2245		2248.2	3.20	3.20
	Consumer 30	6478339	1976		1978.2	2.20	2.20
	Consumer 31	UM101212	2598		2602	4.00	4.00
	Consumer 32	6009742	5370.1		5372.8	2.70	2.70
	Consumer 33	16065035	7339.8		7341.2	1.40	1.40
	Consumer 34	10195948	1882		1883.8	1.80	1.80
	Consumer 35	16065036	22		22.5	0.50	0.50
	Consumer 36	Ho. No.126- S		Defective meter (theft)			0.00
	Consumer 37	8194304	2383.7		2386.8	3.10	3.10
	Consumer 38	9263354	1153.3		1155.8	2.50	2.50
	Consumer 39	UM101091	97		99.2	2.20	2.20
	Consumer 40	10277317	425		428.2	3.20	3.20
	Consumer 41	16314633	2465		2468.2	3.20	3.20
	Consumer 42	Ho. No. 127-S		Defective meter (theft)			0.00
	Consumer 43	10363397	2060		2065	5.00	5.00
	Consumer 44	16315366	2514		2516	2.00	2.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 45	16061322	3955		3962	7.00	7.00
	Consumer 46	16316102	3806.5		3809.2	2.70	2.70
	Consumer 47	Ho. No. 132		Locked			0.00
	Consumer 48	UM101160	921		923	2.00	2.00
	Consumer 49	17134162	1067		1069.2	2.20	2.20
	Consumer 50	16080547	1107.5		1109.5	2.00	2.00
	Consumer 51	6739918	660		663	3.00	3.00
	Consumer 52	Ho. No. 74/GF		Locked			0.00
	Consumer 53	Ho. No. 74/FF		Locked			0.00
	Consumer 54	17133670	1057		1059.2	2.20	2.20
	Consumer 55	6477806	1008		1010.2	2.20	2.20
	Consumer 56	16326844	595		598.2	3.20	3.20
	Consumer 57	6477790	698		699.8	1.80	1.80
	Consumer 58	Ho. No. 134		Defective meter (theft)			0.00
	Consumer 59	10195149	2828		2832	4.00	4.00
	Consumer 60	10001630	5566		5569	3.00	3.00
	Consumer 61	10362135	3063		3064	1.00	1.00
	Consumer 62	10276521	4131		4133	2.00	2.00
	Consumer 63	6478303	261		263	2.00	2.00
	Consumer 64	6477870	49		53	4.00	4.00
	Consumer 65	6477863	1488		1495	7.00	7.00
	Consumer 66	1080842	7176		7178	2.00	2.00
	Consumer 67	UM00730	No reading	Defective meter (theft)			
	Total					**161.10**	**161.10**

Date	Location	Type	Meter No.	2nd meter read	Capacity of DT (kVA)	MF	Difference*MF	Power factor	Energy loss (%)
26/8/2012	A-Z	Domestic	11272975	262.75	400	240	127.2	0.92	7.78%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
26/8/2012	Consumer 1	16314395	1205.9		1208.4	2.50	2.50
	Consumer 2	16069319	2842		2848	6.00	6.00
	Consumer 3	16069318	1806.2		1809.5	3.30	3.30
	Consumer 4	17133288	1985.1		1988.5	3.40	3.40
	Consumer 5	17133287	183.5		186.8	3.30	3.30
	Consumer 6	16286784	3210.4		3215.4	5.00	5.00
	Consumer 7	6421038	4	Defective meter (theft)	4	0.00	0.00
	Consumer 8	6733940	968		972	4.00	4.00
	Consumer 9	16313917	2387.1		2389.4	2.30	2.30
	Consumer 10	17133702	1330.3		1332.5	2.20	2.20
	Consumer 11	16314390	2866		2868	2.00	2.00
	Consumer 12	6745007	2	Defective meter (theft)	2	0.00	0.00
	Consumer 13	6745004	217		220.5	3.50	3.50
	Consumer 14	6477869	1285.5		1288.2	2.70	2.70
	Consumer 15	16080542	2385		2389	4.00	4.00
	Consumer 16	6733642	940.2		943.5	3.30	3.30
	Consumer 17	1606932	2092.8		2096.2	3.40	3.40
	Consumer 18	U007094	44.5		46.8	2.30	2.30
	Consumer 19	6733649	137		139.5	2.50	2.50
	Consumer 20	6478305	182		186	4.00	4.00
	Consumer 21	16826846	1315		1318	3.00	3.00
	Consumer 22	6735836	522		525	3.00	3.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 23	16826847	988.8		1002.5	13.70	13.70
	Consumer 24	16314364	805.8		808.2	2.40	2.40
	Consumer 25	16069140	1905.6		1908.5	2.90	2.90
	Consumer 26	17134169	712.4		715.2	2.80	2.80
	Consumer 27	16061330	968.2		973.2	5.00	5.00
	Consumer 28	6477810	2329		2332	3.00	3.00
	Consumer 29	6479484	881		885	4.00	4.00
	Consumer 30	6479486	2137		2141	4.00	4.00
	Consumer 31	754120	11.7		14.5	2.80	2.80
	Consumer 32	733089	3400.6		3402.5	1.90	1.90
	Consumer 33	Ho. No.180		Locked			0.00
	Consumer 34	6479485	2348.8		2352.5	3.70	3.70
	Consumer 35	17133268	1756.9		1759.2	2.30	2.30
	Consumer 36	17132853	4039.4		4042.5	3.10	3.10
	Total					**117.30**	**117.30**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Consumption	PF (DT)	Energy loss (%)
26/8/2012	A-Z	Domestic	11272973	20.80	20.90	400	240	24.00	0.89	11.25%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
26/8/2012	Consumer 1	6745081	265		267	2.00	2.00
	Consumer 2	6479488	1291.2		1292.5	1.30	1.30
	Consumer 3	6478334	1897.2		1899.8	2.60	2.60
	Consumer 4	17133704	861.4		863.5	2.10	2.10
	Consumer 5	16190841	99		100	1.00	1.00
	Consumer 6	7020054	198.2		202.5	4.30	4.30
	Consumer 7	6478906	126		128	2.00	2.00
	Consumer 8	16190845	8	Defective meter	8	0.00	0.00
	Consumer 9	17129842	1728.2		1730.5	2.30	2.30
	Consumer 10	6733762	899.5		901.2	1.70	1.70
	Consumer 11	6733769	743.2		745.2	2.00	2.00
	Total					**21.30**	**21.30**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference* MF	PF (DT)	Energy loss (%)
27/8/2012	A-Z	Domestic	11272972	1714.93	1715.48	400	240	132	0.95	12.42%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
27/8/2012	Consumer 1	16286887	2198.9		2200.5	1.60	1.60
	Consumer 2	16079247	3044		3048	4.00	4.00
	Consumer 3	733898	2937.8		2940.5	2.70	2.70
	Consumer 4	718746	3895.4		3898.2	2.80	2.80
	Consumer 5	17133261	3239		3243	4.00	4.00
	Consumer 6	16080020	7900		7905	5.00	5.00
	Consumer 7	Ho. No. G-29		Locked			0.00
	Consumer 8	17133264	3420		3425	5.00	5.00
	Consumer 9	16286603	294.6		298.2	3.60	3.60
	Consumer 10	16286622	2789.1		2792.5	3.40	3.40
	Consumer 11	16283595	2090.8		2093.5	2.70	2.70
	Consumer 12	718747	1807.3		1809.2	1.90	1.90
	Consumer 13	719062	5407.3		5408.8	1.50	1.50
	Consumer 14	Ho. No. 280		Locked			0.00
	Consumer 15	6477846	425		426.4	1.40	1.40
	Consumer 16	16283850	2538.2		2540.3	2.10	2.10
	Consumer 17	16283849	2815.8		2818.2	2.40	2.40
	Consumer 18	16285805	803.9		806.8	2.90	2.90
	Consumer 19	16283707	3118.9		3122.5	3.60	3.60
	Consumer 20	16283049	757.8		759.7	1.90	1.90
	Consumer 21	16283554	2343.4		2346.4	3.00	3.00
	Consumer 22	73340	2930.2		2933.2	3.00	3.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 23	Ho. No. 238		Locked			0.00
	Consumer 24	16315330	3489.2		3491.3	2.10	2.10
	Consumer 25	16286660	2739.1		2742.5	3.40	3.40
	Consumer 26	6735831	4914.2		4916.5	2.30	2.30
	Consumer 27	16315327	1332		1336	4.00	4.00
	Consumer 28	718748	3020.6		3024.5	3.90	3.90
	Consumer 29	Ho. No. 244		Locked			0.00
	Consumer 30	733335		Defective meter (theft)			0.00
	Consumer 31	700788	5296.1		5299.3	3.20	3.20
	Consumer 32	16286573	2117.3		2120.2	2.90	2.90
	Consumer 33	Ho. No. 224		Locked			0.00
	Consumer 34	Ho. No. 226		Locked			0.00
	Consumer 35	16286658		Defective meter (theft)			0.00
	Consumer 36	754323		Defective meter (theft)			0.00
	Consumer 37	16286742	2567.9		2569.8	1.90	1.90
	Consumer 38	16283706	2421.5		2424.5	3.00	3.00
	Consumer 39	16283629	1627.2		1629.4	2.20	2.20
	Consumer 40	754313	2		2	0.00	0.00
	Consumer 41	733090	3390.4		3395.6	5.20	5.20
	Consumer 42	16286524	5499.9		5502.5	2.60	2.60
	Consumer 43	16283723	4094.2		4098.6	4.40	4.40
	Consumer 44	Ho. No. 189		Locked			0.00
	Consumer 45	Ho. No.196		Locked			0.00
	Consumer 46	16315328	1713.4		1718.2	4.80	4.80
	Consumer 47	Ho. No. 184		Locked			0.00
	Consumer 48	16080017	3303.2		3308.5	5.30	5.30
	Consumer 49	Ho. No.193	Staff	Flat rate consumers			0.00
	Consumer 50	16286575	4391.8		4393.5	1.70	1.70
	Consumer 51	16286777	2279		2283.2	4.20	4.20
	Total					**115.60**	**115.60**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	PF (DT)	Energy loss (%)
27/8/2012	A-Z	Domestic	11272974	23.39	23.56	400	240	40.8	0.88	12.25%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
27/8/2012	Consumer 1	6750370	13		16	3.00	3.00
	Consumer 2	6739916	912.4		915.2	2.80	2.80
	Consumer 3	16826236	1009.2		1011.5	2.30	2.30
	Consumer 4	16826850	4		4	0.00	0.00
	Consumer 5	7020059	19.8		22.5	2.70	2.70
	Consumer 6	6745010	508.2		509.6	1.40	1.40
	Consumer 7	16283950	2094.4		2098.5	4.10	4.10
	Consumer 8	16286830	2606.7		2608.4	1.70	1.70
	Consumer 9	6733763	672		678	6.00	6.00
	Consumer 10	16826235	135		135	0.00	0.00
	Consumer 11	6477154	158.9		159.4	0.50	0.50
	Consumer 12	16192196	3		3	0.00	0.00
	Consumer 13	754325	22.5		23.8	1.30	1.30
	Consumer 14	6478907	88.1		89.5	1.40	1.40
	Consumer 15	6477786	622		625	3.00	3.00
	Consumer 16	16283851	999.2		1000.8	1.60	1.60
	Consumer 17	16826849	5		5	0.00	0.00
	Consumer 18	16826842	152		156	4.00	4.00
	Total					**35.80**	**35.80**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference	PF (DT)	Energy loss (%)
29/8/2012	A-Z	Domestic	11274473	1227.9	1228.68	400	240	156	0.9	29%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
29/8/2012	Consumer 1	16314638	6134.8		6138.2	3.40	3.40
	Consumer 2			Locked			0.00
	Consumer 3	5093410	15928.8		15930.4	1.60	1.60
	Consumer 4	UM100827	3497.1		3499.2	2.10	2.10
	Consumer 5	Um00829	1884		1888	4.00	4.00
	Consumer 6	Um101093	529.4		532.5	3.10	3.10
	Consumer 7	6011631	1308		1311	3.00	3.00
	Consumer 8	6477019	2285.1		2288.4	3.30	3.30
	Consumer 9	10026739	6255		6258	3.00	3.00
	Consumer 10	6477155	1287.4		1289.5	2.10	2.10
	Consumer 11	6477016	1480.2		1483.5	3.30	3.30
	Consumer 12	4661981	15218.4		15223.2	4.80	4.80
	Consumer 13	7752292		Defective meter (theft)			0.00
	Consumer 14	6477172	896.5		898.2	1.70	1.70
	Consumer 15	7017641	19		19	0.00	0.00
	Consumer 16	4862686		Defective meter			0.00
	Consumer 17	Ho. No. R/45		Locked			0.00
	Consumer 18	1000624	624.1		628.2	4.10	4.10
	Consumer 19	1000623	627		630	3.00	3.00
	Consumer 20	1612318	667.1		668.2	1.10	1.10
	Consumer 21	10278537	4123.1		4126.2	3.10	3.10
	Consumer 22	16316091	2149.4		2152.4	3.00	3.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 23	10196110	9588.1		9590.2	2.10	2.10
	Consumer 24	UM100832	593		596	3.00	3.00
	Consumer 25	1576972	1538.9		1542.3	3.40	3.40
	Consumer 26	9263331	928.7		932.1	3.40	3.40
	Consumer 27	16071353	3847		3851	4.00	4.00
	Consumer 28	16071375	1195.3		1198.2	2.90	2.90
	Consumer 29	16071371	3754.6		3756.2	1.60	1.60
	Consumer 30	7755229		Defective meter			0.00
	Consumer 31	JSH02106	9043		9045.2	2.20	2.20
	Consumer 32	6178712	2222		2228	6.00	6.00
	Consumer 33	8097993		Defective meter			0.00
	Consumer 34	6477011	1290.1		1298.2	8.10	8.10
	Consumer 35	Ho. No. R/83		Locked			0.00
	Consumer 36	6733812	915		915	0.00	0.00
	Consumer 37	Ho. No. 86		Locked			0.00
	Consumer 38	Ho. No. 87		Locked			0.00
	Consumer 39	Ho. No. 85		Locked			0.00
	Consumer 40	9263237	20603.8		20606.2	2.40	2.40
	Consumer 41	Ho. No. R-53		Locked			0.00
	Consumer 42	9263252	3516.2		3518.2	2.00	2.00
	Consumer 43	Ho. No. R-54		Locked			0.00
	Consumer 44	9435834	4180		4182	2.00	2.00
	Consumer 45	17132974	3423		3428	5.00	5.00
	Consumer 46	7750449		Defective meter			0.00
	Consumer 47	8137992	3655.1		3658.2	3.10	3.10
	Consumer 48	10113906	4704.2		4706.1	1.90	1.90
	Consumer 49	UM100777	7		7	0.00	0.00
	Consumer 50	Ho. No. R-56		Locked			0.00
	Consumer 51	Ho. No. 57	Staff	Flat rate consumer			0.00
	Consumer 52	6422310	317		317	0.00	0.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 53	16071372	3406		3408	2.00	2.00
	Consumer 54	16071065	1332.6		1335.2	2.60	2.60
	Consumer 55	1080239	5041		5044	3.00	3.00
	Consumer 56	UM102977	288		288.8	0.80	0.80
	Total					**111.20**	**111.20**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
12/8/2012	Pallampuram	Commercial	11273067	222.06	222.1	400	400	16.00	0.83	**8.25%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
12/8/2012	Consumer 1	UP114327	111497		111509	12	4.8
	Consumer 2	1080392	844	Defective meter	844	0	0
	Consumer 3	6076678	5013.9		5016.7	2.8	1.12
	Consumer 4	UP113844	1315		1319	4	1.6
	Consumer 5	1712984	448.2		451.6	3.4	1.36
	Consumer 6	1001530	2271.6		2271.8	0.2	0.8
	Consumer 7	8138712	1024.3	Defective meter	1024.3	0	0
	Consumer 8	16065031	511.2		514.7	3.5	1.4
	Consumer 9	6478308	106		107	1	0.4
	Consumer 10	7008902	0	Defective meter			0
	Consumer 11	4620986	67712.6		67712.9	0.3	0.12
	Consumer 12	4297783	16624.8		16628.5	3.7	1.48
	Consumer 13	3002233	103350		103354	4	1.6
Total			**310718.6**		**310753.5**	**34.90**	**14.68**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	PF (DT)	Energy loss (%)
12/8/2012	Pallampuram	Commercial	11273067	220.82	220.98	400	400	64.00	0.83	**7.89%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
13/8/2012	Consumer 1	1000595	1679.5		1797.7	118.2	47.28
	Consumer 2	6421288	223		224	1	0.4
	Consumer 3	UP045645	9487		9489	2	0.8
	Consumer 4	N008545	9447.3		9448.1	0.8	0.32
	Consumer 5	15812838	328.2		328.3	0.1	0.04
	Consumer 6	10365642	1538		1538.6	0.6	0.24
	Consumer 7	307065630	17135.8		17136.2	0.4	0.16
	Consumer 8	10276519	2790		2791	1	0.4
	Consumer 9	N008761	17948.1		17948.6	0.5	0.2
	Consumer 10	N170202	5345.4		5345.6	0.2	0.08
	Consumer 11	17129421	2435		2439	4	1.6
	Consumer 12	308075284	11265.84		11266.12	0.28	0.112
	Consumer 13	4881140	6337.4		6337.8	0.4	0.16
	Consumer 14	N065232	24376.7		24378.9	2.2	0.88
	Consumer 15	16060882	1149		1150.1	1.1	0.44
	Consumer 16	UM101741	351	Defective meter	351	0	0
	Consumer 17	N285253	2083.2		2084.8	1.6	0.64
	Consumer 18	16313677	3505		3508	3	1.2
	Consumer 19	6485605	441.5		448.1	6.6	2.64
	Consumer 20	307039010	15003.8		15003.9	0.1	0.04
	Consumer 21	N043844	3395.9		3397.3	1.4	0.56
	Consumer 22	10195830		Defective meter			
	Consumer 23	16314628	6374		6375.9	1.9	0.76
Total						**147.38**	**58.95**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference * MF	PF (DT)	Energy loss (%)
14/8/2012	Pallampuram	Commercial	11274432	1138.07	1138.99	250	120	110.40	0.83	**7.86%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
14/8/2012	Consumer 1	101198159	6452		6453	1	4
	Consumer 2	306059658	8723.94		8725.2	1.26	5.04
	Consumer 3	N081172	4738.2		4738.9	0.7	2.8
	Consumer 4	302/100937	5694.8		5696.2	1.4	5.6
	Consumer 5	16781016	847		848	1	4
	Consumer 6	Shop no. 17		Closed			0
	Consumer 7	Shop no.18		Closed			0
	Consumer 8	10027074		Defective meter			0
	Consumer 9	16079877	3468		3469	1	4
	Consumer 10	N070775	11140.9		11142.2	1.3	5.2
	Consumer 11	UP065895	92214		92216	2	8
	Consumer 12	306030774	5662.17		5663.2	1.03	4.12
	Consumer 13	1462300	1303		1305	2	8
	Consumer 14	8194730		Defective meter			0
	Consumer 15	4889400	13083.5		13085.2	1.7	6.8
	Consumer 16	30407	15956.2		15958.2	2	8
	Consumer 17	6076955	5808.4		5809.2	0.8	3.2
	Consumer 18	10112743	1489		1491	2	8
	Consumer 19	733426	4731.8		4733.2	1.4	5.6
	Consumer 20	S001826	4106.8		4107.2	0.4	1.6
	Consumer 21	10276502	564		565	1	4
	Consumer 22	16285860	3275.36		3276.2	0.84	3.36

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 23	4624527	1646.2		1648.1	1.9	7.6
	Consumer 24	308073744	36760.5		36761.2	0.7	2.8
	Total					**25.43**	**101.72**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (KVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
14/8/2012	Pallampuram	Commercial	11274449	215.75	216	250	120	30.00	0.83	**8.00%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
14/8/2012	Consumer 1	6176395	623		624	1	4
	Consumer 2	UM102275	3186		3186.9	0.9	3.6
	Consumer 3	1080741	9310		9310.5	0.5	2
	Consumer 4	4433312	4055.7		4057.2	1.5	6
	Consumer 5	1000248	11559		11562	3	12
Total						**6.9**	**27.6**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (KVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
16/8/2012	Pallampuram	Commercial	UPE53901	2697.8	2699.1	100	40	52.00	0.89	**14.92%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
16/8/2012	Consumer 1	16067	2200		2201	1	4
	Consumer 2	17132860	1030		1030.9	0.9	3.6
	Consumer 3	309054348	2780.59		2781.9	1.31	5.24

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 4	Shop no. 13		Locked			0
	Consumer 5	Shop no. 15		Locked			0
	Consumer 6	N068050	29671.7		29672.5	0.8	3.2
	Consumer 7	6733820	750		750.2	0.2	0.8
	Consumer 8	306065617	24124.84		24125.2	0.36	1.44
	Consumer 9	10278290	3241		3242	1	4
	Consumer 10	UPU09649	7583		7584	1	4
	Consumer 11	308008163	6976.81		6977.2	0.39	1.56
	Consumer 12	Shop no.22		Locked			0
	Consumer 13	10113908	3222		3222.8	0.8	3.2
	Consumer 14	309018168	10493.2		10494.5	1.3	5.2
	Consumer 15	UM100729	5896		5896.8	0.8	3.2
	Consumer 16	16080746	4223		4223.2	0.2	0.8
	Consumer 17	UM102949	827		827.5	0.5	2
	Consumer 18	Shop no. 30		Locked			0
	Consumer 19	Shop no. 31		Locked			0
	Consumer 20	Shop no. 32		Locked			0
	Consumer 21	Shop no. 33		Locked			0
	Consumer 22	16067418	1315		1315.5	0.5	2
	Consumer 23	Shop no. 35		Locked			0
	Total					**11.06**	**44.24**

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (KVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
7/9/2012	Udyog Puram	Industrial	11273067	4483.4	4512.8	250	120	3528.00	0.83	**5.05%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)	PF
7/9/2012	Customer 1	UL000077	886		891	5.00	1250	0.88
	Customer 2	UPP12385	7268		7272	4.00	1000	0.91
	Customer 3	UPP02388	10219.4		10221.5	2.10	525	0.90
	Customer 4	UPP02395	15111.5		15113.8	2.30	575	0.92
Total						**13.40**	**3350**	

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
7/9/2012	Udyog Puram	Industrial	11273786	1682.31	1712.52	63	40	1208.40	0.69	**2.53%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)	PF
7/9/2012	Customer 1	UP037498	20093.33		20108.43	15.1	1177.8	0.74

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
7/9/2012	Udyog Puram	Industrial	11274509	1208.78	1269.70	63	40	2436.80	0.90	**0.89%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)	PF
7/9/2012	Customer 1	UP037386	17367.2		17371.8	4.6	2415	0.94

Date	Location	Type	Meter no	1st read	2nd read	Capacity of DT (kVA)	MF (DT)	Difference *MF	PF (DT)	Energy loss (%)
9/9/2012	Udyog Puram	Industrial	UP102387	7146.40	7153.80	63	40	296.00	0.92	**1.27%**

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)	PF
9/9/2012	Customer 1	10404808	1543.91		1585.66	41.75	292.25	0.92

4.2 LT survey – EDC Mathura

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
10/8/2012	Near Nand bala flour mill, Koshi	Domestic	1255.32	1256.83	63	40	70.00	24.29%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
10/8/2012	Consumer 1	89232	3742		3744	2	2
	Consumer 2	34065	3287		3288	1	1
	Consumer 3	100407	1350		1352	2	2
	Consumer 4	83741	1289		1291	2	2
	Consumer 5	93700	717		718	1	1
	Consumer 6	100471	1668		1669	1	1
	Consumer 7	95350	1895		1896	1	1
	Consumer 8	76301	1758		1759	1	1
	Consumer 9	87668	1289		1291	2	2
	Consumer 10	54719	1486		1488	2	2
	Consumer 11	87679	1579		1581	2	2
	Consumer 12	54789	215		217	2	2
	Consumer 13	68091	4659		4661	2	2
	Consumer 14	92173	487		489	2	2
	Consumer 15	76501	3264		3266	2	2
	Consumer 16	10339	589		591	2	2
	Consumer 17	96019	2456		2457	1	1
	Consumer 18	86408	1278		1279	1	1
	Consumer 19	97885	2398		2399	1	1
	Consumer 20	88562	8272	Defective meter	8272	2	2
	Consumer 21	76951	2991		2993	2	2
	Consumer 22	60772	1496		1498	2	2

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 23	87305	1956		1958	2	2
	Consumer 24	85642	1489		1491	2	2
	Consumer 25	47440	1356		1358	2	2
	Consumer 26	86402	1245		1247	2	2
	Consumer 27	94043	2586		2588	2	2
	Consumer 28	85147	2348		2349	1	1
	Consumer 29	61500	2456		2457	1	1
	Consumer 30	90041	769		771	2	2
	Consumer 31	83618	1452		1453	1	1
	Consumer 32	97758	1486		1488	2	2
	Total					**53**	**53**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
9/8/2012	Narsi Village , Koshi	Domestic	322.01	322.49	400	160	76.80	25.78%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
9/8/2012	Consumer 1	100375	0	Defective meter	0	0	0
	Consumer 2	100374	229		231	2	2
	Consumer 3	101542	224		227	3	3
	Consumer 4	100382	967		969	2	2
	Consumer 5	100383	989		993	4	4
	Consumer 6	100421	458		461	3	3
	Consumer 7	100378	44		46	2	2
	Consumer 8	100464	1461		1465	4	4
	Consumer 9	102528	1236		1237	1	1
	Consumer 10	100380	446		448	2	2
	Consumer 11	100420	598		599	1	1
	Consumer 12	100381	1490		1493	3	3
	Consumer 13	100382	1475		1476	1	1
	Consumer 14	102711	1382		1383	1	1
	Consumer 15	100388	1315		1317	2	2
	Consumer 16	100377	2215		2218	3	3
	Consumer 17	100365	3352	Defective meter	3352	0	0
	Consumer 18	100379	448		449	1	1
	Consumer 19	100384	26456		26459	3	3
	Consumer 20	100385	2613		2617	4	4
	Consumer 21	100391	2792		2793	1	1
	Consumer 22	101528	1593		1595	2	2
	Consumer 23	101628	3416	Defective meter	3416	0	0
	Consumer 24	102716	1308	Defective meter	1308	0	0

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	100426	398		401	3	3
	Consumer 26	102719	526		528	2	2
	Consumer 27	100375	26895		26902	7	7
	Total					**57**	**57**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
11/8/2012	Near Pramila Ice Factory , Koshi	Rural mixed	322.01	322.49	400	160	76.80	25.78%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
11/8/2012	Consumer 1	96598	1620		1622	2.00	2.00
	Consumer 2	85224	617		619	2.00	2.00
	Consumer 3	98396	1632		1635	3.00	3.00
	Consumer 4	102736	1362		1363	1.00	1.00
	Consumer 5	92171	1359		1361	2.00	2.00
	Consumer 6	96666	569		571	2.00	2.00
	Consumer 7	98484	1254		1257	3.00	3.00
	Consumer 8	97770	789		790	1.00	1.00
	Consumer 9	97842	156	Defective meter	156	0.00	0.00
	Consumer 10	86533	896		898	2.00	2.00
	Consumer 11	88839	1359		1359	2.00	2.00
	Consumer 12	83929	1786		1789	3.00	3.00
	Consumer 13	83789	2569		2572	3.00	3.00
	Consumer 14	84786	2356		2357	1.00	1.00
	Consumer 15	86526	896		897	1.00	1.00
	Consumer 16	88814	1456		1459	3.00	3.00
	Consumer 17	99678	2459		2462	3.00	3.00
	Consumer 18	75855	1789		1792	3.00	3.00
	Consumer 19	87707	1465		1467	2.00	2.00
	Consumer 20	95936	1289		1291	2.00	2.00
	Consumer 21	96502	6548		6549	1.00	1.00
	Consumer 22	102601	4589		4590	1.00	1.00
	Consumer 23 (Pramila Ice	96598	226371		226397	26.00	26.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Factory)						
	Total					**69.00**	**69.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
8/8/2012	Vihariji colony	Domestic	1668.02	1669.14	250	80	89.60	18.53%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
8/8/2012	Consumer 1	73137	1776		1778	2.00	2.00
	Consumer 2	94976	1113		1114	1.00	1.00
	Consumer 3	61753	459		461	2.00	2.00
	Consumer 4	67387	1546		1548	2.00	2.00
	Consumer 5	78941	1869		1871	2.00	2.00
	Consumer 6	61791	589		591	2.00	2.00
	Consumer 7	98257	1458		1460	2.00	2.00
	Consumer 8	61262	1789		1791	2.00	2.00
	Consumer 9	61262	1589		1592	3.00	3.00
	Consumer 10	10883	1456		1459	3.00	3.00
	Consumer 11	94963	897		898	1.00	1.00
	Consumer 12	88557	1289		1291	2.00	2.00
	Consumer 13	87717	549		551	2.00	2.00
	Consumer 14	92134	1756		1758	2.00	2.00
	Consumer 15	93164	4896		4898	2.00	2.00
	Consumer 16	89579	1289		1291	2.00	2.00
	Consumer 17	87715	1489		1493	4.00	4.00
	Consumer 18	83181	1427		1429	2.00	2.00
	Consumer 19	71996	2546		2547	1.00	1.00
	Consumer 20	71995	1876		1877	1.00	1.00
	Consumer 21	71996	1517		1519	2.00	2.00
	Consumer 22	84420	2915		2917	2.00	2.00
	Consumer 23	73325	1511		1513	2.00	2.00
	Consumer 24	84388	5112		5114	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	87071	1693		1695	2.00	2.00
	Consumer 26	79463	2352		2353	1.00	1.00
	Consumer 27	61373	813		815	2.00	2.00
	Consumer 28	85686	6112		6113	1.00	1.00
	Consumer 29	79044	1388		1390	2.00	2.00
	Consumer 30	25081	1685		1687	2.00	2.00
	Consumer 31	86659	7727		7729	2.00	2.00
	Consumer 32	102581	1821		1823	2.00	2.00
	Consumer 33	86559	8752		8754	2.00	2.00
	Consumer 34	102691	8733		8735	2.00	2.00
	Consumer 35	61367	7152		7154	2.00	2.00
	Consumer 36	62796	1525		1526	1.00	1.00
	Consumer 37	86022	1440		1442	2.00	2.00
	Consumer 38	35545	1256		1257	1.00	1.00
	Consumer 39	90619	425		426	1.00	1.00
	Total					**73.00**	**73.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
13/8/2012	State Bank colony	Domestic	1159.20	1160.19	100	80	79.20	12.88%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
13/8/2012	Consumer 1	92139	1632		1633	1.00	1.00
	Consumer 2	87748	1869		1870	1.00	1.00
	Consumer 3	59206	1521		1523	2.00	2.00
	Consumer 4	59601	2658		2660	2.00	2.00
	Consumer 5	93223	1356		1357	1.00	1.00
	Consumer 6	93224	2658		2661	3.00	3.00
	Consumer 7	87602	1256		1259	3.00	3.00
	Consumer 8	90206	1356		1357	1.00	1.00
	Consumer 9	98102	1489		1491	2.00	2.00
	Consumer 10	63408	1423		1425	2.00	2.00
	Consumer 11	92139	2541		2543	2.00	2.00
	Consumer 12	78522	1354		1357	3.00	3.00
	Consumer 13	89625	1786		1788	2.00	2.00
	Consumer 14	85192	1892		1894	2.00	2.00
	Consumer 15	75820	1569		1571	2.00	2.00
	Consumer 16	87367	1782		1784	2.00	2.00
	Consumer 17	9248	1598		1599	1.00	1.00
	Consumer 18	99901	1678		1680	2.00	2.00
	Consumer 19	94345	1458		1462	4.00	4.00
	Consumer 20	91729	1689		1691	2.00	2.00
	Consumer 21	89782	1485		1487	2.00	2.00
	Consumer 22	88983	1369		1371	2.00	2.00
	Consumer 23	85243	1896		1898	2.00	2.00
	Consumer 24	86504	1769		1771	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	90784	1245		1247	2.00	2.00
	Consumer 26	84350	1789		1791	2.00	2.00
	Consumer 27	87344	1365		1367	2.00	2.00
	Consumer 28	88869	3256		3258	2.00	2.00
	Consumer 29	84729	2896		2898	2.00	2.00
	Consumer 30	88896	4589		4591	2.00	2.00
	Consumer 31	88869	1785		1787	2.00	2.00
	Consumer 32	93186	1958		1961	3.00	3.00
	Consumer 33	94343	2258		2260	2.00	2.00
	Consumer 34	85691	1685		1687	2.00	2.00
	Total					**69.00**	**69.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
14/8/2012	FCI Road	Domestic	693.06	694.79	100	40	69.20	23.41%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
14/8/2012	Consumer 1	92195	2715		2717	2.00	2.00
	Consumer 2	92194	2372		2374	2.00	2.00
	Consumer 3	92155	2662		2664	2.00	2.00
	Consumer 4	92154	1354		1356	2.00	2.00
	Consumer 5	92153	7411		7413	2.00	2.00
	Consumer 6	95914	1506		1508	2.00	2.00
	Consumer 7	95912	1563		1565	2.00	2.00
	Consumer 8	92157	1389		1391	2.00	2.00
	Consumer 9	79342	1489		1491	2.00	2.00
	Consumer 10	76312	1965		1966	1.00	1.00
	Consumer 11	81138	1758		1759	1.00	1.00
	Consumer 12	73570	1472		1473	1.00	1.00
	Consumer 13	77754	1290		1291	1.00	1.00
	Consumer 14	100498	1215		1217	2.00	2.00
	Consumer 15	96768	2698		2699	1.00	1.00
	Consumer 16	101628	5617		5619	2.00	2.00
	Consumer 17	62705	8372		8374	2.00	2.00
	Consumer 18	62706	2530		2532	2.00	2.00
	Consumer 19	102728	842		843	1.00	1.00
	Consumer 20	62711	8314		8315	1.00	1.00
	Consumer 21	101213	1289		1290	1.00	1.00
	Consumer 22	62710	1563		1564	1.00	1.00
	Consumer 23	101204	1352		1354	2.00	2.00
	Consumer 24	62708	1495		1496	1.00	1.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	63525	2569		2570	1.00	1.00
	Consumer 26	62707	3654		3656	2.00	2.00
	Consumer 27	93338	1896		1897	1.00	1.00
	Consumer 28	96579	13857	Theft	13858	1.00	1.00
	Consumer 29	77720	1863		1864	1.00	1.00
	Consumer 30	96579	1758		1759	1.00	1.00
	Consumer 31	77856	2869		2870	1.00	1.00
	Consumer 32	96591	3542		3543	1.00	1.00
	Consumer 33	97817	4895		4897	2.00	2.00
	Consumer 34	86597	1596		1598	2.00	2.00
	Consumer 35	95862	1759		1761	2.00	2.00
	Total					**53.00**	**53.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
15/8/2012	Radha Vihar	Domestic	935.03	935.88	250	80	68.00	5.88%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
15/8/2012	Consumer 1	98379	1329		1330	1.00	1.00
	Consumer 2	98377	1785		1787	2.00	2.00
	Consumer 3	98190	2312		2313	1.00	1.00
	Consumer 4	100282	1725		1728	3.00	3.00
	Consumer 5	98337	1958		1960	2.00	2.00
	Consumer 6	98186	1469		1470	1.00	1.00
	Consumer 7	101584	2287		2289	2.00	2.00
	Consumer 8	97627	789		791	2.00	2.00
	Consumer 9	97620	1756		1758	2.00	2.00
	Consumer 10	96635	2485		2486	1.00	1.00
	Consumer 11	98176	3256		3257	1.00	1.00
	Consumer 12	998377	1612		1613	1.00	1.00
	Consumer 13	92880	339		341	2.00	2.00
	Consumer 14	89786	1274		1275	1.00	1.00
	Consumer 15	93238	2385		2387	2.00	2.00
	Consumer 16	97511	1489		1491	2.00	2.00
	Consumer 17	85232	459		460	1.00	1.00
	Consumer 18	97558	3256		3257	1.00	1.00
	Consumer 19	76305	1789		1791	2.00	2.00
	Consumer 20	97807	1569		1571	2.00	2.00
	Consumer 21	93320	1462		1463	1.00	1.00
	Consumer 22	96758	1892		1893	1.00	1.00
	Consumer 23	95902	1359		1371	12.00	12.00
	Consumer 24	86475	1789		1791	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	94426	1569		1572	3.00	3.00
	Consumer 26	92653	2459		2463	4.00	4.00
	Consumer 27	9.3212	7896		7898	2.00	2.00
	Consumer 28	102682	0	Defective meter	0	0.00	0.00
	Consumer 29	98351	0	Defective meter	0	0.00	0.00
	Consumer 30	97893	2896		2897	1.00	1.00
	Consumer 31	10024	4896		4897	1.00	1.00
	Consumer 32	95548	3546	Theft	3546	0.00	0.00
	Consumer 33	86932	1798		1799	1.00	1.00
	Consumer 34	89756	1478		1479	1.00	1.00
	Consumer 35	58963	2598		2599	1.00	1.00
	Consumer 36	97569	6985		6987	2.00	2.00
	Total					**64.00**	**64.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
16/8/2012	Officer's Colony	Domestic	1171.98	1173.67	250	80	135.20	7.54%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
16/8/2012	Consumer 1	98374	387		388	1.00	1.00
	Consumer 2	64034	4307		4308	1.00	1.00
	Consumer 3	92197	2584		2586	2.00	2.00
	Consumer 4	89058	1674		1676	2.00	2.00
	Consumer 5	83948	5112		5114	2.00	2.00
	Consumer 6	89056	8529		8531	2.00	2.00
	Consumer 7	97789	2298		2299	1.00	1.00
	Consumer 8	89165	776		779	3.00	3.00
	Consumer 9	88455	1139		1141	2.00	2.00
	Consumer 10	78025	1338		1339	1.00	1.00
	Consumer 11	76641	589		591	2.00	2.00
	Consumer 12	78070	5971		5973	2.00	2.00
	Consumer 13	85226	1339		1340	1.00	1.00
	Consumer 14	89555	1812		1814	2.00	2.00
	Consumer 15	98346	3600		3601	1.00	1.00
	Consumer 16	97740	1346		1347	1.00	1.00
	Consumer 17	96530	1854		1856	2.00	2.00
	Consumer 18	96508	6344		6346	2.00	2.00
	Consumer 19	102547	5307		5308	1.00	1.00
	Consumer 20	73474	1347		1349	2.00	2.00
	Consumer 21	98342	2457		2460	3.00	3.00
	Consumer 22	79129	2553		2553	1.00	1.00
	Consumer 23	101694	1536		1537	1.00	1.00
	Consumer 24	78216	1789		1791	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	98174	1654		1656	2.00	2.00
	Consumer 26	95536	2356		2358	2.00	2.00
	Consumer 27	102736	2895		2897	2.00	2.00
	Consumer 28	91841	1459		1461	2.00	2.00
	Consumer 29	95968	1786		1788	2.00	2.00
	Consumer 30	95578	2356		2357	1.00	1.00
	Consumer 31	98569	2389		2391	2.00	2.00
	Consumer 32	78556	586		587	1.00	1.00
	Consumer 33	87554	1786		1788	2.00	2.00
	Consumer 34	85574	1259		1261	2.00	2.00
	Consumer 35	78965	1395		1396	1.00	1.00
	Consumer 36	89657	1486		1487	1.00	1.00
	Consumer 37	96558	1759		1761	2.00	2.00
	Consumer 38	89567	2345		2347	2.00	2.00
	Consumer 39	87958	8759		8761	2.00	2.00
	Consumer 40	74896	6952		6953	1.00	1.00
	Consumer 41	74589	1896		1898	2.00	2.00
	Consumer 42	74659	3542		3543	1.00	1.00
	Consumer 43	73698	1674		1676	2.00	2.00
	Consumer 44	73986	1586		1588	2.00	2.00
	Consumer 45	73589	1259		1261	2.00	2.00
	Consumer 46	73485	1845		1846	1.00	1.00
	Consumer 47	79856	1256		1258	2.00	2.00
	Consumer 48	98756	1985		1987	2.00	2.00
	Consumer 49	99785	1635		1637	2.00	2.00
	Consumer 50	89576	1895		1896	1.00	1.00
	Consumer 51	87956	1796		1798	2.00	2.00
	Consumer 52	87948	1889		1891	2.00	2.00
	Consumer 53	87949	1397		1398	1.00	1.00
	Consumer 54	87952	1569		1570	1.00	1.00
	Consumer 55	97857	1358		1359	1.00	1.00
	Consumer 56	87965	1490		1493	3.00	3.00
	Consumer 57	88596	1659		1662	3.00	3.00
	Consumer 58	97589	1875		1876	1.00	1.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 59	99854	469		470	1.00	1.00
	Consumer 60	96523	1376		1378	2.00	2.00
	Consumer 61	88745	1586		1588	2.00	2.00
	Consumer 62	96589	1954		1956	2.00	2.00
	Consumer 63	87592	1895		1896	1.00	1.00
	Consumer 64	98867	1956		1957	1.00	1.00
	Consumer 65	98857	1785		1786	1.00	1.00
	Consumer 66	98826	1356		1357	1.00	1.00
	Consumer 67	96578	1956		1958	2.00	2.00
	Consumer 68	96584	1489		1491	2.00	2.00
	Consumer 69	96354	1235		1236	1.00	1.00
	Consumer 70	77854	1669		1671	2.00	2.00
	Consumer 71	73698	1895		1897	2.00	2.00
	Consumer 72	88947	1789		1791	2.00	2.00
	Consumer 73	63978	1658		1659	1.00	1.00
	Consumer 74	87196	2335		2337	2.00	2.00
	Consumer 75	87594	0	Defective meter	0	0.00	0.00
	Consumer 76	87936	0	Defective meter	0	0.00	0.00
	Consumer 77	96587	5786		5788	2.00	2.00
	Consumer 78	74856	0	No meter	0	0.00	0.00
	Consumer 79	92156	0	No meter	0	0.00	0.00
	Total	**Total**				**125.00**	**125.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
18/8/2012	Agarwal Colony	Domestic	1937.31	1939.14	250	80	146.40	1.64%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
18/8/2012	Consumer 1	98437	1974		1976	2.00	2.00
	Consumer 2	85687	1562		1563	1.00	1.00
	Consumer 3	60749	1458		1459	1.00	1.00
	Consumer 4	93164	245		246	1.00	1.00
	Consumer 5	87648	1785		1786	1.00	1.00
	Consumer 6	61583	1965		1967	2.00	2.00
	Consumer 7	77962	1896		1897	1.00	1.00
	Consumer 8	61399	1256		1258	2.00	2.00
	Consumer 9	77963	1895		1896	1.00	1.00
	Consumer 10	67516	1465		1466	1.00	1.00
	Consumer 11	63995	2546		2547	1.00	1.00
	Consumer 12	88891	3189		3191	2.00	2.00
	Consumer 13	61443	2145		2147	2.00	2.00
	Consumer 14	63175	1786		1788	2.00	2.00
	Consumer 15	63176	5698		5699	1.00	1.00
	Consumer 16	98263	1789		1791	2.00	2.00
	Consumer 17	62988	1654		1656	2.00	2.00
	Consumer 18	97767	1325		1327	2.00	2.00
	Consumer 19	87409	1845		1846	1.00	1.00
	Consumer 20	84387	1795		1797	2.00	2.00
	Consumer 21	97660	2563		2564	1.00	1.00
	Consumer 22	76663	1489		1491	2.00	2.00
	Consumer 23	77456	1523		1524	1.00	1.00
	Consumer 24	76664	1956		1958	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	79122	1784		1786	2.00	2.00
	Consumer 26	76662	1235		1236	1.00	1.00
	Consumer 27	76660	1245		1246	1.00	1.00
	Consumer 28	77457	1478		1480	2.00	2.00
	Consumer 29	97822	1456		1458	2.00	2.00
	Consumer 30	100488	1245		1247	2.00	2.00
	Consumer 31	85672	1356		1358	2.00	2.00
	Consumer 32	78935	1789		1791	2.00	2.00
	Consumer 33	84731	987		988	1.00	1.00
	Consumer 34	89556	1456		1458	2.00	2.00
	Consumer 35	59095	1784		1785	1.00	1.00
	Consumer 36	62853	1285		1286	1.00	1.00
	Consumer 37	97894	1469		1471	2.00	2.00
	Consumer 38	61677	1326		1328	2.00	2.00
	Consumer 39	61678	415		417	2.00	2.00
	Consumer 40	63353	785		786	1.00	1.00
	Consumer 41	56689	1923		1924	1.00	1.00
	Consumer 42	83243	1486		1488	2.00	2.00
	Consumer 43	63852	895		897	2.00	2.00
	Consumer 44	63520	1795		1796	1.00	1.00
	Consumer 45	88824	1365		1367	2.00	2.00
	Consumer 46	92700	1784		1787	3.00	3.00
	Consumer 47	100409	1652		1654	2.00	2.00
	Consumer 48	63217	1985		1987	2.00	2.00
	Consumer 49	55083	1745		1748	3.00	3.00
	Consumer 50	90023	1658		1659	1.00	1.00
	Consumer 51	100413	1265		1267	2.00	2.00
	Consumer 52	95445	1956		1958	2.00	2.00
	Consumer 53	98264	1352		1354	2.00	2.00
	Consumer 54	94064	1845		1846	1.00	1.00
	Consumer 55	94039	1652		1654	2.00	2.00
	Consumer 56	62895	1854		1856	2.00	2.00
	Consumer 57	62354	1362		1365	3.00	3.00
	Consumer 58	62956	1495		1497	2.00	2.00

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 59	95642	1256		1258	2.00	2.00
	Consumer 60	98569	1784		1786	2.00	2.00
	Consumer 61	78965	1326		1328	2.00	2.00
	Consumer 62	88569	1523		1524	1.00	1.00
	Consumer 63	88978	1954		1956	2.00	2.00
	Consumer 64	89576	1695		1697	2.00	2.00
	Consumer 65	96854	1856		1857	1.00	1.00
	Consumer 66	92654	1485		1487	2.00	2.00
	Consumer 67	88826	1362		1364	2.00	2.00
	Consumer 68	88829	2365		2367	2.00	2.00
	Consumer 69	88863	2145		2146	1.00	1.00
	Consumer 70	88874	3258		3259	1.00	1.00
	Consumer 71	96854	1254		1255	1.00	1.00
	Consumer 72	89562	1625		1627	2.00	2.00
	Consumer 73	98541	1325		1326	1.00	1.00
	Consumer 74	96254	1485		1487	2.00	2.00
	Consumer 75	89754	1754		1756	2.00	2.00
	Consumer 76	88997	1625		1627	2.00	2.00
	Consumer 77	98856	1784		1786	2.00	2.00
	Consumer 78	87451	1452		1454	2.00	2.00
	Consumer 79	96548	1783		1785	2.00	2.00
	Consumer 80	99784	2451		2453	2.00	2.00
	Consumer 81	78561	2658		2661	3.00	3.00
	Consumer 82	76352	2365		2367	2.00	2.00
	Consumer 83	88979	2895		2897	2.00	2.00
	Consumer 84	88458	1568		1569	1.00	1.00
	Consumer 85	88957	2478		2479	1.00	1.00
	Total	**Total**				**144.00**	**144.00**

Date	Location	Type	1st read	2nd read	Capacity of DT (kVA)	MF	Difference * MF	Energy loss (%)
9/8/2012	Sheetkulla Mall 2	Commercial	1755.78	1756.48	100	40	28.00	28.57%

Date	Consumer name	Connection No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
9/8/2012	Consumer 1	75798	2506		2513	7.00	7
	Consumer 2	57199	32451		32459	8.00	8
	Consumer 3	78321	21120	Burnt meter	21120	0.00	0
	Consumer 4	78322	6235		6237	2.00	2
	Consumer 5	78324	6116		6119	3.00	3
	Consumer 6	8840	0	Defective meter	0	0.00	0
	Total	**Total**				**20.00**	**20.00**

4.3 LT survey – EUDC IV Lucknow

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
13/08/2012	Vikas Nagar/Rahim Nagar	Domestic	11353761	1882.4	1883.9	250	120	180.00	19.50%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
13/08/2012	Consumer 1	W15592	10071.30		10072.30	1.00	1.00
	Consumer 2	W18963	13683.20		13684.30	1.10	1.10
	Consumer 3	E80881	23068.90		23069.90	1.00	1.00
	Consumer 4	W19019	10987.40		10988.50	1.10	1.10
	Consumer 5	W16721	24878.60		24880.00	1.40	1.40
	Consumer 6	W19035	18282.40		18283.40	1.00	1.00
	Consumer 7	LC9693	4310.50		4312.50	2.00	2.00
	Consumer 8	W18047	25107.70		25108.70	1.00	1.00
	Consumer 9	I04029	8195.70	Meter not working	8195.70	0.00	0.00
	Consumer 10	LC8645	6696.90		6697.90	1.00	1.00
	Consumer 11	CS3019	5248.10		5249.10	1.00	1.00
	Consumer 12	W86201	11777.60		11778.60	1.00	1.00
	Consumer 13	W38220	8084.80		8085.80	1.00	1.00
	Consumer 14	T12068	7299.30		7300.30	1.00	1.00
	Consumer 15	W86387	29622.60		29623.60	1.00	1.00
	Consumer 16	RW1969	5672.70		5673.80	1.10	1.10
	Consumer 17	W35285	19331.30		19332.30	1.00	1.00
	Consumer 18	SB2080	7977.40		7979.40	2.00	2.00
	Consumer 19	E83766	9589.50		9590.50	1.00	1.00
	Consumer 20	WR9267	17450.50		17451.50	1.00	1.00
	Consumer 21	SA2001	6157.30		6158.30	1.00	1.00
	Consumer 22	W56243	12000.40		12001.40	1.00	1.00
	Consumer 23	W35788	8140.70		8141.70	1.00	1.00
	Consumer 24	R01133	10115.90		10117.00	1.10	1.10
	Consumer 25	WR8696	7831.30		7832.30	1.00	1.00
	Consumer 26	WR0404	3716.30		3717.30	1.00	1.00
	Consumer 27	SA3141	1450.40		1451.40	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 28	E86516	14035.40		14036.40	1.00	1.00
	Consumer 29	W59329	10171.70		10172.70	1.00	1.00
	Consumer 30	CE0829	1231.60		1232.60	1.00	1.00
	Consumer 31	W18740	9968.30		9969.40	1.10	1.10
	Consumer 32	SC4659	2360.30		2361.30	1.00	1.00
	Consumer 33	W18799	13290.60		13291.60	1.00	1.00
	Consumer 34	W19314	17056.80		17057.80	1.00	1.00
	Consumer 35	W35226	17322.60		17323.60	1.00	1.00
	Consumer 36	W18397	27307.80		27308.80	1.00	1.00
	Consumer 37	W35036	7226.50		7227.50	1.00	1.00
	Consumer 38	W18487	9367.10		9368.10	1.00	1.00
	Consumer 39	W19001	17652.60		17653.60	1.00	1.00
	Consumer 40	W18599	4502.50		4504.00	1.50	1.50
	Consumer 41	W18564	12180.90		12181.90	1.00	1.00
	Consumer 42	W18679	22421.50		22423.00	1.50	1.50
	Consumer 43	W37921	11653.50		11655.00	1.50	1.50
	Consumer 44	W18906	11531.80		11539.80	8.00	8.00
	Consumer 45	W57147	28791.60		28792.60	1.00	1.00
	Consumer 46	W18889	13738.90		13739.90	1.00	1.00
	Consumer 47	SD1019	2856.60		2857.60	1.00	1.00
	Consumer 48	W18919	8210.30		8211.30	1.00	1.00
	Consumer 49	W35198	14320.90		14321.90	1.00	1.00
	Consumer 50	SE3867	1456.90		1457.90	1.00	1.00
	Consumer 51	W55104	8011.70		8012.70	1.00	1.00
	Consumer 52	W18542	30813.60		30814.60	1.00	1.00
	Consumer 53	W18839	11571.50		11572.50	1.00	1.00
	Consumer 54	W18886	14511.70		14512.70	1.00	1.00
	Consumer 55	E94159	4089.40		4090.40	1.00	1.00
	Consumer 56	W18408	11638.00		11638.90	0.90	0.90
	Consumer 57	W18829	27024.70		27025.70	1.00	1.00
	Consumer 58	W37836	8939.50		8940.50	1.00	1.00
	Consumer 59	W87251	12992.10		12993.10	1.00	1.00
	Consumer 60	W19018	29932.30		29933.30	1.00	1.00
	Consumer 61	E82710	29207.60		29208.60	1.00	1.00
	Consumer 62	W58995	6752.90		6753.90	1.00	1.00
	Consumer 63	SA4104	4412.40		4413.40	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 64	W18214	27363.40		27364.40	1.00	1.00
	Consumer 65	SB3827	3499.60		3500.60	1.00	1.00
	Consumer 66	E85011	2921.10		2922.10	1.00	1.00
	Consumer 67	E88303	3699.80		3700.80	1.00	1.00
	Consumer 68	W18507	9481.40		9482.40	1.00	1.00
	Consumer 69	W18604	14196.60		14197.60	1.00	1.00
	Consumer 70	W18244	15167.50		15169.00	1.50	1.50
	Consumer 71	W18860	15117.80		15118.80	1.00	1.00
	Consumer 72	W18529	18559.90		18561.00	1.10	1.10
	Consumer 73	W18934	12356.40		12357.40	1.00	1.00
	Consumer 74	W18870	22133.00		22134.20	1.20	1.20
	Consumer 75	I04756	14167.50		14169.00	1.50	1.50
	Consumer 76	W18624	12596.50		12597.50	1.00	1.00
	Consumer 77	W16213	16804.90		16805.90	1.00	1.00
	Consumer 78	WR6491	5683.80		5684.80	1.00	1.00
	Consumer 79	W16533	27062.30		27063.30	1.00	1.00
	Consumer 80	W18620	15851.40		15852.40	1.00	1.00
	Consumer 81	CS2686	12780.40		12781.40	1.00	1.00
	Consumer 82	W58665	13709.70		13710.70	1.00	1.00
	Consumer 83	W18519	20576.80		20577.80	1.00	1.00
	Consumer 84	W58399	14306.70		14307.90	1.20	1.20
	Consumer 85	W19324	13260.10		13261.10	1.00	1.00
	Consumer 86	W18908	12664.50		12665.00	0.50	0.50
	Consumer 87	W18484	6936.70		6937.70	1.00	1.00
	Consumer 88	W18807	13975.90		13976.90	1.00	1.00
	Consumer 89	W18559	23350.50		23351.50	1.00	1.00
	Consumer 90	W57446	3654.60		3655.60	1.00	1.00
	Consumer 91	W18891	18337.90		18338.90	1.00	1.00
	Consumer 92	W37912	7631.10		7632.10	1.00	1.00
	Consumer 93	W37857	10305.00		10305.90	0.90	0.90
	Consumer 94	W18515	14973.70		14974.70	1.00	1.00
	Consumer 95	W18905	16196.90		16197.90	1.00	1.00
	Consumer 96	E94659	8856.30		8857.30	1.00	1.00
	Consumer 97	W96175	7644.40		7645.40	1.00	1.00
	Consumer 98	W18600	17156.60		17157.60	1.00	1.00
	Consumer 99	SE1495	3180.70		3181.70	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 100	I08871	5875.50		5876.00	0.50	0.50
	Consumer 101	WR6133	15970.10		15971.10	1.00	1.00
	Consumer 102	W37985	17341.30		17342.30	1.00	1.00
	Consumer 103	W18541	18707.90		18708.90	1.00	1.00
	Consumer 104	W37971	11583.80		11584.80	1.00	1.00
	Consumer 105	W15833	12226.90		12227.90	1.00	1.00
	Consumer 106	W18857	17455.50		17457.00	1.50	1.50
	Consumer 107	W85860	13919.60		13920.60	1.00	1.00
	Consumer 108	W35883	8198.70		8199.70	1.00	1.00
	Consumer 109	W18926	19921.40		19922.40	1.00	1.00
	Consumer 110	W18592	32509.40		32510.40	1.00	1.00
	Consumer 111	W56579	25538.70		25539.70	1.00	1.00
	Consumer 112	W56785	22510.60		22511.60	1.00	1.00
	Consumer 113	W57077	4519.10		4520.10	1.00	1.00
	Consumer 114	W18790	12056.60		12057.60	1.00	1.00
	Consumer 115	W18745	20500.40		20501.40	1.00	1.00
	Consumer 116	W18844	17621.70		17623.70	2.00	2.00
	Consumer 117	WR6490	14659.50		14660.00	0.50	0.50
	Consumer 118	W18930	14176.40		14177.40	1.00	1.00
	Consumer 119			Closed		0.00	0.00
	Consumer 120	W18731	14003.80		14004.80	1.00	1.00
	Consumer 121	W18398	10849.80		10850.80	1.00	1.00
	Consumer 122	WR8295	10584.50		10585.50	1.00	1.00
	Consumer 123	C10240	16086.50		16087.50	1.00	1.00
	Consumer 124	W19453	17240.10		17241.10	1.00	1.00
	Consumer 125	W57620	13861.60		13863.60	2.00	2.00
	Consumer 126	W18686	21501.60		21502.60	1.00	1.00
	Consumer 127			Connection canceled		0.00	0.00
	Consumer 128			Connection canceled		0.00	0.00
	Consumer 129	W18827	14491.20		14492.20	1.00	1.00
	Consumer 130	I08359	32511.60		32512.60	1.00	1.00
	Consumer 131	SA3139	1180.50		1181.50	1.00	1.00
	Consumer 132	W18575	15672.40		15673.40	1.00	1.00
	Consumer 133	CE5741	11286.60		11287.60	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 134	B14826	2710.70		2711.70	1.00	1.00
	Consumer 135	E89297	8602.70		8603.90	1.20	1.20
	Total					**144.90**	**144.90**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
14/08/2012	Rahim Nagar	Domestic	11354159	11.99	13.10	25	12	13.32	6.91%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
14/08/2012	Consumer 1	SC3673	4351		4352.7	1.7	1.7
	Consumer 2	SH3680	784.1		784.9	0.8	0.8
	Consumer 3	SF3484	3990		3990.7	0.7	0.7
	Consumer 4	SH3135	2511.4		2512.2	0.8	0.8
	Consumer 5	PX3177	2013.1		2013.8	0.7	0.7
	Consumer 6	SB3668	6513		6513.7	0.7	0.7
	Consumer 7	SC3363	7514.9		7516.4	1.5	1.5
	Consumer 8	SB3839	15566.4		15567.3	0.9	0.9
	Consumer 9	SA3058	10907.6		10909.2	1.6	1.6
	Consumer 10	SC3170	9472.8		9473.1	0.3	0.3
	Consumer 11			Closed		0	0
	Consumer 12	SH3296	3882.5		3883.7	1.2	1.2
	Consumer 13	SB3387	5398.4		5399.9	1.5	1.5
						12.40	**12.40**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
15/08/2012	Rahim Nagar	Domestic		92.13	92.48	250	120	42.00	2.62%

Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
Consumer 1	SE3072	4779.60		4780.10	0.50	0.50
Consumer 2	SC4350	2187.00		2188.00	1.00	1.00
Consumer 3	W57320	4514.00		4515.00	1.00	1.00
Consumer 4	SD0411	4547.60		4548.30	0.70	0.70
Consumer 5	SD1327	12851.00		12852.10	1.10	1.10
Consumer 6	T15545	463.00		463.90	0.90	0.90
Consumer 7	W86904	9679.90		9681.00	1.10	1.10
Consumer 8	W58209	906.00		906.80	0.80	0.80
Consumer 9	E84921	3333.00		3334.00	1.00	1.00
Consumer 10	SE4121	232.00		232.90	0.90	0.90
Consumer 11	SE4109	258.00		259.00	1.00	1.00
Consumer 12	W57361	106.00		106.90	0.90	0.90
Consumer 13	B17389	3641.00		3642.10	1.10	1.10
Consumer 14	T20512	5582.00		5583.10	1.10	1.10
Consumer 15	W56980	3471.00		3472.00	1.00	1.00
Consumer 16	W56903	3190.00		3191.00	1.00	1.00
Consumer 17	SD1757	948.00		949.00	1.00	1.00
Consumer 18	SE0196	413.00		413.40	0.40	0.40
Consumer 19	SC4591	2910.00	Defective meter	2910.00	0.00	0.00
Consumer 20	SC3634	3704.00		3705.30	1.30	1.30
Consumer 21	W56957	2379.00		2380.20	1.20	1.20
Consumer 22			Close		0.00	0.00
Consumer 23	E92968	849.00		850.00	1.00	1.00
Consumer 24	W86507	2271.40		2272.80	1.40	1.40

Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
Consumer 25	W87026	2828.00		2829.00	1.00	1.00
Consumer 26	SD0669	2288.90		2290.00	1.10	1.10
Consumer 27	SE45T0	2173.00		2174.00	1.00	1.00
Consumer 28	SC4977	4328.00		4329.00	1.00	1.00
Consumer 29	SD1284	732.60		733.70	1.10	1.10
Consumer 30	LF0034	1286.10		1287.10	1.00	1.00
Consumer 31	SD2609	3912.00		3913.50	1.50	1.50
Consumer 32	SD3567	4728.00		4729.00	1.00	1.00
Consumer 33	E85581	1673.00		1674.00	1.00	1.00
Consumer 34	CE0459	4609.00		4610.00	1.00	1.00
Consumer 35	W56907	3337.00		3338.00	1.00	1.00
Consumer 36	W57070	3603.20		3604.10	0.90	0.90
Consumer 37	SE2434	1620.60		1621.60	1.00	1.00
Consumer 38	W56862	1612.00		1613.00	1.00	1.00
Consumer 39	SE2388	1190.00		1191.00	1.00	1.00
Consumer 40	SE2793	2721.00		2722.00	1.00	1.00
Consumer 41	SE0477	6454.00		6455.00	1.00	1.00
Consumer 42	SB2143	1608.30		1609.20	0.90	0.90
Consumer 43	W56977	2989.20		2990.20	1.00	1.00
Total					**40.90**	**40.90**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
16/08/2012	Rahim Nagar	Domestic	11353140	1415.95	1417.02	250	160	171.20	16.51%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
16/08/2012	Consumer 1	W17558	23689.75		23690.75	1.00	1.00
	Consumer 2	LT2 0103000967	24631.93		24632.93	1.00	1.00
	Consumer 3	W89786	11815.28		11816.28	1.00	1.00
	Consumer 4	1605882	2408.12		2409.42	1.30	1.30
	Consumer 5	1691029	12632.70		12633.80	1.10	1.10
	Consumer 6	WP6052	555102.00		555103.80	1.80	1.80
	Consumer 7	LT2 0103006161	38881.53		38882.50	0.97	0.97
	Consumer 8	W86971	38726.60		38727.60	1.00	1.00
	Consumer 9	W15447	23580.44		23581.64	1.20	1.20
	Consumer 10	LT2 0103004949	48941.62		48942.62	1.00	1.00
	Consumer 11	LT2 0103006162	39782.93		39784.00	1.07	1.07
	Consumer 12	LT2 0204003048	33348.50		33349.00	0.50	0.50
	Consumer 13	LT2 0103005661	98418.00		98418.90	0.90	0.90
	Consumer 14	LT2 042120	40429.30		40430.30	1.00	1.00
	Consumer 15	W19080	22056.20		22057.20	1.00	1.00
	Consumer 16	W18776	7671.40		7672.40	1.00	1.00
	Consumer 17	W18598	16936.70		16937.70	1.00	1.00
	Consumer 18	W35199	17163.70		17164.70	1.00	1.00
	Consumer 19	W58145	21071.20		21073.20	2.00	2.00
	Consumer 20	W18810	22349.50		22351.00	1.50	1.50
	Consumer 21	W18920	27441.90		27442.90	1.00	1.00
	Consumer 22	W18872	20529.90		20530.00	0.10	0.10
	Consumer 23	W18737	31455.20		31456.20	1.00	1.00
	Consumer 24	SC1949	2052.30		2053.30	1.00	1.00
	Consumer 25	SD1003	12027.60		12028.60	1.00	1.00
	Consumer 26	E89744	21918.70		21919.70	1.00	1.00
	Consumer 27	W96155	24057.20		24058.20	1.00	1.00
	Consumer 28	W18845	16340.30		16341.30	1.00	1.00
	Consumer 29	W18759	22700.90		22702.00	1.10	1.10
	Consumer 30	W18488	7519.40		7521.00	1.60	1.60
	Consumer 31	W18573	12439.70		12440.60	0.90	0.90

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 32	W19055	16965.20		16967.20	2.00	2.00
	Consumer 33	W18250	16045.60		16046.60	1.00	1.00
	Consumer 34	W18512	12650.10		12651.10	1.00	1.00
	Consumer 35	W35088	9175.40		9176.40	1.00	1.00
	Consumer 36	SC0459	4174.20		4175.20	1.00	1.00
	Consumer 37	W88034	8550.30		8551.30	1.00	1.00
	Consumer 38	W19985	27894.30		27895.30	1.00	1.00
	Consumer 39	W19040	14453.10		14454.10	1.00	1.00
	Consumer 40	W18959	13236.50		13237.50	1.00	1.00
	Consumer 41	W18432	7553.70		7554.70	1.00	1.00
	Consumer 42	W18537	13785.30		13786.30	1.00	1.00
	Consumer 43	W18435	5355.50		5356.50	1.00	1.00
	Consumer 44	W18873	15474.90		15475.90	1.00	1.00
	Consumer 45	W18876	15145.60		15146.60	1.00	1.00
	Consumer 46	SC0437	4770.80		4771.80	1.00	1.00
	Consumer 47	WR9736	10556.60		10557.60	1.00	1.00
	Consumer 48	W98240	9366.60		9367.60	1.00	1.00
	Consumer 49	WR8266	8987.20		8988.50	1.30	1.30
	Consumer 50	W19036	11198.10		11199.10	1.00	1.00
	Consumer 51	LC9120	4655.50		4656.50	1.00	1.00
	Consumer 52	W19323	15695.40		15696.40	1.00	1.00
	Consumer 53	W18591	13958.90		13959.30	0.40	0.40
	Consumer 54	SD0992	4105.40		4106.40	1.00	1.00
	Consumer 55	SB4568	2860.60		2861.60	1.00	1.00
	Consumer 56	W18911	13857.90		13858.90	1.00	1.00
	Consumer 57	W18761	17811.60	Closed			
	Consumer 58	W18216	14995.70		14996.70	1.00	1.00
	Consumer 59	W18703	22028.80		22029.80	1.00	1.00
	Consumer 60	W18401	24309.80		24311.00	1.20	1.20
	Consumer 61	W18473	7901.10		7901.90	0.80	0.80
	Consumer 62	HOME CLOSED				0.00	0.00
	Consumer 63	W18802	20794.40		20795.40	1.00	1.00
	Consumer 64	E82971	12894.90		12895.90	1.00	1.00
	Consumer 65	W18863	18807.60		18808.60	1.00	1.00
	Consumer 66	W18499	4635.80		4636.90	1.10	1.10
	Consumer 67	W58578	13534.50		13535.50	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 68	W18770	25097.90		25098.90	1.00	1.00
	Consumer 69	W18637	24224.10		24225.10	1.00	1.00
	Consumer 70	W18802	19008.90		19009.90	1.00	1.00
	Consumer 71	W18601	15828.50		15829.50	1.00	1.00
	Consumer 72	W18792	13516.70		13517.70	1.00	1.00
	Consumer 73	W37879	16001.40		16002.60	1.20	1.20
	Consumer 74			Closed		0.00	0.00
	Consumer 75	W18232	19116.20		19117.20	1.00	1.00
	Consumer 76	W18787	38504.50		38505.50	1.00	1.00
	Consumer 77	W35886	8640.40		8641.40	1.00	1.00
	Consumer 78	W89451	12986.90		12987.90	1.00	1.00
	Consumer 79	W35851	10993.40		10994.40	1.00	1.00
	Consumer 80	CE5825	4390.20		4391.20	1.00	1.00
	Consumer 81	W18753	19580.10		19581.10	1.00	1.00
	Consumer 82	W18692	38502.30		38503.50	1.20	1.20
	Consumer 83	W18233	18219.60		18220.10	0.50	0.50
	Consumer 84	W18830	11781.90		11782.90	1.00	1.00
	Consumer 85	SF0595		Meter damaged			
	Consumer 86	W18929	12495.40		12496.40	1.00	1.00
	Consumer 87	SE4565	386.80		387.80	1.00	1.00
	Consumer 88	W18912	10279.90		10280.90	1.00	1.00
	Consumer 89	W18961	21104.10		21105.10	1.00	1.00
	Consumer 90	W35633	22095.40		22096.40	1.00	1.00
	Consumer 91	W18540	13002.50		13003.50	1.00	1.00
	Consumer 92	W18833	21403.60		21404.60	1.00	1.00
	Consumer 93	W18418	9660.40		9661.40	1.00	1.00
	Consumer 94	W18808	19979.70		19981.00	1.30	1.30
	Consumer 95	E85144	4602.20		4603.20	1.00	1.00
	Consumer 96	E88300	4995.70		4996.70	1.00	1.00
	Consumer 97	SC3578	3075.60		3076.80	1.20	1.20
	Consumer 98	SB2371	4749.60		4750.60	1.00	1.00
	Consumer 99	W18220	23534.70		23535.70	1.00	1.00
	Consumer 100	W18764	16147.80		16148.80	1.00	1.00
	Consumer 101	W18486	10052.60		10053.60	1.00	1.00
	Consumer 102	W18780	12029.40		12030.50	1.10	1.10
	Consumer 103	W18854	14672.90		14673.90	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 104	W18768	9327.60		9328.60	1.00	1.00
	Consumer 105	W17974	8825.40		8826.40	1.00	1.00
	Consumer 106	W18212	16672.40		16673.40	1.00	1.00
	Consumer 107	W18883	10236.40		10237.40	1.00	1.00
	Consumer 108	W18798	8945.30		8946.30	1.00	1.00
	Consumer 109	W18840	23902.90		23903.90	1.00	1.00
	Consumer 110	W19053	6718.80		6719.80	1.00	1.00
	Consumer 111	W18708	16183.10		16184.10	1.00	1.00
	Consumer 112	W18313	25206.30		25207.30	1.00	1.00
	Consumer 113	W18595	12376.50		12377.50	1.00	1.00
	Consumer 114	W35009	16345.90		16346.90	1.00	1.00
	Consumer 115	SB4193	9475.10		9475.10	0.00	0.00
	Consumer 116	W18891	26146.50		26147.50	1.00	1.00
	Consumer 117	W18536	9713.70		9713.70	0.00	0.00
	Consumer 118	W18868	11169.10		11169.90	0.80	0.80
	Consumer 119	W18771	8603.50		8604.50	1.00	1.00
	Consumer 120	W18676	3592.70		3593.70	1.00	1.00
	Consumer 121	W19039	16296.40		16298.00	1.60	1.60
	Consumer 122	W18795	16825.40		16826.40	1.00	1.00
	Consumer 123	W18902	14019.10		14020.10	1.00	1.00
	Consumer 124	W19038	14271.70		14272.70	1.00	1.00
	Consumer 125	W18916	10111.90		10112.90	1.00	1.00
	Consumer 126	E90419	6228.70		6230.00	1.30	1.30
	Consumer 127	W18714	14199.60		14201.00	1.40	1.40
	Consumer 128	W18769	17325.60		17326.60	1.00	1.00
	Consumer 129	W18775	11348.50		11349.50	1.00	1.00
	Consumer 130	E90703	10528.70		10529.70	1.00	1.00
	Consumer 131	E85517	11120.60		11121.60	1.00	1.00
	Consumer 132	W35103	19490.40		19491.40	1.00	1.00
	Consumer 133	E86666	4969.10		4970.20	1.10	1.10
	Consumer 134	W19045	15916.40		15917.40	1.00	1.00
	Consumer 135	E83559	23616.70		23617.70	1.00	1.00
	Consumer 136	W18741	19614.70		19615.70	1.00	1.00
	Consumer 137	W35176	13139.10		13140.40	1.30	1.30
	Consumer 138	W18816	23933.40		23934.40	1.00	1.00
	Consumer 139	CE5573	12128.40		12129.60	1.20	1.20

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 140	W18572	17445.50		17447.00	1.50	1.50
	Consumer 141	W35106	17217.60		17218.60	1.00	1.00
	Consumer 142	W18211	8248.80		8250.00	1.20	1.20
	Consumer 143	W18584	18360.40		18361.60	1.20	1.20
	Total					**49.90**	**142.94**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
17/08/2012	Rahim Nagar	Domestic	11353762	1944.74	1946.23	250	120	134.10	12.90%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
17/08/2012	Consumer 1	E82515	20805.30		20806.10	0.80	0.80
	Consumer 2	SC1035	5104.50		5105.10	0.60	0.60
	Consumer 3	L11996	3490.70		3491.40	0.70	0.70
	Consumer 4	E91613	5387.50		5388.50	1.00	1.00
	Consumer 5	W25539	13953.90		13954.20	0.30	0.30
	Consumer 6	W18011	17726.60		17727.80	1.20	1.20
	Consumer 7	W17723	15940.60		15941.60	1.00	1.00
	Consumer 8	W17689	19922.80		19923.50	0.70	0.70
	Consumer 9	W16887	6870.10		6871.00	0.90	0.90
	Consumer 10	SD4364	2246.30		2247.00	0.70	0.70
	Consumer 11	W17961	12358.70		12359.70	1.00	1.00
	Consumer 12	W17907	18903.40		18904.40	1.00	1.00
	Consumer 13	W18085		Damage meter		0.00	0.00
	Consumer 14	W35799	28010.60		28011.20	0.60	0.60
	Consumer 15	W17757	25165.10		25166.10	1.00	1.00
	Consumer 16	SC2260	5880.70		5881.70	1.00	1.00
	Consumer 17	W95390	16616.80		16617.20	0.40	0.40
	Consumer 18	E93159	4008.50		4009.00	0.50	0.50
	Consumer 19	WR2301	4399.60		4400.60	1.00	1.00
	Consumer 20	W59314	14021.10		14022.00	0.90	0.90
	Consumer 21	W35769	13077.20		13078.20	1.00	1.00
	Consumer 22	W17909	24807.60		24808.60	1.00	1.00
	Consumer 23	W19421		Damage meter		0.00	0.00
	Consumer 24	W16101	11341.80		11342.60	0.80	0.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 25	W17938	21478.90		21479.70	0.80	0.80
	Consumer 26	W17724	19907.60		19908.60	1.00	1.00
	Consumer 27	W18152	12665.50		12666.50	1.00	1.00
	Consumer 28	P08466	1086.40		1087.10	0.70	0.70
	Consumer 29	W18132	16043.40		16044.40	1.00	1.00
	Consumer 30	W17772	18536.70		18537.70	1.00	1.00
	Consumer 31	W18012	12633.60		12634.60	1.00	1.00
	Consumer 32	W35762	13728.40		13729.40	1.00	1.00
	Consumer 33	W35760	9632.50		9633.50	1.00	1.00
	Consumer 34	W18077	14425.90		14426.90	1.00	1.00
	Consumer 35	W18976	11188.60		11189.20	0.60	0.60
	Consumer 36	CE2850	11584.50		11585.30	0.80	0.80
	Consumer 37	W55737	18482.90		18483.90	1.00	1.00
	Consumer 38	W18081	8343.60		8343.90	0.30	0.30
	Consumer 39	W17714	13114.70		13115.10	0.40	0.40
	Consumer 40	RW0179	9572.10		9573.10	1.00	1.00
	Consumer 41	E88533	2089.70		2090.00	0.30	0.30
	Consumer 42	W87571	13094.70		13095.70	1.00	1.00
	Consumer 43	W18003	17221.60		17221.60	0.00	0.00
	Consumer 44	W17710	11759.30		11760.10	0.80	0.80
	Consumer 45	SE2347		Meter display damage		1.00	1.00
	Consumer 46	T14015		Damage meter		1.00	1.00
	Consumer 47	W17889	11158.80		11159.20	0.40	0.40
	Consumer 48	SB3639	4201.60		4202.60	1.00	1.00
	Consumer 49	SC0092	1659.70	Damage meter	1659.70	0.00	0.00
	Consumer 50	WR2068	10753.90		10754.60	0.70	0.70
	Consumer 51	W57806	9705.20		9706.20	1.00	1.00
	Consumer 52	WR3360	22116.10		22116.90	0.80	0.80
	Consumer 53	W59665	13952.60		13953.60	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 54	W17805	18086.50		18087.50	1.00	1.00
	Consumer 55	CE2927	6133.60		6133.90	0.30	0.30
	Consumer 56	W17914	8996.60		8996.90	0.30	0.30
	Consumer 57	E82857	17119.30		17120.30	1.00	1.00
	Consumer 58	W17736	8665.10		8665.90	0.80	0.80
	Consumer 59	W17677	12240.40		12241.40	1.00	1.00
	Consumer 60	W18091	7172.50		7173.00	0.50	0.50
	Consumer 61	E86114	6818.80		6819.80	1.00	1.00
	Consumer 62	E94808	3171.60		3172.60	1.00	1.00
	Consumer 63	W87038	11229.80		11230.50	0.70	0.70
	Consumer 64	WR7774	7158.30		7158.90	0.60	0.60
	Consumer 65	WR7778	6737.50		6738.50	1.00	1.00
	Consumer 66	WR8621	11575.50		11576.50	1.00	1.00
	Consumer 67	W18080	11644.90		11645.90	1.00	1.00
	Consumer 68	W18021	14948.60		14949.60	1.00	1.00
	Consumer 69	W18111	11219.10		11219.90	0.80	0.80
	Consumer 70	W17887	21385.40		21386.40	1.00	1.00
	Consumer 71	WR2031	14306.90		14307.70	0.80	0.80
	Consumer 72	WR2303	7622.10		7623.10	1.00	1.00
	Consumer 73	WR2299	5292.40		5292.90	0.50	0.50
	Consumer 74	W35365	26728.70		26729.70	1.00	1.00
	Consumer 75	W35800	13690.80		13691.80	1.00	1.00
	Consumer 76	W17843	14960.10		14961.10	1.00	1.00
	Consumer 77	W35713	18636.50		18637.00	0.50	0.50
	Consumer 78	C10194	16780.70		16781.70	1.00	1.00
	Consumer 79	W17708	21105.90		21106.90	1.00	1.00
	Consumer 80	RW1385	8530.10		8530.90	0.80	0.80
	Consumer 81	W87558	11694.60		11695.60	1.00	1.00
	Consumer 82	E82806	19235.80		19236.80	1.00	1.00
	Consumer 83	W17973	7970.10		7970.90	0.80	0.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 84	W17360	15581.50		15582.00	0.50	0.50
	Consumer 85	W17962	11331.60		11332.40	0.80	0.80
	Consumer 86	W18180	12675.90		12676.90	1.00	1.00
	Consumer 87	SD3645	2710.50		2711.00	0.50	0.50
	Consumer 88	SE3636	1599.70		1600.70	1.00	1.00
	Consumer 89	E85420	10801.30		10802.30	1.00	1.00
	Consumer 90	RW0178	5387.60		5388.60	1.00	1.00
	Consumer 91	WR1720	10176.60		10177.60	1.00	1.00
	Consumer 92	W17983	10450.30		10450.90	0.60	0.60
	Consumer 93	E82588	20651.40		20652.30	0.90	0.90
	Consumer 94	W18103	15369.70		15370.70	1.00	1.00
	Consumer 95	SE4567	1530.80	Damage meter	1530.80	0.00	0.00
	Consumer 96	SE0311		Damage meter		0.00	0.00
	Consumer 97	WR7384	7406.90	Damage meter	7406.90	0.00	0.00
	Consumer 98	WR4830		Damage meter		0.00	0.00
	Consumer 99	W35022	15611.10		15612.10	1.00	1.00
	Consumer 100	W18156	20753.40		20754.40	1.00	1.00
	Consumer 101	E82700	8890.70		8891.40	0.70	0.70
	Consumer 102	W18048	15459.30		15460.30	1.00	1.00
	Consumer 103	WR0466	6969.60		6970.30	0.70	0.70
	Consumer 104	W17718	11921.10		11922.00	0.90	0.90
	Consumer 105	W18073	8366.70		8367.70	1.00	1.00
	Consumer 106	W18083	14531.60		14532.60	1.00	1.00
	Consumer 107	SB1805	1283.70		1283.90	0.20	0.20
	Consumer 108	WR8960	25209.50		25210.00	0.50	0.50
	Consumer 109	W58003	15668.30		15668.90	0.60	0.60
	Consumer 110	W17912	14633.20		14634.20	1.00	1.00
	Consumer 111	W17692	16320.50		16321.20	0.70	0.70
	Consumer 112	W17845	20776.10		20777.10	1.00	1.00
	Consumer 113	W35803	13063.60		13063.90	0.30	0.30

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 114	E83265	18708.70		18709.70	1.00	1.00
	Consumer 115	SB1704	7416.90		7417.70	0.80	0.80
	Consumer 116	W96024	8798.60		8798.90	0.30	0.30
	Consumer 117	W97441	23059.10		23059.90	0.80	0.80
	Consumer 118	E88325	4199.70		4200.20	0.50	0.50
	Consumer 119	WR7770	10939.40		10940.40	1.00	1.00
	Consumer 120	E90298	7848.10		7849.00	0.90	0.90
	Consumer 121	WR4822	10763.20		10764.20	1.00	1.00
	Consumer 122	W18144	8853.60		8854.60	1.00	1.00
	Consumer 123	W17681	16137.80		16138.50	0.70	0.70
	Consumer 124	W18009	10945.90		10946.90	1.00	1.00
	Consumer 125	W18070	8541.40		8542.40	1.00	1.00
	Consumer 126	W18175	20081.70		20082.70	1.00	1.00
	Consumer 127	W18183	18162.10		18162.90	0.80	0.80
	Consumer 128	W16313	18102.60		18103.60	1.00	1.00
	Consumer 129	W18134	28774.40		28775.40	1.00	1.00
	Consumer 130	W16310	13598.50		13599.10	0.60	0.60
	Consumer 131	WR9394	6340.60		6341.20	0.60	0.60
	Consumer 132	WR9729	4154.80		4155.30	0.50	0.50
	Consumer 133	W18104	16643.60		16644.60	1.00	1.00
	Consumer 134	E83000	7731.90		7732.90	1.00	1.00
	Consumer 135	WR1828	12205.60		12206.60	1.00	1.00
	Consumer 136	W18027	8121.60		8121.90	0.30	0.30
	Consumer 137	CE0319	30130.10		30130.90	0.80	0.80
	Consumer 138	W17725	18068.40		18069.40	1.00	1.00
	Consumer 139	W18169	18287.70		18288.50	0.80	0.80
	Consumer 140	W18082	20084.90		20085.60	0.70	0.70
	Consumer 141	E83994	9990.70		9991.50	0.80	0.80
	Consumer 142	W35849	5625.60		5626.00	0.40	0.40
	Consumer 143	E90388	6879.70		6880.40	0.70	0.70

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 144	W86294	10610.10		10611.10	1.00	1.00
	Consumer 145	E87824	1715.50		1716.00	0.50	0.50
	Consumer 146	RW0163		Damage meter		0.00	0.00
	Consumer 147	CE0172	10348.50		10350.00	1.50	1.50
	Consumer 148	SC2711	5707.30		5708.30	1.00	1.00
	Consumer 149	U03520	12999.70		12999.70	0.00	0.00
	Consumer 150	W19301	20243.50		20244.50	1.00	1.00
	Consumer 151	W19275	9385.60		9386.60	1.00	1.00
	Consumer 152	W19922	6172.10		6172.90	0.80	0.80
	Consumer 153	W19220	3899.80		3899.90	0.10	0.10
	Consumer 154	E90200	11129.10		11130.00	0.90	0.90
	Total					**122.8**	**122.8**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
18/08/2012	Rahim Nagar	Domestic	11353554	1274.05	1275.03	250	100	98.00	24.39%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
18/08/2012	Consumer 1	WR5381	7599.20		7600.00	0.80	0.80
	Consumer 2	WR6980	2639.50		2640.50	1.00	1.00
	Consumer 3	WR8242	16701.60		16702.60	1.00	1.00
	Consumer 4	W37811	5604.90		5605.60	0.70	0.70
	Consumer 5	CE0634	4903.50		4904.00	0.50	0.50
	Consumer 6	W92865	4582.50		4583.30	0.80	0.80
	Consumer 7	WR3501	7693.70		7694.70	1.00	1.00
	Consumer 8	WR7452	15794.10		15795.10	1.00	1.00
	Consumer 9	W37681	4626.70		4626.70	0.00	0.00
	Consumer 10	W37281	25816.20		25816.90	0.70	0.70
	Consumer 11			Closed		0.00	0.00
	Consumer 12	C12407	6899.60		6900.10	0.50	0.50
	Consumer 13	E81462	14130.10		14131.10	1.00	1.00
	Consumer 14	WR9139	9672.40		9672.90	0.50	0.50
	Consumer 15	WR5469	7389.80		7390.50	0.70	0.70
	Consumer 16			Closed		0.00	0.00
	Consumer 17	W37233	12542.90		12543.80	0.90	0.90
	Consumer 18	SB2303	3178.10		3178.90	0.80	0.80
	Consumer 19	E87053	4704.70		4705.40	0.70	0.70
	Consumer 20	W37491	15211.60		15212.60	1.00	1.00
	Consumer 21	I04790	3435.50		3436.00	0.50	0.50
	Consumer 22	I02892	28445.80		28446.60	0.80	0.80
	Consumer 23	E81463	9172.40		9173.00	0.60	0.60
	Consumer 24	T15351	15467.10		15468.00	0.90	0.90
	Consumer 25	C12291	7191.90		7192.40	0.50	0.50
	Consumer 26	T25586	5053.70		5054.70	1.00	1.00
	Consumer 27	E86648	2980.70		2981.00	0.30	0.30
	Consumer 28	E89553	7612.80		7613.80	1.00	1.00
	Consumer 29	W92397	6216.70		6217.20	0.50	0.50
	Consumer 30	W58925	5622.90		5623.90	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 31	WR5714	3410.10		3410.90	0.80	0.80
	Consumer 32	WR1874	4464.30		4464.90	0.60	0.60
	Consumer 33	I02170	18624.50		18625.50	1.00	1.00
	Consumer 34	E93337	4591.10		4591.90	0.80	0.80
	Consumer 35	T18339	4690.60		4691.30	0.70	0.70
	Consumer 36	LC3537	24395.60		24396.60	1.00	1.00
	Consumer 37	E93688	1212.10		1212.90	0.80	0.80
	Consumer 38			Damage meter		0.00	0.00
	Consumer 39			Damage meter		0.00	0.00
	Consumer 40	CE0409	5672.80		5673.80	1.00	1.00
	Consumer 41	E81008	5205.10		5205.90	0.80	0.80
	Consumer 42	E86651	1080.70		1081.60	0.90	0.90
	Consumer 43	E93867	5259.10		5259.80	0.70	0.70
	Consumer 44	SA0697	8875.70		8876.60	0.90	0.90
	Consumer 45	WR8875	5339.80		5340.40	0.60	0.60
	Consumer 46	WR2771	11899.80		11900.20	0.40	0.40
	Consumer 47	SC3808	29861.30		29862.30	1.00	1.00
	Consumer 48	WR1870	5219.70		5220.50	0.80	0.80
	Consumer 49	W85143	3289.80		3290.40	0.60	0.60
	Consumer 50	W56308	8172.10		8173.00	0.90	0.90
	Consumer 51	LB5959	4578.40		4579.20	0.80	0.80
	Consumer 52	LB1461	6133.60		6134.00	0.40	0.40
	Consumer 53	I10911	10481.50		10482.00	0.50	0.50
	Consumer 54	CE5079	7609.70		7610.00	0.30	0.30
	Consumer 55	SE1981	1123.50		1124.10	0.60	0.60
	Consumer 56	W84194	3100.60		3101.00	0.40	0.40
	Consumer 57	W37416	56490.70		56491.50	0.80	0.80
	Consumer 58	W37285	20635.30		20636.30	1.00	1.00
	Consumer 59	I06732	21573.30		21574.30	1.00	1.00
	Consumer 60	T22948	18530.70		18531.30	0.60	0.60
	Consumer 61	SD3079	2254.60		2254.60	0.00	0.00
	Consumer 62	WR7461	20415.70		20416.50	0.80	0.80
	Consumer 63	W88572	8732.90		8733.30	0.40	0.40
	Consumer 64	T17424	8885.10		8885.90	0.80	0.80
	Consumer 65	SE2572	2200.90		2201.20	0.30	0.30
	Consumer 66	W37069	3474.70		3475.50	0.80	0.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 67	W88571	7838.60		7838.90	0.30	0.30
	Consumer 68	W57428	8219.30		8219.90	0.60	0.60
	Consumer 69	T26409	8130.80		8130.80	0.00	0.00
	Consumer 70	CS2711	1610.70		1611.70	1.00	1.00
	Consumer 71	CE0275	13470.50		13470.50	0.00	0.00
	Consumer 72	SC0246	1300.80		1300.90	0.10	0.10
	Consumer 73	SC1828	1580.30		1581.30	1.00	1.00
	Consumer 74	E92443	10143.60		10145.60	2.00	2.00
	Consumer 75	W37066	26029.80		26030.80	1.00	1.00
	Consumer 76	W91249	6062.80		6063.50	0.70	0.70
	Consumer 77	WR4627	5175.60		5175.90	0.30	0.30
	Consumer 78	WR7675	9635.70		9636.70	1.00	1.00
	Consumer 79	SD2486	1952.10		1952.90	0.80	0.80
	Consumer 80	WR1099	13337.30		13338.30	1.00	1.00
	Consumer 81	E03537	3988.40		3988.80	0.40	0.40
	Consumer 82	W88374	14490.70		14491.70	1.00	1.00
	Consumer 83	WR9211	7021.80		7022.30	0.50	0.50
	Consumer 84	W37721	10164.10		10165.00	0.90	0.90
	Consumer 85	I09152	10866.70		10867.30	0.60	0.60
	Consumer 86	E89158	1700.80		1701.00	0.20	0.20
	Consumer 87	SA2889	5210.90		5211.50	0.60	0.60
	Consumer 88			Closed		0.00	0.00
	Consumer 89	WR6893	3667.80		3668.70	0.90	0.90
	Consumer 90	WR7435	4927.70		4928.70	1.00	1.00
	Consumer 91	W88369	10761.10		10761.90	0.80	0.80
	Consumer 92	E85518	2588.30		2588.70	0.40	0.40
	Consumer 93	E86826	3531.50		3531.60	0.10	0.10
	Consumer 94	E88613	1365.50		1365.90	0.40	0.40
	Consumer 95	W37286	11458.40		11458.90	0.50	0.50
	Consumer 96	R00264	5346.80		5346.80	0.00	0.00
	Consumer 97	SD3308	1896.90		1897.20	0.30	0.30
	Consumer 98	W86582	11953.60		11954.60	1.00	1.00
	Consumer 99	W85101	13322.50		13323.50	1.00	1.00
	Consumer 100	W56514	24009.90		24010.10	0.20	0.20
	Consumer 101	E95089	3079.70		3080.40	0.70	0.70
	Consumer 102	E88561	5096.10		5096.90	0.80	0.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 103	SD3026	2431.10		2431.90	0.80	0.80
	Consumer 104	SE1578	1269.10		1269.80	0.70	0.70
	Consumer 105	T22560	8399.70		8400.20	0.50	0.50
	Consumer 106	W89589	1033.10		1033.70	0.60	0.60
	Consumer 107	WR5374	5391.30		5392.30	1.00	1.00
	Consumer 108	W37809	5458.70		5459.40	0.70	0.70
	Consumer 109	W37562	10267.90		10268.30	0.40	0.40
	Consumer 110			Burnt meter		0.00	0.00
	Consumer 111	U48091	2023.10		2023.90	0.80	0.80
	Consumer 112	I09156	6560.40		6561.20	0.80	0.80
	Consumer 113	SC3951	2660.50		2661.00	0.50	0.50
	Consumer 114	E93677	5154.50		5155.20	0.70	0.70
	Total					**74.10**	**74.10**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
20/08/2012	Rahim Nagar	Domestic	11352804	1327.60	1328.80	100	50	60.00	16.00%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
20/08/2012	Consumer 1	WR5372	24750.10		24750.90	0.80	0.80
	Consumer 2	W88583	13118.70		13119.50	0.80	0.80
	Consumer 3	W37277	9862.20		9862.90	0.70	0.70
	Consumer 4	WR4617	2399.90		2400.10	0.20	0.20
	Consumer 5	W85914	14093.60		14094.60	1.00	1.00
	Consumer 6	WR8231	9522.70		9523.70	1.00	1.00
	Consumer 7	W37113	19253.10		19253.90	0.80	0.80
	Consumer 8	W37490	13999.40		13999.90	0.50	0.50
	Consumer 9	W36876	12400.10		12400.90	0.80	0.80
	Consumer 10	W36722	16013.80		16014.20	0.40	0.40
	Consumer 11	W36756	11064.90		11065.30	0.40	0.40
	Consumer 12			Damaged meter		0.00	0.00
	Consumer 13	W59607	6600.10		6600.90	0.80	0.80
	Consumer 14	W85545	4321.30		4321.80	0.50	0.50
	Consumer 15	W88081	15415.60		15416.60	1.00	1.00
	Consumer 16	W88575	4974.80		4975.80	1.00	1.00
	Consumer 17	E33232	13593.10		13593.90	0.80	0.80
	Consumer 18	C11602	4169.60		4170.30	0.70	0.70
	Consumer 19	W37896	15621.10		15621.90	0.80	0.80
	Consumer 20	WR3539	14814.50		14814.50	0.00	0.00
	Consumer 21	W36198	10558.90		10559.40	0.50	0.50
	Consumer 22	W37208	17370.20		17371.20	1.00	1.00
	Consumer 23	W37193	11728.40		11729.40	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 24	W36822	13882.70		13883.70	1.00	1.00
	Consumer 25	W37451	12674.80		12675.80	1.00	1.00
	Consumer 26	W37169	5669.70		5670.70	1.00	1.00
	Consumer 27	CE5730	8487.10		8487.80	0.70	0.70
	Consumer 28	W36213	7130.60		7130.90	0.30	0.30
	Consumer 29	W36832	30850.20		30851.20	1.00	1.00
	Consumer 30	T06806	15478.40		15478.90	0.50	0.50
	Consumer 31	CE2866	15949.10		15949.80	0.70	0.70
	Consumer 32	SB4053	5072.60		5073.60	1.00	1.00
	Consumer 33	WR5296	7942.70		7943.40	0.70	0.70
	Consumer 34	W36805	19584.50		19585.50	1.00	1.00
	Consumer 35	W37191	10582.60		10583.60	1.00	1.00
	Consumer 36	WR0689	5636.70		5637.70	1.00	1.00
	Consumer 37	SC1438	2520.60		2520.90	0.30	0.30
	Consumer 38	SA0636	2911.10		2911.90	0.80	0.80
	Consumer 39	E89824	12448.90		12449.90	1.00	1.00
	Consumer 40	SD4425	2001.70		2002.40	0.70	0.70
	Consumer 41	E90101	2347.80		2348.70	0.90	0.90
	Consumer 42	E95081	3280.90		3281.60	0.70	0.70
	Consumer 43	SA0625	2672.10		2672.70	0.60	0.60
	Consumer 44	SA2377	4765.90		4766.90	1.00	1.00
	Consumer 45	W96186	5578.70		5579.60	0.90	0.90
	Consumer 46	W37573	13910.10		13911.50	1.40	1.40
	Consumer 47	WR0423	8652.90		8653.90	1.00	1.00
	Consumer 48	C11178	11535.70		11536.60	0.90	0.90
	Consumer 49	W37052	7521.30		7521.90	0.60	0.60
	Consumer 50	W37353	8742.70		8743.70	1.00	1.00
	Consumer 51	WR1201	18990.80		18991.80	1.00	1.00
	Consumer 52	IO6890	14415.70		14416.70	1.00	1.00
	Consumer 53	W37382	15087.50		15088.50	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 54	W36887	8312.60		8313.60	1.00	1.00
	Consumer 55	W37471	8904.20		8904.90	0.70	0.70
	Consumer 56	W37633	3321.10		3321.90	0.80	0.80
	Consumer 57	W36460	7657.80		7658.80	1.00	1.00
	Consumer 58	W36217	12465.60		12466.60	1.00	1.00
	Consumer 59	W36728	10893.50		10894.00	0.50	0.50
	Consumer 60	W36857	14585.70		14586.70	1.00	1.00
	Consumer 61	W37048	17119.60		17119.80	0.20	0.20
	Consumer 62	W37726	19849.70		19850.50	0.80	0.80
	Consumer 63	SE2074	2453.50		2454.00	0.50	0.50
	Consumer 64	E80354	14185.30		14185.90	0.60	0.60
	Consumer 65			Display damage		0.00	0.00
	Consumer 66	SB0299	1398.60		1398.90	0.30	0.30
	Consumer 67	W96256	6702.40		6703.20	0.80	0.80
	Total					**50.40**	**50.40**

Date	Location	Type	DT No.	1st read	2nd read	Capacity (kVA)	MF (DF)	Difference *MF	Energy Loss
21/08/2012	Rahim Nagar	Domestic	11354161	1792.20	1793.60	100	50	60.00	16.00%

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
21/08/2012	Consumer 1	SC0683	2405.10		2405.90	0.80	0.80
	Consumer 2	W56435	11154.70		11155.70	1.00	1.00
	Consumer 3	E92824	2521.30		2521.80	0.50	0.50
	Consumer 4	SC2576	2642.60		2643.60	1.00	1.00
	Consumer 5	SC2542	2739.90		2740.20	0.30	0.30
	Consumer 6	SC0043	4564.40		4565.30	0.90	0.90
	Consumer 7	SC1264	3380.10		3380.90	0.80	0.80
	Consumer 8	SC1848	2391.60		2392.60	1.00	1.00
	Consumer 9	SC3037	2899.90		2900.70	0.80	0.80
	Consumer 10	SC2945	2698.80		2699.30	0.50	0.50
	Consumer 11	SC4097	2585.60		2586.60	1.00	1.00
	Consumer 12	SC2552	3534.90		3535.00	0.10	0.10
	Consumer 13	SC2153	1240.70		1240.90	0.20	0.20
	Consumer 14	SD1832	2103.40		2104.80	1.40	1.40
	Consumer 15	SE1304	2050.80		2051.20	0.40	0.40
	Consumer 16	SE1270	1323.90		1324.60	0.70	0.70
	Consumer 17	SE0852	3100.80		3101.80	1.00	1.00
	Consumer 18	SC4060	9546.00		9546.90	0.90	0.90
	Consumer 19	SD4590	2424.80		2425.50	0.70	0.70
	Consumer 20	SD4580	12165.50		12166.00	0.50	0.50
	Consumer 21	SE1292	2650.90		2651.20	0.30	0.30
	Consumer 22	SE4391	2400.30		2401.00	0.70	0.70
	Consumer 23	SE2891	1071.60		1072.60	1.00	1.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 24	SE4424	2163.80	Defective meter	2163.80	0.00	0.00
	Consumer 25	SD0088	2115.70		2116.30	0.60	0.60
	Consumer 26	SE4471	1120.80		1121.80	1.00	1.00
	Consumer 27	SE4175	1075.80		1075.80	0.00	0.00
	Consumer 28	SE0453	1235.50		1236.00	0.50	0.50
	Consumer 29	SE4103	3200.10		3200.90	0.80	0.80
	Consumer 30	SE3032	2443.40		2444.40	1.00	1.00
	Consumer 31	SE0817	5176.80		5177.80	1.00	1.00
	Consumer 32	SE2435	2450.90		2451.90	1.00	1.00
	Consumer 33	SE2464	1351.60		1352.60	1.00	1.00
	Consumer 34	SE4432	1623.70		1624.70	1.00	1.00
	Consumer 35	SE4174	1450.90		1451.90	1.00	1.00
	Consumer 36	SE3672	1328.40		1328.90	0.50	0.50
	Consumer 37	SEO859	2180.60		2180.90	0.30	0.30
	Consumer 38	SE4607	1350.50		1351.00	0.50	0.50
	Consumer 39	SE4486	2110.70		2111.70	1.00	1.00
	Consumer 40	SE3696	2180.70		2181.70	1.00	1.00
	Consumer 41	E82342	8136.80		8137.80	1.00	1.00
	Consumer 42	WR3038	12641.80		12642.60	0.80	0.80
	Consumer 43	I05301	12770.40		12771.00	0.60	0.60
	Consumer 44			Connection not in used		0.00	0.00
	Consumer 45			Connection not in used		0.00	0.00
	Consumer 46	W85352	5006.70		5007.60	0.90	0.90
	Consumer 47	CM0132	4266.50		4267.40	0.90	0.90
	Consumer 48	T12161	10518.70		10519.70	1.00	1.00
	Consumer 49	CE2614	8180.50		8181.40	0.90	0.90
	Consumer 50	DR0033	6206.90		6206.90	0.00	0.00

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 51	W56654	15756.10		15756.90	0.80	0.80
	Consumer 52			Damage meter		0.00	0.80
	Consumer 53	CE5395	9678.10		9678.80	0.70	0.70
	Consumer 54	CE5402	5791.20		5792.20	1.00	1.00
	Consumer 55			Damage display		0.00	1.00
	Consumer 56	E83713	7188.60		7189.60	1.00	1.00
	Consumer 57	W56747	11477.20		11478.20	1.00	1.00
	Consumer 58	T12543	3050.60		3051.60	1.00	1.00
	Consumer 59	W85495	8513.80		8514.80	1.00	1.00
	Consumer 60	T34267	19108.40		19109.40	1.00	1.00
	Consumer 61	WR1990	7160.30		7161.10	0.80	0.80
	Consumer 62			Damage display		0.00	1.00
	Consumer 63	W85104	6899.70		6900.20	0.50	0.50
	Consumer 64	WR2091	4423.70		4424.60	0.90	0.90
	Consumer 65	W85768	10487.80		10488.80	1.00	1.00
	Consumer 66			Damage display		0.00	1.00
	Consumer 67	E88027	12240.20		12241.20	1.00	1.00
	Consumer 68	E83225	7851.40		7851.90	0.50	0.50
	Consumer 69	C11064	7940.10		7941.10	1.00	1.00
	Consumer 70	W37964	8789.80		8789.80	0.00	0.00
	Consumer 71	W56170	10259.50		10260.50	1.00	1.00
	Consumer 72			Damage display		0.00	1.00
	Consumer 73			Damage display		0.00	1.00
	Consumer 74	WR0643	17172.90		17173.90	1.00	1.00
	Consumer 75	WR3259	8410.70		8411.70	1.00	1.00
	Consumer 76	LA3610	2367.10		2367.90	0.80	0.80

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 77	W56218	11850.60		11851.60	1.00	1.00
	Consumer 78	T17849	6432.70		6433.70	1.00	1.00
	Consumer 79	W86100	10088.70		10089.70	1.00	1.00
	Consumer 80	W07414	14082.60		14083.20	0.60	0.60
	Consumer 81	LB5536	10999.70		10999.90	0.20	0.20
	Consumer 82	CS0455	8030.40		8031.40	1.00	1.00
	Consumer 83	W89403	4893.80		4894.80	1.00	1.00
	Consumer 84	WR7710	9993.20		9993.90	0.70	0.70
	Consumer 85	SR5757	1043.70		1044.70	1.00	1.00
	Consumer 86	WR4398	11662.90		11662.90	0.00	0.00
	Consumer 87	WR4529	7305.60		7306.60	1.00	1.00
	Consumer 88	WR5988	3795.70		3796.70	1.00	1.00
	Consumer 89	WR4924	9633.50		9634.00	0.50	0.50
	Consumer 90	W96580	6458.50		6459.20	0.70	0.70
	Consumer 91	W88753	5471.10		5471.90	0.80	0.80
	Consumer 92	W96525	13009.60		13010.60	1.00	1.00
	Consumer 93	W86573	4972.40		4973.40	1.00	1.00
	Consumer 94	E84720	6184.60		6185.60	1.00	1.00
	Consumer 95	WQ6584	5362.90		5363.90	1.00	1.00
	Consumer 96	W98155	3681.10		3681.90	0.80	0.80
	Consumer 97	E85131	4290.40		4291.40	1.00	1.00
	Consumer 98	W58561	7825.60		7826.60	1.00	1.00
	Consumer 99	E88765	2215.70		2216.70	1.00	1.00
	Consumer 100	WR2239	10848.90		10848.90	0.00	0.00
	Consumer 101	W59412	13299.40		13300.00	0.60	0.60
	Consumer 102	E91421	6568.70		6569.70	1.00	1.00
	Consumer 103	W56628	13755.50		13756.50	1.00	1.00
	Consumer 104	E85830	5450.20		5451.20	1.00	1.00
	Consumer 105	E30015	3006.60		3007.60	1.00	1.00
	Consumer 106	E94178	3515.50		3516.00	0.50	0.50

Date	Consumer name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
	Consumer 107	E94198	7747.40		7748.40	1.00	1.00
	Consumer 108	RW0393	7898.80		7899.60	0.80	0.80
	Consumer 109	SA2615	3415.10		3415.90	0.80	0.80
	Consumer 110	SA0824	2496.80		2497.70	0.90	0.90
	Consumer 111	SA0151	2584.90		2585.90	1.00	1.00
	Consumer 112	SB0019	1043.80		1044.80	1.00	1.00
	Consumer 113	W87620	6280.00		6280.80	0.80	0.80
	Consumer 114	SB0491	2321.90		2322.40	0.50	0.50
	Consumer 115	WR6368	3588.60		3589.60	1.00	1.00
	Consumer 116	SB4055	2352.40		2353.40	1.00	1.00
	Consumer 117	SB3944	2636.80		2637.70	0.90	0.90
	Consumer 118	SB2825	2390.80		2391.00	0.20	0.20
	Consumer 119	SB2853	2713.30		2714.30	1.00	1.00
	Consumer 120	SB4439	1885.90		1886.60	0.70	0.70
	Consumer 121	SC4366	2702.60		2702.90	0.30	0.30
	Consumer 122	SD4373	2592.60		2593.60	1.00	1.00
	Consumer 123	SE0115	3150.90		3151.90	1.00	1.00
	Consumer 124	SC0610	5818.40		5819.40	1.00	1.00
	Consumer 125	SD3270	2104.50		2105.00	0.50	0.50
	Consumer 126	SD2580	2008.30		2009.20	0.90	0.90
	Consumer 127	SE0475	3126.70		3126.90	0.20	0.20
	Consumer 128	SD4902	1850.10		1850.90	0.80	0.80
	Consumer 129	SD1674	4466.70		4467.40	0.70	0.70
	Total					**94.20**	**100.00**

Commercial DTs

Sl. No	Type	DT No.	1st read	2nd read	Difference	DT Capacity (kVA)	MF	Difference * MF	Losses
1	Commercial	11353781	14.22	15.1	0.88	25	40	35.20	0.57%

Sl. No	Consumer Name	1st read	2nd read	Difference	Meter No.	MF	Difference * MF
1	Idea Tower	29796	29801	5	PX2642	7	35.00

Sl. No	Type	DT NO.	1st read	2nd read	Difference	DT Capacity (kVA)	MF	Difference * MF	Losses
2	Commercial	11352861	22.76	22.96	0.20	25	40	8.00	0.00%

Sl. No	Consumer Name	1st read	2nd read	Difference	Meter No.	MF	Difference * MF
2	Tower Vision	17221.7	17221.8	0.1	PX4439	80	8.00

Sl. No	Type	DT No.	1st read	2nd read	Difference	DT Capacity (kVA)	MF	Difference * MF	Losses
3	Commercial	11354160	26.03	27.9	1.87	25 KVA	40	74.80	1.07%

Sl. No	Consumer Name	1st read	2nd read	Difference	Meter No.	MF	Difference * MF
3	Idea Tower	137195	137232	37	UMV17330	2	74.00

Sl. No	Type	Feeder name	1st read	2nd read	Difference	MF	Difference * MF	Losses
4	Commercial	Biotech Feeder	11895.40	11908.40	13.00	60	780.00	1.44%

Sl. No	Consumer Name	1st read	2nd read	Difference	Meter No.	MF	Difference * MF
4	Biotech Park	252471.60	252567.70	96.10	HT0118	8	768.80

Sl. No	Type	Feeder name	1st read	2nd read	Difference	MF	Difference * MF	Losses
5	Commercial	CISH Feeder	13868.8	13871.1	2.3	15	34.50	1.74%

Sl. No	Consumer Name	1st read	2nd read	Difference	Meter No.	MF	Consumption
5	Horticulture Institute	287398.6	287432.5	33.9	HT5076	1	33.90

Industrial DTs

Sl. No	Type	DT name	1st read	2nd read	Difference	Losses
1	Industrial	JMP	116505.90	126223.59	9717.69	0.22%

Sl. No.	Industry	1st read	2nd read	Difference	MF*	Difference * MF
1	JMP Flour Mill	831018.9	831059.3	40.4	240	9696

*DT Capacity of the industry is 600 kVA

Sl. No	Type	DT name	1st read	2nd read	Difference	MF	Difference * MF	Losses
2	Industrial	United Steels	34638.40	34649.90	11.50	240	2760.00	0.35%

Sl. No.	Industry	1st read	2nd read	Difference	MF	Difference * MF
2	United Rolling Mill	14753.60	16021.10	1267.50	2	2750.48

Sl. No	Type	DT name	1st read	2nd read	Difference	MF	Difference * MF	Losses
3	Industrial	Sheran Wali	200.24	201.09	0.85	300	255.00	0.39%

Sl. No.	Industry	1st read	2nd read	Difference	MF	Difference * MF
3	Rolling Mill	392509.20	392763.20	254.00	1	254

Sl. No	Type	DT name	1st read	2nd read	Difference	MF	Difference * MF	Losses
4	Industry	Industrial 4	1817.26	1817.70	0.44	550	242	0.21%

Sl. No.	Industry	1st read	2nd read	Difference	MF	Difference * MF
4	Industry	392058.90	392107.20	48.30	5	241.50

Sl. No	Type	DT name	1st read	2nd read	Difference	MF	Difference * MF	Losses
5	Industry	Continental Industry	7471.00	7477.00	6.00	40	240.00	2.1%

Sl. No.	Industry	1st read	2nd read	Difference	MF	Difference * MF
5	Continental	5077.00	5082.00	5.00	47	235.00

4.4 LT survey – EDC Varanasi

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
1/08/2012	Mahmoorganj	Domestic	N/A	1859.01	1860.02	250	120	121.20	37.64%

Date	Consumer Name	Meter No.	1st read	Remarks	2nd read	Difference
1/08/2012	Consumer 1	IEQ-5211	165747.10		165752.40	5.30
	Consumer 2	9725	163309.40		163314.70	5.30
	Consumer 3	2E-9695	6422.10		6422.80	0.70
	Consumer 4	H.NO.-34	0.00	Closed	0.00	0.00
	Consumer 5	2EQ-1982	20787.50	Defective meter	20787.70	0.20
	Consumer 6	2EQ-2606	10126.09		10126.79	0.70
	Consumer 7	307001007	7685.53		7687.34	1.81
	Consumer 8	2EQ-4817	14232.80		14233.70	0.90
	Consumer 9	H.NO.-61-B	0.00	Closed	0.00	0.00
	Consumer 10	2EQ-2938	7012.40		7013.41	1.01
	Consumer 11	2E-7359	12029.80		12031.90	2.10
	Consumer 12	2E-2671	1479.05		1480.09	1.04
	Consumer 13	2E-30692	5848.00		5850.00	2.00
	Consumer 14	80347	9993.40		9995.60	2.20
	Consumer 15	SC-226197	65662.70		65663.30	0.60
	Consumer 16	Ma Janki house	0.00	Meter Gate Locked	0.00	0.00
	Consumer 17	2E-28016	3908.20		3910.12	1.92
	Consumer 18	2E-31143	722.99		724.30	1.31
	Consumer 19	Sai Baba Apartment	0.00	Meter Gate Locked	0.00	0.00
	Consumer 20	2EQ-2347	89991.07		89994.38	3.31
	Consumer 21	Suraksh Aavash	0.00	Closed	0.00	0.00
	Consumer 22	2E-31824	6148.00		6149.14	1.14
	Consumer 23	Mohan Lal Singh	0.00	Closed	0.00	0.00
	Consumer 24	IVAS-431	0.00	Closed	0.00	0.00
	Consumer 25	2EQ-2667	12318.47		12319.65	1.18
	Consumer 26	D64/68A-KA	0.00	Closed	0.00	0.00
	Consumer 27	2E-29024	2370.10		2371.20	1.10
	Consumer 28	D58/143A-551	0.00	Closed	0.00	0.00

Date	Consumer Name	Meter No.	1st read	Remarks	2nd read	Difference
	Consumer 29	2E-4596	5451.00		5453.00	2.00
	Consumer 30	D64/53C-IK	0.00	Closed	0.00	0.00
	Consumer 31	D64/52-09	0.00	Departmental staff	0.00	0.00
	Consumer 32	2EQ-2357	37346.69		37347.00	0.31
	Consumer 33	2EQ-24574	11735.20	Defective meter	11735.30	0.10
	Consumer 34	P-063869	8488.25		8488.60	0.35
	Consumer 35	2E-19397	2696.70	Defective meter	2696.80	0.10
	Consumer 36	2EQ-5284	1893.22		1894.72	1.50
	Consumer 37	2E-31997	3646.00	Defective meter	3646.10	0.10
	Consumer 38	2E-17839	0.00	Defective meter	0.00	0.00
	Consumer 39	2EQ-4663	1119366.00		1119371.00	5.00
	Consumer 40	2EQ-5197	20798.00		20801.00	3.00
	Consumer 41	2E-21002	2995.50		3000.10	4.60
	Consumer 42	SCV-0-E1728	113261.50		113265.60	4.10
	Consumer 43	2EQ-2856	7131.20		7133.10	1.90
	Consumer 44	2EQ-2860	5501.20		5504.30	3.10
	Consumer 45	2E-31631	6898.50		6899.00	0.50
	Consumer 46	41-S.R.N. (L.L.Gupta)	0.00	Closed	0.00	0.00
	Consumer 47	SC-101970	18861.60	Defective meter	18861.90	0.30
	Consumer 48	BLO/0995/271A	0.00	Closed	0.00	0.00
	Consumer 49	2E-27506	5523.60		5525.70	2.10
	Consumer 50	PVAS/1091	0.00	Closed	0.00	0.00
	Consumer 51	2EQ-5076	36526.00		36531.00	5.00
	Consumer 52	PVAS/56	13369.74		13371.74	2.00
	Consumer 53	2E-27255	589.53		591.41	1.88
	Consumer 54	Prabha Nivas	0.00	Closed	0.00	0.00
	Consumer 55	2EQ-5116	29103.10		29106.10	3.00
	Consumer 56	2EQ-2337	13369.74	Defective meter	13370.15	0.41
	Consumer 57	PC Perculive Pvt. Ltd	0.00	Closed	0.00	0.00
	Consumer 58	2EQ-2337	13369.74	Defective meter	13370.15	0.41
		Total	**2083716.71**		**2083792.29**	**75.58**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
2/08/2012	Near Urvashi Complex , Sigra	Domestic	UPE-62935	1719.3	1719.8	240	120	60.00	27.67%

Date	Consumer Name	Meter No.	1st read	Remarks	2nd read	Difference	Consumption (kWh)
2/08/2012	Consumer 1	2EQ-2645	8847.10		8848.90	1.80	1.80
	Consumer 2	2EQ-667	937.60		938.90	1.30	1.30
	Consumer 3	3EQ-1740	8880.70		8890.60	9.90	9.90
	Consumer 4	2EQ-2648	22756.46		22758.60	2.14	2.14
	Consumer 5	3EQ-1551	17986.20		17987.70	1.50	1.50
	Consumer 6	2EQ-2663	16409.20		16409.70	0.50	0.50
	Consumer 7	2EQ-3536	8939.20		8939.90	0.70	0.70
	Consumer 8	3EQ-1738	51910.00		51911.70	1.70	1.70
	Consumer 9	2EQ-2652	19688.57		19688.99	0.42	0.42
	Consumer 10	2EQ-2661	6008.93		6010.94	2.01	2.01
	Consumer 11	2EQ-2649	17369.64		17371.99	2.35	2.35
	Consumer 12	2EQ-2663	2511.57		2513.47	1.90	1.90
	Consumer 13	2EQ-2666	1293.74		1295.75	2.01	2.01
	Consumer 14	2EQ-2641	1361.45		1363.61	2.16	2.16
	Consumer 15	2EQ-2644	22360.59		22362.24	1.65	1.65
	Consumer 16	DTS-22A-4	21726.80		21728.90	2.10	2.10
	Consumer 17	2EQ-2665	21046.10		21048.20	2.10	2.10
	Consumer 18	2EQ-2642	2519.12		2520.17	1.05	1.05
	Consumer 19	2EQ-4446	27145.00		27146.00	1.00	1.00
	Consumer 20	2EQ-4909	3345.00		3348.00	3.00	3.00
	Consumer 21	2EQ-2661	13076.61		13078.72	2.11	2.11
		Total	**296119.58**		**296162.98**	**43.40**	**43.40**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
3/08/2012	Kamakhya	Domestic	480397	1162.53	1163.12	240	120	70.80	30.55%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
3/08/2012	Consumer 1	1EQ-3083	9300.20		9302.30	2.10
	Consumer 2	1EQ-4775	6445.10		6446.90	1.80
	Consumer 3	IE-43768	2765.00		2766.00	1.00
	Consumer 4	1EQ-7021	9888.63		9889.52	0.89
	Consumer 5	1EQ-2957	0.00	Defective meter	0.00	0.00
	Consumer 6	1EQ-7874	1741.20		1742.30	1.10
	Consumer 7	1E-43763	5381.00		5382.00	1.00
	Consumer 8	1E-39592	1519.00		1520.00	1.00
	Consumer 9	1E-39590	2133.00		2135.00	2.00
	Consumer 10	1E-43766	1217.00		1219.00	2.00
	Consumer 11	1E-4776	9300.20		9300.90	0.70
	Consumer 12	1EQ-6309	361.20		363.40	2.20
	Consumer 13	10045834	5499.00	Defective meter	5499.00	0.00
	Consumer 14	1EQ-6301	1117.00		1118.00	1.00
	Consumer 15	1E-43766	6381.00		6384.00	3.00
	Consumer 16	1EQ-7065	23995.00		23996.00	1.00
	Consumer 17	1E-30411	4075.00	Defective meter	4075.00	0.00
	Consumer 18	1E-28928	1710.25		1712.21	1.96
	Consumer 19	1EQ-315	22644.00		22646.00	2.00
	Consumer 20	1E-35676	6946.00		6947.00	1.00
	Consumer 21	1E-41874	1988.00		1989.00	1.00
	Consumer 22	1EQ-434	20027.70		20029.40	1.70
	Consumer 23	1E-43764	5078.00		5079.00	1.00
	Consumer 24	1E-1423	40394.70		40396.10	1.40
	Consumer 25	1E-27282	4550.00		4553.00	3.00
	Consumer 26	1E-5176	8163.60		8165.40	1.80
	Consumer 27	1E-1440	6942.90		6943.80	0.90
	Consumer 28	1EQ-309	463.70		465.80	2.10
	Consumer 29	1E-19125	494.29		495.71	1.42
	Consumer 30	1E-39501	7657.00		7658.00	1.00

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 31	IE-25850	1761.00		1763.00	2.00
	Consumer 32	1EQ-6327	6111.40		6113.50	2.10
	Consumer 33	1E-25850	8634.00		8636.00	2.00
	Consumer 34	1E-27282	7617.00		7619.00	2.00
		Total	**242302.07**		**242351.24**	**49.17**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
4/08/2012	Urvashi Complex, Singra	Commercial	1125101	347.60	348.91	100	120	52.40	13.55%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
4/08/2012	Consumer 1	2EQ-3130	46927.80		46931.40	3.60
	Consumer 2	2EQ-5261	12564.00		12570.00	6.00
	Consumer 3	2EQ-4330	64401.00		64403.00	2.00
	Consumer 4	2ELTV-1240	3825.90		3826.80	0.90
	Consumer 5	1K110907	6691.70		6692.80	1.10
	Consumer 6	2E-21305	3441.00		3442.00	1.00
	Consumer 7	BA-022478	19780.40		19782.60	2.20
	Consumer 8	2EQ-3935	16055.10	Defective meter	16055.50	0.40
	Consumer 9	2E-24194	2538.00		2539.00	1.00
	Consumer 10	2E-20201	22712.10		22719.00	6.90
	Consumer 11	1U-055876	6845.40		6848.10	2.70
	Consumer 12	TPS-353967	49777.90		49780.50	2.60
	Consumer 13	2E-21649	6963.00		6965.00	2.00
	Consumer 14	2EQ-4067	34426.10		34435.50	9.40
	Consumer 15	2EQ-3086	31654.40		31655.50	1.10
	Consumer 16	2EQ-3087	19485.60	Defective meter	19485.90	0.30
	Consumer 17	MA-022426	8219.80	Defective meter	8220.00	0.20
	Consumer 18	MA-021932	9905.90		9907.80	1.90
		Total	**366215.10**		**366260.40**	**45.30**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
5/08/2012	Near Vodafone store, Kamakhya	Domestic	11233883	1543.50	1544.24	250	120	88.80	33.90%

Date	Consumer Name	Meter No.	1st read	Remarks	2nd read	Difference
5/08/2012	Consumer 1	1E-27906	388.00		389.00	1.00
	Consumer 2	1E-8212	17204.50		17206.50	2.00
	Consumer 3	1E-34873	349.00		351.00	2.00
	Consumer 4	1E-42461	2347.00		2349.00	2.00
	Consumer 5	1E-27394	2445.00		2446.00	1.00
	Consumer 6	1E-28413	12533.30		12534.70	1.40
	Consumer 7	1E-27582	11973.90		11975.80	1.90
	Consumer 8	1E-45229	4524.00		4527.00	3.00
	Consumer 9	1E-1434	16118.40		16120.30	1.90
	Consumer 10	1E-36773	3020.00		3022.00	2.00
	Consumer 11	1E-41870	2280.00		2281.00	1.00
	Consumer 12	1E-28226	8332.00		8334.00	2.00
	Consumer 13	1E-32995	5666.00		5668.00	2.00
	Consumer 14	1E-41957	2053.00		2056.00	3.00
	Consumer 15	1E-42855	1987.00		1988.00	1.00
	Consumer 16	1E-43800	7056.00		7057.00	1.00
	Consumer 17	1E-42855	1897.00	Defective meter	1897.00	0.00
	Consumer 18	EP-27	15168.00		15169.00	1.00
	Consumer 19	1E-32995	5666.00	Defective meter	5666.00	0.00
	Consumer 20	1E-3325	3091.00		3093.00	2.00
	Consumer 21	1E-43765	763.00	Defective meter	763.00	0.00
	Consumer 22	1E-43773	9101.00		9102.00	1.00
	Consumer 23	1E-43798	1442.00		1444.00	2.00
	Consumer 24	1E-43769	677.00	Defective meter	677.00	0.00

Date	Consumer Name	Meter No.	1st read	Remarks	2nd read	Difference
	Consumer 25	1E-43767	606.00		608.00	2.00
	Consumer 26	1E-1422	6011.40		6012.60	1.20
	Consumer 27	1E-16440	4096.00		4099.00	3.00
	Consumer 28	1E-4794	6462.00		6466.00	4.00
	Consumer 29	1E-84728	8630.00		8631.00	1.00
	Consumer 30	1E-43769	9640.00		9642.00	2.00
	Consumer 31	1E-43767	4870.00		4872.00	2.00
	Consumer 32	1E-1426	6011.20		6013.10	1.90
	Consumer 33	IE-1428	7112.40		7114.30	1.90
	Consumer 34	1E-43794	7411.00	Defective meter	7411.00	0.00
	Consumer 35	P-063580	2457.00		2458.00	1.00
	Consumer 36	1E-32994	8801.00		8803.00	2.00
	Consumer 37	1EQ-4758	31289.10		31291.60	2.50
		Total	**239479.20**		**239537.90**	**58.70**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
6/08/2012	Ramkatora	Domestic	480125	53.90	54.94	100	40	41.60	26.68%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
6/8/2012	Consumer 1	2EQ-3011	23925.80		23927.60	1.80
	Consumer 2	2EQ-3067	19248.70		19250.00	1.30
	Consumer 3	2EQ-2888	2059.60		2060.80	1.20
	Consumer 4	2EQ-2887	9577.60		9580.70	3.10
	Consumer 5	2EQ-2910	7886.20		7889.70	3.50
	Consumer 6	2EQ-2886	6743.70		6744.60	0.90
	Consumer 7	2EQ-3068	46802.90		46808.60	5.70
	Consumer 8	2EQ-3969	11816.70		11818.40	1.70
	Consumer 9	2EQ-2945	16826.00		16829.00	3.00
	Consumer 10	2EQ-2948	16218.00		16219.00	1.00
	Consumer 11	2EQ-2889	4154.10		4155.60	1.50
	Consumer 12	2EQ-2950	2209.70		2211.10	1.40
	Consumer 13	2EQ-3009	32460.50		32462.30	1.80
	Consumer 14	2EQ-3178	10216.70		10218.30	1.60
	Consumer 15	2EQ-2947	24528.00		24529.00	1.00
	Consumer 16	H.N.-303	0.00	Meter not installed	0.00	0.00
		Total	**234674.20**		**234704.70**	**30.50**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Energy Loss
7/08/2012	Awadh Apartment	Domestic	480428	24.32	24.62	240	100	30.00	22.00%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
7/08/2012	Consumer 1	IIE-33468	28.60		28.90	0.30
	Consumer 2	IIEQ-3368	125319.00		125321.70	2.70
	Consumer 3	IIEQ-3371	22176.80		22177.80	1.00
	Consumer 4	IIEQ-3471	191087.00		191089.00	2.00
	Consumer 5	IIEQ-3440	197416.00		197417.00	1.00
	Consumer 6	IIEQ-3472	160901.00		160905.00	4.00
	Consumer 7	IIEQ-3473	46761.00		46764.00	3.00
	Consumer 8	IIEQ-3474	85613.00		85613.00	0.00
	Consumer 9	IIEQ-3463	33597.80		33598.50	0.70
	Consumer 10	IIEQ-3475	0.00	not working	0.00	0.00
	Consumer 11	IIEQ-3478	41782.30		41784.70	2.40
	Consumer 12	IIEQ-4506	10788.00		10788.00	0.00
	Consumer 13	IIEQ-4517	14175.00		14175.00	0.00
	Consumer 14	IIEQ-4424	44225.00		44226.00	1.00
	Consumer 15	IIEQ-4343	1637.00		1638.00	1.00
	Consumer 16	IIEQ-5274	7218.52		7218.92	0.40
	Consumer 17	IIE-14094	1771.00		1771.90	0.90
	Consumer 18	IIE-21828	7263.00		7265.00	2.00
	Consumer 19	IIE-3439	46844.00		46845.00	1.00
		Total	**1038604.02**		**1038627.42**	**23.40**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Energy Loss
8/08/2012	Near Galaxy Enclave	Domestic	11254064	509.45	509.91	240	100	46.00	16.48%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
8/08/2012	Consumer 1	IIEQ-4103	3643.70		3645.70	2.00
	Consumer 2	IIEQ-4084	2418.90		2420.00	1.10
	Consumer 3	IIEQ-4085	2209.70		2211.50	1.80
	Consumer 4	IIEQ-4086	15161.00		15185.00	24.00
	Consumer 5	IIEQ-3514	0.00	Defective meter	0.00	0.00
	Consumer 6	IIEQ-3515	14987.00		14988.90	1.90
	Consumer 7	IIEQ3876	1786.39		1787.92	1.53
	Consumer 8	IIEQ-3903	1671.72		1673.04	1.32
	Consumer 9	IIEQ-3909	1585.24		1586.93	1.69
	Consumer 10	IIEQ3907	1347.70		1348.50	0.80
	Consumer 11	IIEQ-3908	2247.05		2248.52	1.47
	Consumer 12	IIEQ-3966	4.08		4.89	0.81
		Total	**47062.48**		**47100.90**	**38.42**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Energy Loss
8/08/2012	Galaxy Enclave	Domestic	11254064	509.45	509.91	240	100	46.00	16.48%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
8/08/2012	Consumer 1	IIEQ-4103	3643.70		3645.70	2.00
	Consumer 2	IIEQ-4084	2418.90		2420.00	1.10
	Consumer 3	IIEQ-4085	2209.70		2211.50	1.80
	Consumer 4	IIEQ-4086	15161.00		15185.00	24.00
	Consumer 5	IIEQ-3514	0.00	Defective meter	0.00	0.00
	Consumer 6	IIEQ-3515	14987.00		14988.90	1.90
	Consumer 7	IIEQ3876	1786.39		1787.92	1.53
	Consumer 8	IIEQ-3903	1671.72		1673.04	1.32
	Consumer 9	IIEQ-3909	1585.24		1586.93	1.69
	Consumer 10	IIEQ3907	1347.70		1348.50	0.80
	Consumer 11	IIEQ-3908	2247.05		2248.52	1.47
	Consumer 12	IIEQ-3966	4.08		4.89	0.81
		Total	**47062.48**		**47100.90**	**38.42**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Energy Loss
9/08/2012		Domestic	N/A	1582.22	1583.22	240	100	100.00	20.27%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
9/08/2012	Consumer 1	DTS-22A4	65615.60		65617.50	1.90
	Consumer 2	2EQ-1710	69449.40		69451.00	1.60
	Consumer 3	2EQ-5517	3659.50		3663.40	3.90
	Consumer 4	2EQ-4307	49168.00		49170.00	2.00
	Consumer 5	2EQ-3152	57618.30		57618.60	0.30
	Consumer 6	2EQ-4060	87160.20		87162.71	2.51
	Consumer 7	5775171	21807.00		21809.00	2.00
	Consumer 8	2E-14664	27840.00		27843.00	3.00
	Consumer 9	2E-33022	4249.00		4252.00	3.00
	Consumer 10	2E-5755	40017.40		40019.40	2.00
	Consumer 11	2EQ-2383	38209.77		38211.96	2.19
	Consumer 12	2EQ-2846	64505.00		64507.00	2.00
	Consumer 13	2EQ-1658	64445.90		64449.50	3.60
	Consumer 14	2E-25531	595730.80		595733.30	2.50
	Consumer 15	Rajesh Kr. Sarin	0.00	Closed	0.00	0.00
	Consumer 16	2E-23512	3125.80		3128.20	2.40
	Consumer 17	2EQ-2857	90181.00		90182.30	1.30
	Consumer 18	DTS-D15	2378.30		2379.10	0.80
	Consumer 19	2E-26695	1383.00		1384.00	1.00
	Consumer 20	2E-12862	6078.00		6079.00	1.00
	Consumer 21	D-59(59-D-3)	0.00	Unmetered	0.00	0.00
	Consumer 22	HANUMAN MANDIR	0.00	Unmetered	0.00	0.00
	Consumer 23	2E-6838	3813.10		3814.30	1.20
	Consumer 24	2E-12212	6104.00		6105.00	1.00
	Consumer 25	2EQ-2360	54502.90		54503.70	0.80
	Consumer 26	2E-34196	4377.00		4379.00	2.00

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 27	2E-27716	1873.00		1875.00	2.00
	Consumer 28	D-59(59-H.A.-1) KAMLA KUNJ	0.00	Closed	0.00	0.00
	Consumer 29	AnJana bhavan	0.00	Closed	0.00	0.00
	Consumer 30	2E-3313	223.80		224.90	1.10
	Consumer 31	2E-3336	2223.90		2226.30	2.40
	Consumer 32	2E-25920	496.60		498.10	1.50
	Consumer 33	Thakur Prasad (d-59/59)	0.00	Unmetered	0.00	0.00
	Consumer 34	2E-24279	5193.00		5195.00	2.00
	Consumer 35	2E-30917	3837.00		3839.00	2.00
	Consumer 36	959710	311.00		313.00	2.00
	Consumer 37	2EQ-1009	0.00	Defective meter	0.00	0.00
	Consumer 38	Jhannalal Maurya (BLD-309)	0.00	Defective meter	0.00	0.00
	Consumer 39	BLD-307	0.00	Closed	0.00	0.00
	Consumer 40	0995/BLD-304	0.00	Closed	0.00	0.00
	Consumer 41	2EQ-3254	33635.00		33636.00	1.00
	Consumer 42	2EQ-3930	191496.20		191500.20	4.00
	Consumer 43	104492	113306.70		113310.30	3.60
	Consumer 44	2E-3454	22133.40		22133.80	0.40
	Consumer 45	2EQ-3191	131451.90		131453.10	1.20
	Consumer 46	2EQ-1771	179111.70		179114.00	2.30
	Consumer 47	2E-14795	46487.00		46489.00	2.00
	Consumer 48	924860	6453.30		6453.40	0.10
	Consumer 49	2E-3432	14686.20		14686.40	0.20
	Consumer 50	6629399	1618.00		1619.00	1.00
	Consumer 51	2E-9453	0.00	Defective meter	0.00	0.00
	Consumer 52	2E-18623	48243.80		48245.80	2.00
	Consumer 53	UPE-54474	18107.10		18107.50	0.40
	Consumer 54	2E-28588	9468.10		9468.20	0.10
	Consumer 55	Advocate K.B. khanna	0.00	Closed	0.00	0.00

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 56	Advocate Alok Khanna	0.00	Closed	0.00	0.00
	Consumer 57	22718	16143.31		16144.21	0.90
	Consumer 58	2E-163357	0.00	Defective meter	0.00	0.00
	Consumer 59	2E-31255	363.60		364.43	0.83
	Consumer 60	CC-16859	9.90		10.20	0.30
	Consumer 61	2E-16343	0.00	Defective meter	0.00	0.00
	Consumer 62	2E-29704	5840.00		5841.00	1.00
	Consumer 63	2EQ-5473	1233.27		1233.77	0.50
	Consumer 64	2E-31199	0.00	Defective meter	0.00	0.00
	Consumer 65	SS-23238	15618.80		15619.30	0.50
	Consumer 66	2E-8697	19147.50		19147.90	0.40
		Total	**2250132.05**		**2250211.78**	**79.73**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Energy Loss
10/08/2012		Domestic	N/A	3446.81	3447.22	400	160	65.60	29.73%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
10/08/2012	Consumer 1	1EQ-2409	25612.60		25612.70	0.10
	Consumer 2	B 0310/1548	7181.40		7182.50	1.10
	Consumer 3	BLD-0943/120	0.00	Closed	0.00	0.00
	Consumer 4	BLD-0943/B	0.00	Closed	0.00	0.00
	Consumer 5	1E-16000	3335.10		3337.30	2.20
	Consumer 6	2EQ-5248	596.00		599.00	3.00
	Consumer 7	1EQ-1403	81365.90		81366.80	0.90
	Consumer 8	B-38/13-6 K ,PLOT NO.-5	0.00	Closed	0.00	0.00
	Consumer 9	2EQ-33252	1450.00		1451.20	1.20
	Consumer 10	2EQ-4505	19602.00		19603.00	1.00
	Consumer 11	2E-21356	9270.00		9270.00	0.00
	Consumer 12	2E-21355	17355.00		17356.00	1.00
	Consumer 13	1S-13779	4782.70		4783.00	0.30
	Consumer 14	1E-305443	3710.90		3711.20	0.30
	Consumer 15	2E-21290	19197.00		19198.00	1.00
	Consumer 16	1B-144991	6831.60		6832.50	0.90
	Consumer 17	2EQ-4541	28868.00		28870.00	2.00
	Consumer 18	Kamla Pati Pathak	0.00	Closed	0.00	0.00
	Consumer 19	2E-21358	5247.00		5248.00	1.00
	Consumer 20	BLD- 96-V	0.00	Closed	0.00	0.00
	Consumer 21	1E-6836	14607.80	Closed	14608.60	0.80
	Consumer 22	2E-21292	9318.00		9319.00	1.00
	Consumer 23	2E-21291	12341.00		12342.00	1.00
	Consumer 24	D-63/6-A , krishna colony	0.00	Closed	0.00	0.00
	Consumer 25	2E-7112	12172.50		12173.10	0.60

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 26	63/6-5 ,MOHTA NIWAS	0.00	Closed	0.00	0.00
	Consumer 27	2EQ-4151	31002.00		31004.00	2.00
	Consumer 28	MANGAL BHAVAN	0.00	Closed	0.00	0.00
	Consumer 29	UPP-06451	7145.10		7147.50	2.40
	Consumer 30	UPS-83580	0.00	Meter Not Working	0.00	0.00
	Consumer 31	Shivam Buteek	0.00	Closed	0.00	0.00
	Consumer 32	1E-33174	3491.00		3492.00	1.00
	Consumer 33	UP11-6289	4777.00		4778.00	1.00
	Consumer 34	1EQ-4405	128782.00		128782.90	0.90
	Consumer 35	1EQ-4534	1656.00		1657.00	1.00
	Consumer 36	B-38/7-37 (PIV NIKETAN)	0.00	Closed	0.00	0.00
	Consumer 37	1E-43805	1242.00		1242.10	0.10
	Consumer 38	1E-47442	143.00		144.00	1.00
	Consumer 39	1EQ-20054	10310.00		10311.00	1.00
	Consumer 40	1E-34091	8990.00		8991.00	1.00
	Consumer 41	UP-65-HH-4806	0.00	Closed	0.00	0.00
	Consumer 42	2E-32000	6874.10		6874.20	0.10
	Consumer 43	2E-32118	2482.00		2484.30	2.30
	Consumer 44	2E-1668833	917.80		918.70	0.90
	Consumer 45	2E-32572	3002.00		3008.00	6.00
	Consumer 46	2E-22088	0.00	Closed	0.00	0.00
	Consumer 47	2E-24736	19868.10		19869.20	1.10
	Consumer 48	2E-18511	0.00	Closed	0.00	0.00
	Consumer 49	2E-32606	1972.00		1972.70	0.70
	Consumer 50	2E-518944	0.00	Closed	0.00	0.00
	Consumer 51	2EQ-3955	13313.30		13314.90	1.60
	Consumer 52	UP-65-BD5321	0.00	Closed	0.00	0.00
	Consumer 53	2EQ-2912	147074.50		147076.10	1.60
	Consumer 54	2EQ-4150	0.00	Closed	0.00	0.00

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 55	2EQ-4149	68586.00		68587.00	1.00
	Consumer 56	Er. Lallan Lal	0.00	Closed	0.00	0.00
	Consumer 57	1EE-746	0.00	Closed	0.00	0.00
		Total	**744472.40**		**744518.50**	**46.10**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
15/08/2012	Mansarovar Plaza	Commercial	11255104	1564.32	1565.72	60	40	56.00	25.48%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
15/08/2012	Consumer 1	IIELT-DTV-273	63023.00		63030.00	7.00
	Consumer 2	IIE-5464	5470.10		5474.20	4.10
	Consumer 3	UPS-92278	72977.00		72997.00	20.00
	Consumer 4	IIEQ-2346	50192.28		50194.50	2.22
	Consumer 5	IIEQ-2521	88698.04		88704.45	6.41
	Consumer 6	IIELT-DTV-240	67276.00		67277.00	1.00
	Consumer 7	UPS-92338	72998.00		72999.00	1.00
		Total	**420634.42**		**420676.15**	**41.73**

Date	Location	Type	Meter No.	1st read	2nd read	Capacity of DT (kVA)	MF	Difference *MF	Losses
15/08/2012	Near City Office, Mount Litra Zee School	Commercial	11255104	1564.32	1565.72	60	40	56.00	25.48%

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
15/08/2012	Consumer 1	IIEQ-4388	5926.00		5928.00	2.00
	Consumer 2	IIE-20208	9632.00		9633.00	1.00
	Consumer 3	IIE-21933	18047.00		18049.00	2.00
	Consumer 4	IIEQ-5108	1232.20		1235.80	3.60
	Consumer 5	IIEQ-4387	13004.00		13005.00	1.00
	Consumer 6	IIEQ-4378	9271.00		9273.00	2.00
	Consumer 7	IIE-20915	10426.10		10427.90	1.80
	Consumer 8	IIE-20436	10972.90		10974.20	1.30
	Consumer 9	IIEQ-4373	8173.00		8174.00	1.00

Date	Consumer Name	Meter No.	1st Read	Remarks	2nd Read	Difference
	Consumer 10	IIEQ-4371	9826.00		9829.00	3.00
	Consumer 11	IIE-31325	5024.00		5025.00	1.00
	Consumer 12	IIE-20433	12284.80		12285.90	1.10
	Consumer 13	IIEQ-4379	16122.00		16124.00	2.00
	Consumer 14	IIEQ-4224	15997.00		15999.00	2.00
	Consumer 15	IIEQ-20817	7091.60		7093.20	1.60
	Consumer 16	IIE-27653	1827.00		1829.00	2.00
	Consumer 17	IIE-20623	8282.30		8285.40	3.10
		Total	**163138.90**		**163170.40**	**31.50**

5. Annexure V: Computation of component wise commercial loss

5.1 EDC Meerut

Computation of commercial loss due to deficient meters and provisional billing and extrapolating the same on the circle

Particulars	1 month consumption as per field study	1 month consumption as per DISCOM	Difference (2-3)	% of commercial loss	Billing in the circle as per DISCOM records (MU)	Energy to be billed as per the field study* (MU)	Commercial loss (MU
1	2 (M1)	3 (M2)	4 (M3)	5 (M4=M3/M1)	6 (M5)	7 (M6=((M5/ (1-M4))	8 (M7 = M6-M5)
Deficient metering	5622	4838	784	13.95%	18.17	21.11	2.94
Billing inefficiency	9427	7883	1544	16.38%	41.76	49.94	8.18
Provisional billing to the metered consumers	516	419	97	18.80%	48.05	59.18	11.13
No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	18602	18602	0	-	-	-	-
Total	**34168**	**31742**	**2047**		**107.98**	**130.23**	**22.25**

* After extrapolating the sample LT survey results on the circle

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 1	16080342	100	Billing due to deficient metering	240
Consumer 2	UM101945	120	Billing due to deficient metering	90
Consumer 3	UM101405	120	Billing due to deficient metering	120
Consumer 4		120	Billing due to deficient metering	120
Consumer 5	16066428	580	Billing due to deficient metering	480
Consumer 6	LF5152	320	Billing due to deficient metering	320
Consumer 7	6738972	240	Provisional billing to the metered consumers	265
Consumer 8	UM102851	120	Provisional billing to the metered consumers	66
Consumer 9	UM103848	60	Provisional billing to the metered consumers	39
Consumer 10	6451463	200	Provisional billing due to billing inefficiency	222
Consumer 11	516800	400	Provisional billing due to billing inefficiency	360
Consumer 12	64122	480	Provisional billing due to billing inefficiency	320
Consumer 13	15812832	800	Provisional billing due to billing inefficiency	640
Consumer 14	309053433	302	Provisional billing due to billing inefficiency	310

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 15	306059663	602	Provisional billing due to billing inefficiency	520
Consumer 16	306063497	560	Provisional billing due to billing inefficiency	280
Consumer 17	10026776	800	Provisional billing due to billing inefficiency	600
Consumer 18	UM056906	800	Provisional billing due to billing inefficiency	786
Consumer 19	307011556	660	Provisional billing due to billing inefficiency	506
Consumer 20	29794	267	Provisional billing due to billing inefficiency	60
Consumer 21	Ho. No.C-101	267	Provisional billing due to billing inefficiency	782
Consumer 22	499134	400	Billing due to deficient metering	160
Consumer 23	9882	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	400
Consumer 24	**30792**	370	Provisional billing due to billing inefficiency	**280**
Consumer 25	**30259**	660	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	660

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 26	**30892**	454	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	454
Consumer 27	LF4139	1380	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	1380
Consumer 28	LF5152	150	Billing due to deficient metering	320
Consumer 29	64128	1120	Provisional billing due to billing inefficiency	1000
Consumer 30	63497	560	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	560
Consumer 31	LF6587	800	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	800
Consumer 32	63879	560	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	560
Consumer 33	60968	96	Provisional billing to the metered consumers	49

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 34	80255	1120	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	1120
Consumer 35	LF1608	800	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	800
Consumer 36	66101	720	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	720
Consumer 37	516792	300	Billing due to deficient metering	321
Consumer 38	576669	300	Billing due to deficient metering	80
Consumer 39	885635	532	Billing due to deficient metering	476
Consumer 40	355936	200	Provisional billing due to billing inefficiency	160
Consumer 41	882388	640	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	640
Consumer 42	LF2813	720	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	720

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 43	782	528	Billing due to deficient metering	160
Consumer 44	8346	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	400
Consumer 45	805018	312	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	312
Consumer 46	LF6503	480	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	480
Consumer 47	LF9184	1160	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	1160
Consumer 48	1775	720	Provisional billing due to billing inefficiency	461
Consumer 49	LF6096	396	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	396
Consumer 50	113812	300	Billing due to deficient metering	495

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 51	114072	352	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	352
Consumer 52	80393	300	Billing due to deficient metering	170
Consumer 53	8910	300	Billing due to deficient metering	370
Consumer 54	111166	256	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	256
Consumer 55	65376	224	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	224
Consumer 56	10263	360	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	360
Consumer 57	101091	880	Provisional billing due to billing inefficiency	596
Consumer 58	194546	840	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	840
Consumer 59	163844	352	Billing due to deficient metering	280

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 60	82470	288	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	288
Consumer 61	112876	544	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	544
Consumer 62	LF1391	352	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	352
Consumer 63	65376	224	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	224
Consumer 64	2133	800	Billing due to deficient metering	636
Consumer 65	195150	240	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240
Consumer 66	113565	880	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	880

Consumer name	Meter No.	1 month consumption as per field study (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 67	LF2274	1520	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	1520
Consumer 68	LF1468	960	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	960
	Total	**34168**		**31742**

5.2 EDC Mathura

Computation of commercial loss due to defective meters and provisional billing and extrapolating the same on the circle

Particulars	1 month consumption as per field study	1 month consumption as per department records	Difference (2-3)	% of commercial loss	Billing in the circle as per DISCOM records (MU)	Energy to be billed as per the field study* (MU)	Commercial loss (MU
1	2 (M1)	3 (M2)	4 (M3)	5 (M4=M3/M1)	6 (M5)	7 (M6=((M5/ (1-M4))	8 (M7 = M6-M5)
Deficient metering	3090	2961	129	4.35%	26.37	27.52	1.15
Billing inefficiency	13000	10924	2076	15.97%	10.17	12.10	1.93
Provisional billing to the metered consumers	1600	1195	405	25.31%	62.90	84.22	21.32
No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	870	870	-	-	-	-	-
Total	**18560`**	**15950**	**1675**		**99.44**	**123.84**	**24.40**

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 1	100382	400	Provisional billing due to billing inefficiency	240
Consumer 2	100383	800	Provisional billing due to billing inefficiency	960
Consumer 3	100421	600	Provisional billing due to billing inefficiency	80
Consumer 4	100378	400	Provisional billing due to billing inefficiency	600
Consumer 5	100382	120	Billing due to deficient metering	120
Consumer 6	102711	120	Billing due to deficient metering	200
Consumer 7	100388	400	Provisional billing to the metered consumers	215
Consumer 8	85224	400	Provisional billing to the metered consumers	240
Consumer 9	98396	360	Billing due to deficient metering	240
Consumer 10	102736	200	Provisional billing due to billing inefficiency	480
Consumer 11	92171	240	Billing due to deficient metering	240
Consumer 12	96666	400	Provisional billing due to billing inefficiency	160
Consumer 13	98484	600	Provisional billing due to billing inefficiency	160

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 14	97770	200	Provisional billing to the metered consumers	160
Consumer 15	97842	150	Billing due to deficient metering	240
Consumer 16	73137	240	Billing due to deficient metering	240
Consumer 17	94976	120	Billing due to deficient metering	240
Consumer 18	61753	400	Provisional billing due to billing inefficiency	416
Consumer 19	67387	240	Billing due to deficient metering	240
Consumer 20	100407	150	Billing due to deficient metering	150
Consumer 21	83741	400	Provisional billing due to billing inefficiency	334
Consumer 22	93700	200	Provisional billing to the metered consumers	240
Consumer 23	100471	200	Provisional billing to the metered consumers	240
Consumer 24	95350	200	Provisional billing to the metered consumers	100
Consumer 25	87748	200	Provisional billing due to billing inefficiency	292
Consumer 26	59206	400	Provisional billing due to billing inefficiency	321
Consumer 27	59601	240	Billing due to deficient metering	140

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 28	93223	200	Provisional billing due to billing inefficiency	250
Consumer 29	75820	400	Provisional billing due to billing inefficiency	240
Consumer 30	87367	400	Provisional billing due to billing inefficiency	240
Consumer 31	9248	200	Provisional billing due to billing inefficiency	113
Consumer 32	99901	400	Provisional billing due to billing inefficiency	240
Consumer 33	92155	400	Provisional billing due to billing inefficiency	334
Consumer 34	92154	240	Billing due to deficient metering	160
Consumer 35	92153	400	Provisional billing due to billing inefficiency	240
Consumer 36	95914	400	Provisional billing due to billing inefficiency	240
Consumer 37	95912	400	Provisional billing due to billing inefficiency	240
Consumer 38	92157	400	Provisional billing due to billing inefficiency	80
Consumer 39	79342	240	Billing due to deficient metering	240
Consumer 40	76312	200	Provisional billing due to billing inefficiency	480
Consumer 41	81138	200	Provisional billing due to billing inefficiency	480

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 42	73570	200	Provisional billing due to billing inefficiency	320
Consumer 43	77754	200	Provisional billing due to billing inefficiency	480
Consumer 44	98379	120	Provisional billing due to billing inefficiency	0
Consumer 45	98377	240	Provisional billing due to billing inefficiency	0
Consumer 46	98190	200	Provisional billing due to billing inefficiency	0
Consumer 47	98337	240	Provisional billing due to billing inefficiency	0
Consumer 48	98186	200	Provisional billing due to billing inefficiency	320
Consumer 49	101584	400	Provisional billing due to billing inefficiency	240
Consumer 50	97627	400	Provisional billing due to billing inefficiency	240
Consumer 51	97620	400	Provisional billing due to billing inefficiency	240
Consumer 52	96635	200	Provisional billing due to billing inefficiency	240
Consumer 53	98176	200	Provisional billing due to billing inefficiency	160
Consumer 54	998377	200	Provisional billing due to billing inefficiency	320
Consumer 55	76501	400	Provisional billing due to billing inefficiency	320

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 56	10339	150	Billing due to deficient metering	150
Consumer 57	96019	200	Provisional billing due to billing inefficiency	144
Consumer 58	86408	200	Provisional billing due to billing inefficiency	340
Consumer 59	97885	200	Provisional billing due to billing inefficiency	340
Consumer 60	88562	150	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	150
Consumer 61	34065	120	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	120
Consumer 62	89579	240	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240
Consumer 63	87715	480	Billing due to deficient metering	361
Consumer 64	83181	240	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240

Consumer	Connection no.	1 month consumption (kWh)	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 65	71996	120	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	120
Total		**18560**		**15950**

5.3 EUDC IV Lucknow

Computation of commercial loss due to defective meters and provisional billing and extrapolating the same on the circle

Particulars	1 month consumption as per field study	1 month consumption as per department records	Difference (2-3)	% of commercial loss	Billing in the circle as per DISCOM records (MU)	Energy to be billed as per the field study* (MU)	Commercial loss (MU
1	2 (M1)	3 (M2)	4 (M3)	5 (M4=M3/M1)	6 (M5)	7 (M6=((M5/ (1-M4))	8 (M7 = M6-M5)
Deficient metering	17540.00	12105.00	5435.00	30.99%	33.55	48.61	15.07
Billing inefficiency	16030.00	11046.00	4984.00	31.09%	50.94	73.93	22.98
Provisional billing to the metered consumers	1500.00	1400.00	100.00	6.67%	19.63	21.03	1.40
No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	21780	21780	-	-	-	-	-
Total	**56850.00**	**46331.00**	**10519.00**		**104.12**	**143.57**	**39.45**

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 1	W15592	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 2	W18963	220	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	220
Consumer 3	W19019	220	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	220
Consumer 4	W16721	280	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	280
Consumer 5	W19035	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 6	LC9693	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	400
Consumer 7	W18047	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 8	I04029	210	Provisional billing due to billing inefficiency	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 9	LC8645	200	Billing due to deficient metering	160
Consumer 10	CS3019	200	Provisional billing due to billing inefficiency	81
Consumer 11	W86201	200	Billing due to deficient metering	120
Consumer 12	W38220	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 13	T12068	200	Billing due to deficient metering	160
Consumer 14	W86387	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 15	RW1969	220	Provisional billing due to billing inefficiency	108
Consumer 16	W35285	200	Billing due to deficient metering	160
Consumer 17	SB2080	400	Provisional billing due to billing inefficiency	142
Consumer 18	E83766	200	Billing due to deficient metering	160
Consumer 19	WR9267	200	Provisional billing due to billing inefficiency	450
Consumer 20	SA2001	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 21	W56243	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 22	W35788	200	Billing due to deficient metering	80
Consumer 23	R01133	220	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	220
Consumer 24	WR8696	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 25	WR0404	200	Provisional billing due to billing inefficiency	44
Consumer 26	E86516	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 27	W59329	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 28	CE0829	200	Billing due to deficient metering	80
Consumer 29	W18740	220	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	220

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 30	SC4659	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 31	W18799	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 32	W19314	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 33	W35226	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 34	W18397	200	Provisional billing due to billing inefficiency	295
Consumer 35	W35036	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 36	W18487	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 37	W19001	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 38	W18599	100	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	100
Consumer 39	W18564	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 40	W18679	300	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	300
Consumer 41	W37921	300	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	300
Consumer 42	W18906	1600	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	1600
Consumer 43	W57147	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 44	W18889	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 45	SD1019	200	No commercial loss as meter found in order and DISCOM is billing as per	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			actual meter reading	
Consumer 46	W18919	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 47	W35198	200	Provisional billing due to billing inefficiency	213
Consumer 48	SE3867	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 49	W55104	200	Provisional billing due to billing inefficiency	72
Consumer 50	W18542	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 51	W18839	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 52	W18886	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 53	E94159	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 54	W18408	180	Billing due to deficient metering	160
Consumer 55	W18829	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 56	W37836	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 57	W87251	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 58	W19018	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 59	E82710	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 60	W58995	200	Provisional billing due to billing inefficiency	161
Consumer 61	SA4104	200	Billing due to deficient metering	83
Consumer 62	W18214	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 63	SB3827	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 64	E85011	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 65	E88303	200	Billing due to deficient metering	160
Consumer 66	W18507	200	Billing due to deficient metering	160
Consumer 67	W18604	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 68	W18244	300	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	300
Consumer 69	W18860	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 70	W18529	220	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	220
Consumer 71	W18934	200	No commercial loss as meter found in order and DISCOM is billing as per	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			actual meter reading	
Consumer 72	W18870	240	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240
Consumer 73	W18624	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 74	W16213	200	Billing due to deficient metering	160
Consumer 75	WR6491	200	Provisional billing to the metered consumers	200
Consumer 76	W18620	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 77	CS2686	200	Billing due to deficient metering	160
Consumer 78	W58665	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 79	W18519	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 80	W58399	240	No commercial loss as meter found in order and	240

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			DISCOM is billing as per actual meter reading	
Consumer 81	W19324	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 82	W18908	100	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	100
Consumer 83	W18484	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 84	W18807	200	Billing due to deficient metering	160
Consumer 85	W18559	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 86	W57446	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 87	W18891	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 88	W37857	180	No commercial loss as meter found in order and	180

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			DISCOM is billing as per actual meter reading	
Consumer 89	W18515	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 90	W18905	200	Provisional billing due to billing inefficiency	218
Consumer 91	E94659	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 92	W96175	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 93	W18600	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 94	SE1495	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 95	I08871	100	Billing due to deficient metering	160
Consumer 96	WR6133	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 97	W37985	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 98	W18541	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 99	W37971	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 100	W15833	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 101	W18857	300	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	300
Consumer 102	W85860	200	Billing due to deficient metering	160
Consumer 103	W35883	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 104	W18926	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 105	W18592	200	Provisional billing due to billing inefficiency	302
Consumer 106	W56579	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 107	W56785	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 108	W57077	200	Billing due to deficient metering	160
Consumer 109	W18790	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 110	W18745	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 111	W18844	800	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	800
Consumer 112	WR6490	300	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	300
Consumer 113	W18930	200	No commercial loss as meter found in order and DISCOM is billing as per	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			actual meter reading	
Consumer 114	W18731	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 115	W18398	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 116	WR8295	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 117	C10240	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 118	W19453	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 119	W57620	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	400
Consumer 120	W18686	200	Billing due to deficient metering	89
Consumer 121	W18827	200	No commercial loss as meter found in order and	200

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
			DISCOM is billing as per actual meter reading	
Consumer 122	I08359	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 123	CE5741	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 124	B14826	200	Billing due to deficient metering	80
Consumer 125	E89297	240	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240
Consumer 126	SE3072	100	Provisional billing due to billing inefficiency	160
Consumer 127	SC4350	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	200
Consumer 128	W57320	200	Provisional billing due to billing inefficiency	346
Consumer 129	W86904	220	Provisional billing due to billing inefficiency	174
Consumer 130	SE4121	180	Billing due to deficient metering	160
Consumer 131	SE4109	200	Provisional billing due to billing inefficiency	160

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 132	B17389	220	Billing due to deficient metering	200
Consumer 133	W56980	200	Billing due to deficient metering	200
Consumer 134	SD1757	200	Billing due to deficient metering	200
Consumer 135	SE0196	80	Provisional billing due to billing inefficiency	240
Consumer 136	LF0034	200	Billing due to deficient metering	160
Consumer 137	SE2434	200	Provisional billing due to billing inefficiency	160
Consumer 138	SE2793	200	Provisional billing due to billing inefficiency	160
Consumer 139	W56977	240	Billing due to deficient metering	206
Consumer 140	W18920	200	Provisional billing due to billing inefficiency	119
Consumer 141	W96155	200	Provisional billing to the metered consumers	150
Consumer 142	SC0459	200	Billing due to deficient metering	200
Consumer 143	W88034	200	Billing due to deficient metering	120
Consumer 144	LC9120	200	Billing due to deficient metering	120
Consumer 145	W18473	160	Provisional billing due to billing inefficiency	60
Consumer 146	W18792	200	Provisional billing due to billing inefficiency	289

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 147	W37879	240	Billing due to deficient metering	120
Consumer 148	W35851	200	Provisional billing to the metered consumers	150
Consumer 149	W18233	150	Provisional billing to the metered consumers	150
Consumer 150	W35633	200	Billing due to deficient metering	120
Consumer 151	W18833	200	Billing due to deficient metering	80
Consumer 152	W18418	200	Provisional billing due to billing inefficiency	154
Consumer 153	E85144	200	Billing due to deficient metering	58
Consumer 154	E88300	200	Billing due to deficient metering	120
Consumer 155	SB2371	200	Billing due to deficient metering	120
Consumer 156	W18220	200	Billing due to deficient metering	120
Consumer 157	SB4193	150	Provisional billing to the metered consumers	150
Consumer 158	W18676	200	Billing due to deficient metering	23
Consumer 159	W18916	200	Billing due to deficient metering	80
Consumer 160	E90703	200	Provisional billing due to billing inefficiency	97
Consumer 161	E85517	200	Billing due to deficient metering	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 162	W18741	150	Provisional billing to the metered consumers	150
Consumer 163	W18816	150	Provisional billing to the metered consumers	150
Consumer 164	CE5573	240	Billing due to deficient metering	80
Consumer 165	W18584	240	Provisional billing due to billing inefficiency	209
Consumer 166	L11996	140	Billing due to deficient metering	80
Consumer 167	WR2301	200	Billing due to deficient metering	80
Consumer 168	W35769	200	Provisional billing due to billing inefficiency	160
Consumer 169	W18012	200	Billing due to deficient metering	120
Consumer 170	W35760	200	Billing due to deficient metering	120
Consumer 171	E88533	60	Billing due to deficient metering	120
Consumer 172	SE2347	150	Provisional billing to the metered consumers	150
Consumer 173	T14015	200	Billing due to deficient metering	120
Consumer 174	W17805	200	Provisional billing due to billing inefficiency	118
Consumer 175	W18091	100	Billing due to deficient metering	120
Consumer 176	W18080	200	Billing due to deficient metering	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 177	RW0178	200	Provisional billing due to billing inefficiency	68
Consumer 178	W17983	120	Billing due to deficient metering	80
Consumer 179	WR7384	200	Provisional billing due to billing inefficiency	98
Consumer 180	W18073	200	Provisional billing due to billing inefficiency	38
Consumer 181	SB1805	40	Billing due to deficient metering	80
Consumer 182	W17912	200	Provisional billing due to billing inefficiency	49
Consumer 183	E88325	100	Billing due to deficient metering	80
Consumer 184	W18009	200	Provisional billing due to billing inefficiency	182
Consumer 185	W18175	150	Provisional billing to the metered consumers	150
Consumer 186	E83000	200	Billing due to deficient metering	80
Consumer 187	E83994	160	Provisional billing due to billing inefficiency	67
Consumer 188	E87824	100	Billing due to deficient metering	80
Consumer 189	SC2711	200	Provisional billing due to billing inefficiency	145
Consumer 190	U03520	150	Billing due to deficient metering	130
Consumer 191	W19220	20	Billing due to deficient metering	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 192	WR6980	200	Billing due to deficient metering	120
Consumer 193	CE0634	100	Billing due to deficient metering	120
Consumer 194	WR3501	200	Provisional billing due to billing inefficiency	66
Consumer 195	W37681	150	Billing due to deficient metering	120
Consumer 196	C12407	100	Billing due to deficient metering	120
Consumer 197	SB2303	160	Provisional billing due to billing inefficiency	120
Consumer 198	E87053	140	Billing due to deficient metering	120
Consumer 199	I04790	100	Provisional billing due to billing inefficiency	120
Consumer 200	I02892	160	Billing due to deficient metering	120
Consumer 201	T25586	200	Billing due to deficient metering	120
Consumer 202	E86648	60	Billing due to deficient metering	120
Consumer 203	E89553	200	Provisional billing due to billing inefficiency	20
Consumer 204	W58925	200	Billing due to deficient metering	120
Consumer 205	WR5714	160	Billing due to deficient metering	81
Consumer 206	I02170	200	Billing due to deficient metering	66

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 207	T18339	140	Provisional billing due to billing inefficiency	80
Consumer 208	E93688	160	Billing due to deficient metering	120
Consumer 209	CE0409	200	Billing due to deficient metering	120
Consumer 210	E81008	160	Provisional billing due to billing inefficiency	50
Consumer 211	E86651	180	Billing due to deficient metering	120
Consumer 212	WR8875	120	Provisional billing due to billing inefficiency	80
Consumer 213	WR2771	80	Provisional billing due to billing inefficiency	122
Consumer 214	SC3808	200	Provisional billing due to billing inefficiency	80
Consumer 215	WR1870	160	Billing due to deficient metering	120
Consumer 216	W85143	120	Billing due to deficient metering	120
Consumer 217	LB1461	80	Billing due to deficient metering	120
Consumer 218	T22948	120	Provisional billing due to billing inefficiency	168
Consumer 219	SD3079	150	Provisional billing due to billing inefficiency	150
Consumer 220	W37069	160	Billing due to deficient metering	80
Consumer 221	W88571	60	Provisional billing due to billing inefficiency	69

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 222	W57428	120	Provisional billing due to billing inefficiency	128
Consumer 223	CS2711	200	Billing due to deficient metering	80
Consumer 224	CE0275	150	Provisional billing due to billing inefficiency	150
Consumer 225	SC0246	20	Provisional billing due to billing inefficiency	80
Consumer 226	SC1828	200	Provisional billing due to billing inefficiency	80
Consumer 227	WR7675	200	Billing due to deficient metering	72
Consumer 228	E03537	80	Provisional billing due to billing inefficiency	80
Consumer 229	E89158	40	Billing due to deficient metering	80
Consumer 230	E85518	80	Billing due to deficient metering	80
Consumer 231	E88613	80	Billing due to deficient metering	80
Consumer 232	W37286	100	Billing due to deficient metering	120
Consumer 233	SD3308	60	Billing due to deficient metering	80
Consumer 234	SD3026	160	Provisional billing due to billing inefficiency	80
Consumer 235	W89589	120	Billing due to deficient metering	120
Consumer 236	WR5374	200	Billing due to deficient metering	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 237	I09156	160	Billing due to deficient metering	120
Consumer 238	E93677	140	Billing due to deficient metering	120
Consumer 239	W59607	160	Provisional billing due to billing inefficiency	100
Consumer 240	W37451	200	Billing due to deficient metering	120
Consumer 241	SA0625	120	Provisional billing due to billing inefficiency	80
Consumer 242	W37052	120	Billing due to deficient metering	120
Consumer 243	W37353	200	Billing due to deficient metering	200
Consumer 244	W37633	160	Billing due to deficient metering	80
Consumer 245	SC0683	160	Provisional billing due to billing inefficiency	89
Consumer 246	W56435	200	Provisional billing due to billing inefficiency	80
Consumer 247	E92824	100	Billing due to deficient metering	80
Consumer 248	SC2576	200	Provisional billing due to billing inefficiency	281
Consumer 249	SC1264	160	Provisional billing due to billing inefficiency	125
Consumer 250	SD1832	480	Provisional billing due to billing inefficiency	80
Consumer 251	SE1304	80	Provisional billing due to billing inefficiency	80

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 252	SC4060	180	Provisional billing due to billing inefficiency	80
Consumer 253	SE2891	200	Provisional billing due to billing inefficiency	80
Consumer 254	SE4424	150	Provisional billing due to billing inefficiency	150
Consumer 255	SD0088	120	Provisional billing due to billing inefficiency	80
Consumer 256	SE4175	150	Provisional billing due to billing inefficiency	150
Consumer 257	SE0453	100	Provisional billing due to billing inefficiency	80
Consumer 258	SE4103	160	Provisional billing due to billing inefficiency	80
Consumer 259	SE0817	200	Provisional billing due to billing inefficiency	80
Consumer 260	SE2435	200	Provisional billing due to billing inefficiency	80
Consumer 261	SE4432	200	Provisional billing due to billing inefficiency	80
Consumer 262	SEO859	60	Billing due to deficient metering	80
Consumer 263	SE4607	100	Provisional billing due to billing inefficiency	80
Consumer 264	SE4486	200	Provisional billing due to billing inefficiency	86
Consumer 265	I05301	120	Provisional billing due to billing inefficiency	80
Consumer 266	W85352	180	Billing due to deficient metering	120

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 267	CM0132	180	Billing due to deficient metering	120
Consumer 268	CE2614	180	Billing due to deficient metering	120
Consumer 269	W56654	160	Provisional billing due to billing inefficiency	199
Consumer 270	T12543	200	Provisional billing due to billing inefficiency	120
Consumer 271	WR1990	160	Billing due to deficient metering	120
Consumer 272	W85104	100	Provisional billing due to billing inefficiency	96
Consumer 273	E88027	200	Provisional billing due to billing inefficiency	74
Consumer 274	LA3610	160	Billing due to deficient metering	120
Consumer 275	W56218	200	Provisional billing due to billing inefficiency	80
Consumer 276	T17849	200	Provisional billing due to billing inefficiency	80
Consumer 277	LB5536	40	Billing due to deficient metering	120
Consumer 278	CS0455	200	Billing due to deficient metering	120
Consumer 279	WR7710	140	Provisional billing due to billing inefficiency	75
Consumer 280	SR5757	200	Provisional billing due to billing inefficiency	80
Consumer 281	WR5988	200	Billing due to deficient metering	120

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 282	WR4924	100	Provisional billing due to billing inefficiency	80
Consumer 283	W96580	140	Provisional billing due to billing inefficiency	67
Consumer 284	W96525	200	Provisional billing due to billing inefficiency	69
Consumer 285	W86573	200	Billing due to deficient metering	55
Consumer 286	E84720	200	Billing due to deficient metering	84
Consumer 287	WQ6584	200	Provisional billing due to billing inefficiency	117
Consumer 288	E88765	200	Billing due to deficient metering	58
Consumer 289	E91421	200	Provisional billing due to billing inefficiency	240
Consumer 290	E85830	200	Provisional billing due to billing inefficiency	80
Consumer 291	RW0393	160	Provisional billing due to billing inefficiency	80
Consumer 292	SA2615	160	Provisional billing due to billing inefficiency	30
Consumer 293	SA0824	180	Billing due to deficient metering	160
Consumer 294	SB0019	200	Billing due to deficient metering	120
Consumer 295	SB0491	100	Billing due to deficient metering	120
Consumer 296	SB4055	200	Billing due to deficient metering	120

Consumer name	Meter No.	1 month consumption as per field study	As per billing record of the DISCOM	
			Billing basis	Unit consumed (kWh)
Consumer 297	SC4366	60	Provisional billing due to billing inefficiency	48
Consumer 298	SE0115	200	Provisional billing due to billing inefficiency	80
Consumer 299	SD2580	180	Billing due to deficient metering	60
Consumer 300	SD4902	160	Provisional billing due to billing inefficiency	108
Total		**56850**		**46331**

5.4 EDC Varanasi

Computation of commercial loss due to defective meters and provisional billing and extrapolating the same on the circle

Particulars	1 month consumption as per field study	1 month consumption as per department records	Difference (2-3)	% of commercial loss	Billing in the circle as per DISCOM records (MU)	Energy to be billed as per the field study* (MU)	Commercial loss (MU
1	2 (M1)	3 (M2)	4 (M3)	5 (M4=M3/M1)	6 (M5)	7 (M6=((M5/ (1-M4))	8 (M7 = M6-M5)
Deficient metering	3482.00	2708.00	774.00	9.23%	6.50%	33.50	7.45
Billing inefficiency	1808.00	1773.00	35.00	7.50%	18.00%	140.38	10.53
Provisional billing to the metered consumers	802.00	770.00	32.00	7.50%	9.58%	74.71	5.60
No commercial loss as meter found in order and DISCOM is billing as per actual meter reading							
Total	5290.00	4481.00	809.00			173.88	31.58

Consumer	1 month consumption (kWh)	As per billing record of the DISCOM	
		Billing basis	Unit consumed (kWh)
Consumer 1	270	Billing due to deficient metering	241
Consumer 2	140	Provisional billing due to billing inefficiency	160
Consumer 3	362	Provisional billing to the metered consumers	350
Consumer 4	420	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	320
Consumer 5	209	Provisional billing due to billing inefficiency	150
Consumer 6	400	Provisional billing due to billing inefficiency	350
Consumer 7	438	Provisional billing to the metered consumers	390
Consumer 8	432	Billing due to deficient metering	400
Consumer 9	330	Billing due to deficient metering	310
Consumer 10	420	Billing due to deficient metering	400
Consumer 11	420	Billing due to deficient metering	400
Consumer 12	210	Billing due to deficient metering	210
Consumer 13	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	160
Consumer 14	200	Provisional billing due to billing inefficiency	200
Consumer 15	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	240
Consumer 16	400	Billing due to deficient metering	350
Consumer 17	600	Provisional billing due to billing inefficiency	500
Consumer 18	400	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	416
Consumer 19	400	Billing due to deficient metering	300
Consumer 20	400	No commercial loss as meter found in order and DISCOM is billing as	150

Consumer	1 month consumption (kWh)	As per billing record of the DISCOM	
		Billing basis	Unit consumed (kWh)
		per actual meter reading	
Consumer 21	300	Billing due to deficient metering	300
Consumer 22	300	Billing due to deficient metering	250
Consumer 23	200	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	480
Consumer 24	60	Provisional billing due to billing inefficiency	120
Consumer 25	60	No commercial loss as meter found in order and DISCOM is billing as per actual meter reading	292
Consumer 26	200	Provisional billing due to billing inefficiency	193
Total	**8371**		**7632**

Note:
Unit consumed is noted from the consumer bills as the billing database of EDC Varanasi not provided by the DISCOM during our field study

6. Annexure VI: Findings from the agriculture survey

EDC Meerut

Connection no.	Sanctioned load(HP)	Voltage	Current(Amp.)	PF	Actual load (HP)	Actual load (HP) rounded off
4003713	5.00	401.82	10.00	0.80	7.46	7.50
4003721	5.00	401.82	10.00	0.80	7.46	7.50
4004353	7.50	401.82	9.80	0.80	7.31	7.50
400437x	5.00	381.04	8.50	0.80	6.02	7.50
4004418	12.50	391.43	20.00	0.80	14.54	15.00
4004434	10.00	401.82	18.00	0.80	13.43	12.50
4004485	7.50	398.36	14.30	0.80	10.58	10.00
4004493	7.50	387.97	13.50	0.80	9.73	10.00
4004507	5.00	381.04	9.40	0.80	6.65	7.50
4004523	7.50	381.04	13.60	0.80	9.63	10.00
4004531	5.00	387.97	9.50	0.80	6.85	7.50
4004566	5.00	394.90	10.40	0.80	7.63	7.50
400459y	5.00	394.90	9.00	0.80	6.60	7.50
4004604	5.00	398.36	12.50	0.80	9.25	10.00
4004612	5.00	387.97	14.00	0.80	10.09	10.00
4004663	10.00	381.04	17.40	0.80	12.31	12.50
4004671	7.50	391.43	14.50	0.80	10.54	10.00
4004698	5.00	398.36	11.00	0.80	8.14	7.50
4004795	7.50	401.82	14.00	0.80	10.45	10.00
4004817	7.50	401.82	14.30	0.80	10.67	10.00
4004876	10.00	398.36	18.00	0.80	13.32	12.50
4004884	7.50	394.90	17.00	0.80	12.47	12.50
4020291	7.50	391.43	14.00	0.80	10.18	10.00
400509y	5.00	387.97	14.60	0.80	10.52	10.00
400518x	5.00	398.36	9.00	0.80	6.66	7.50
4005198	5.00	394.90	8.50	0.80	6.23	7.50

Connection no.	Sanctioned load(HP)	Voltage	Current(Amp.)	PF	Actual load (HP)	Actual load (HP) rounded off
4005201	7.50	389.70	11.80	0.80	8.54	10.00
4005244	7.50	391.43	13.40	0.80	9.74	10.00
4000350	7.50	398.36	11.80	0.80	8.73	7.50
4000351	5.00	394.90	8.40	0.80	6.16	7.50
4005392	7.50	387.97	14.00	0.80	10.09	10.00
4005422	5.00	381.04	14.00	0.80	9.91	10.00
400552x	10.00	398.36	17.40	0.80	12.87	12.50
4005546	7.50	398.36	13.00	0.80	9.62	10.00
4005597	5.00	398.36	14.60	0.80	10.80	10.00
499560y	5.00	401.82	12.00	0.80	8.96	10.00
4005635	5.00	391.43	11.00	0.80	8.00	7.50
4005694	7.50	387.97	14.70	0.80	10.59	10.00
4004732	7.50	387.97	13.40	0.80	9.66	10.00
400588y	5.00	398.36	8.00	0.80	5.92	7.50
4005945	5.00	401.82	9.60	0.80	7.16	7.50
400610y	5.00	389.70	8.00	0.80	5.79	5.00
4006151	10.00	381.04	15.40	0.80	10.90	10.00
4006267	5.00	389.70	8.60	0.80	6.22	7.50
4006291	7.50	387.97	13.20	0.80	9.51	10.00
4006445	7.50	394.90	17.80	0.80	13.06	12.50
4006577	7.50	398.36	13.60	0.80	10.06	10.00
4006607	5.00	398.36	10.00	0.80	7.40	7.50
4006658	5.00	398.36	11.30	0.80	8.36	7.50
4006674	7.50	398.36	14.60	0.80	10.80	10.00
400672y	5.00	401.82	11.40	0.80	8.51	7.50
400678x	5.00	381.04	9.00	0.80	6.37	7.50
4006828	5.00	398.36	10.50	0.80	7.77	7.50
4006844	7.50	398.36	13.40	0.80	9.91	10.00
4006887	10.00	398.36	18.50	0.80	13.69	12.50
4006941	5.00	398.36	8.70	0.80	6.44	7.50

Connection no.	Sanctioned load(HP)	Voltage	Current(Amp.)	PF	Actual load (HP)	Actual load (HP) rounded off
400695x	7.50	401.82	13.00	0.80	9.70	10.00
4007018	10.00	398.36	13.80	0.80	10.21	10.00
4007077	7.50	401.82	13.40	0.80	10.00	10.00
4007166	7.50	398.36	11.80	0.80	8.73	7.50
4007182	7.50	398.36	10.60	0.80	7.84	7.50
4007271	7.50	401.82	13.60	0.80	10.15	10.00
4007301	7.50	401.82	18.40	0.80	13.73	12.50
4007328	10.00	398.36	17.40	0.80	12.87	12.50
4007468	7.50	401.82	9.00	0.80	6.72	7.50
4007484	7.50	398.36	12.60	0.80	9.32	10.00
400753y	7.50	401.82	10.40	0.80	7.76	7.50
4007611	7.50	381.04	14.40	0.80	10.19	10.00
Total	**465.00**				**633.51**	**635.00**

* After adjusting the load

EDC Mathura

Meter no.	Sectioned load (HP)	Voltage(volts)	Current (Amp.)	PF	Actual load (HP)	Actual load round-off (HP)
M402/10499	10.00	415.68	3.10	0.85	10.95	10.00
M401/10471	10.00	415.68	3.00	0.85	10.60	10.00
M401/104544	10.00	407.02	3.40	0.85	11.76	12.50
M401/9890	10.00	407.02	3.00	0.85	10.38	10.00
M401/12316	10.00	412.22	3.20	0.85	11.21	12.50
M401/1169	10.00	405.29	3.00	0.85	10.33	10.00
M401/10578	10.00	412.22	3.10	0.85	10.86	10.00
M401/9995	10.00	412.22	3.00	0.85	10.51	10.00
M401/10577	10.00	408.75	2.90	0.85	10.08	10.00
M401/11119	10.00	408.75	2.80	0.85	9.73	10.00
M401/10605	10.00	415.68	3.10	0.85	10.95	10.00
M401/11369	10.00	408.75	3.00	0.85	10.42	10.00
M401/10856	10.00	412.22	3.00	0.85	10.51	10.00
M401/15272	10.00	407.02	2.80	0.85	9.69	10.00
M402/15471	10.00	415.68	3.00	0.85	10.60	10.00
M415/16781	10.00	412.22	3.20	0.85	11.21	12.50
M401/10415	10.00	407.02	3.00	0.85	10.38	10.00
M403/4933	10.00	408.75	3.10	0.85	10.77	10.00
M420/12239	10.00	412.22	3.20	0.85	11.21	12.50
M418/15271	10.00	415.68	3.00	0.85	10.60	10.00
M410/12238	10.00	412.22	3.00	0.85	10.51	10.00
M402/14862	10.00	405.29	3.20	0.85	11.02	12.50
M402/16859	10.00	408.75	3.40	0.85	11.81	12.50
M401/15324	10.00	415.68	3.10	0.85	10.95	12.50

Meter no.	Sectioned load (HP)	Voltage(volts)	Current (Amp.)	PF	Actual load (HP)	Actual load round-off (HP)
M412/14630	10.00	415.68	3.00	0.85	10.60	12.50
M402/16234	10.00	405.29	2.80	0.85	9.65	10.00
M402/15426	10.00	405.29	2.90	0.85	9.99	10.00
M401/85923	10.00	415.68	3.00	0.85	10.60	10.00
M415/10362	10.00	408.75	2.90	0.85	10.08	10.00
M402/3775	10.00	426.07	3.70	0.85	13.40	12.50
M402/0001	10.00	412.22	2.20	0.85	7.71	12.50
M402/1002	10.00	412.22	4.60	0.85	16.12	12.50
M422/12279	10.00	412.22	2.90	0.85	10.16	10.00
M403/12035	10.00	398.36	3.10	0.85	10.50	12.50
M422/12301	10.00	398.36	2.40	0.85	8.13	7.50
M422/12626	10.00	401.82	3.00	0.85	10.25	10.00
M410/15398	10.00	415.68	3.60	0.85	12.72	12.50
M406/15098	10.00	412.22	3.00	0.85	10.51	10.00
M404/15011	10.00	415.68	3.00	0.85	10.60	10.00
M403/12037	10.00	398.36	2.20	0.85	7.45	12.50
M401/5104	10.00	408.75	3.70	0.85	12.86	12.50
M402/12355	10.00	412.22	3.00	0.85	10.51	10.00
M422/12299	10.00	415.68	3.60	0.85	12.72	12.50
M421/12353	10.00	408.75	3.10	0.85	10.77	10.00
M421/12354	10.00	415.68	3.60	0.85	12.72	12.50
M422/12906	10.00	408.75	3.10	0.85	10.77	10.00
M421/12967	10.00	398.36	3.80	0.85	12.87	12.50
M402/15624	10.00	398.36	3.10	0.85	10.50	10.00
M402/12362	10.00	398.36	3.10	0.85	10.50	10.00
M401/8542	10.00	398.36	3.90	0.85	13.21	12.50
M403/15269	10.00	407.02	3.10	0.85	10.72	10.00

Meter no.	Sectioned load (HP)	Voltage(volts)	Current (Amp.)	PF	Actual load (HP)	Actual load round-off (HP)
M422/15623	10.00	381.04	2.30	0.85	7.45	7.50
M422/16325	10.00	398.36	3.20	0.85	10.84	12.50
M422/16233	10.00	398.36	3.10	0.85	10.50	10.00
M422/12301	10.00	398.36	3.10	0.85	10.50	10.00
M422/10653	10.00	412.22	4.60	0.85	16.12	15.00
M422/15623	10.00	401.82	3.10	0.85	10.59	10.00
M422/12536	10.00	398.36	3.70	0.85	12.53	12.50
	580.00					**632.50**

EDC Lucknow

Consumer name	Sanctioned Load (HP)	Voltage	Current(Amp.)	PF	Actual load (HP)	Actual Load (HP) rounded off
Consumer 1	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 2	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 3	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 4	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 5	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 6	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 7	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 8	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 9	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 10	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 11	3.00	401.82	4.00	0.80	2.99	3.00
Consumer 12	10.00	401.82	18.00	0.80	13.43	12.50
Consumer 13	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 14	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 15	7.50	381.04	13.60	0.80	9.63	7.50
Consumer 16	7.50	381.04	13.60	0.80	9.63	7.50
Consumer 17	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 18	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 19	3.00	401.82	4.00	0.80	2.99	3.00
Consumer 20	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 21	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 22	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 23	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 24	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 25	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 26	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 27	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 28	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 29	5.00	394.90	10.40	0.80	7.63	5.00
Consumer 30	2.00	401.82	3.00	0.80	2.24	2.00
Consumer 31	5.00	401.82	10.00	0.80	7.46	7.50
Consumer 32	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 33	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 34	3.00	394.90	4.00	0.80	2.93	3.00

Consumer name	Sanctioned Load (HP)	Voltage	Current(Amp.)	PF	Actual load (HP)	Actual Load (HP) rounded off
Consumer 35	1.50	401.82	3.00	0.80	2.24	1.50
Consumer 36	5.00	401.82	10.00	0.80	7.46	5.00
Consumer 37	5.00	394.90	10.40	0.80	7.63	7.50
Consumer 38	5.00	394.90	10.40	0.80	7.63	7.50
Total	**187.50**					**260.00**

7. Annexure VII: Minutes of meeting on the Stakeholder Workshop

Minutes of Meeting on the Stakeholder Workshop held at the office of the FoR Secretariat on April 03, 2013 for the "Study on Assessment of component-wise AT&C Losses in the State of Uttar Pradesh"

Attendees present

Sr. No.	Name	Designation
1	Shri G. Swan Za Lian	Under Secretary (APDRP), Ministry of Power
2	Shri Chandra Prakash	Dy. Chief (Engineering), CERC
3	Shri S. K. Chatterjee	Dy. Chief (Regulatory Affairs), CERC
4	Shri V. P. Samy	DGM, PFC
5	Shri Mayank Sharma	Assistant Manager (SSA&RR), PFC
6	Shri Mohan Singh	Chief Engineer (Commercial), PVVNL
7	Shri S.K .Gupta	Superintendent Engineer (Commercial), PVVNL
8	Shri Naresh Bharti	Superintendent Engineer (Commercial), DVVNL
9	Shri Tanmay Vyas	SRO (FOR)
10	Shri Piyush Bhatheja	RO (FOR)
11	Shri. Anoop	RO (FOR)
12	Shri Amit Paul Ekka	RO (FOR)
13	Shri Nand Lal	Executive Director, Medhaj Techno Concept P. Ltd
14	Shri S. Siddharth Mehta	Vice President, Medhaj Techno Concept Private Ltd.
15	Shri Samik Ganguli	Senior Manager, Medhaj Techno Concept Private Ltd.
16	Alok Kaushal	Consultant, Medhaj Techno Concept Private Ltd.

Agenda for the workshop

- Share the background and objective of the study;
- Knowledge sharing session on the key findings of the study to the stakeholders;
- Obtain Stakeholder views on computation of component wise AT&C Losses; and
- Feedback from the Stakeholders on the issues related to the AT&C Losses in their respective DISCOMs.

Proceedings of the workshop

1. Shri S.K. Chatterjee, Dy. Chief (Regulatory Affairs), CERC welcomed all the attendees participated in the workshop. He has initiated the proceedings of the workshop by highlight the background and objective of the study as well as the purpose of the workshop.
2. Medhaj Techno Concept Pvt. Ltd. (hereinafter referred as "Consultant") has started the presentation by highlighting the background, **value addition of the study**, scope work, selection methodology for selection of the four representative circles, approach and methodology for computation of component wise AT&C Losses, key findings of the study including computation of the AT&C Losses in the four selected circles in Uttar Pradesh and the recommendations suggested in the draft report. The representatives of the FoR Secretariat also highlighted some key aspects during the presentation such as selection parameters of the circles, loss computation methodology etc.

3. The consultant also highlighted the component wise Commercial Loss in the four representative circles in the areas of deficient metering, billing and collection inefficiencies and theft.

4. The DISCOM representatives highlighted that the DISCOMs in Uttar Pradesh have introduced several measures to reduce their Commercial Loss such as installation of AMR at four different locations to reduce Commercial Loss for the HT consumers. However, Commercial Loss still remains a major issue for reduction of the AT&C Losses in the DISCOMs. They have also pointed out the constraints faced by them in reducing Commercial Loss such as energy theft by the disconnected consumers, lodging complaints against the erring consumers etc. The DISCOMs representative also pointed out the revenue loss on account of installation of pre-paid meters to the HT consumers.

5. The consultant has highlighted that the Technical Loss in the four representative circles in Uttar Pradesh is in the range of 15%-17%. The representatives from the PVVNL and DVVNL DISCOMs also gave their consent on the Technical Loss range shown in the study. The Chief Engineer (PVVNL) highlighted that the Technical Loss in the distribution system will increase beyond the 17% level, in case of overloading of feeders and tapping. The FOR has suggested that this range could be used by the Regulators for exception analysis in future.

6. After completion of the presentation, the FOR has invited the representatives of PVVNL and DVVNL to present their views on the component wise AT&C Losses and share their experience in various loss reduction strategies initiated by their respective DISCOM.

7. The DISCOM representatives have agreed that assessment of component wise AT&C Losses is a scientific method for computation of overall energy loss and would assist the DISCOMs in to plan their future loss reduction initiatives more effectively.

8. The Chief Engineer, PVVNL has shared the AT&C Losses figures for the month of November and December 2012 and January 2013 for the 5 zones of PVVNL. The AT&C Losses figures submitted by PVVNL found also in the range of 30%-45%, close to the findings of the study. The FOR suggested the figures may be used for analysis in the final report.

9. The FOR Secretariat has suggested that a range of Technical and Commercial Losses should be incorporated in the Final Report as the concluding part of the component wise AT&C Losses reduction analysis. The consultant has agreed to incorporate the same in the Final Report.

10. On extrapolation of the study results, the FOR has clarified that the study has been carried out the based on the extrapolation of the sample study results on the overall distribution system. So, this point has already been covered in the study.

Action points

- Incorporating the Technical and Commercial losses range in the Final report as the as the concluding part of the component wise AT&C Losses reduction analysis.
- Matching the findings of the study with the Terms of Reference of the study.