

Annexe - 3**Status Report on Compliance with Directives**

The directives issued in all the earlier Tariff Orders viz., Tariff Order 2000, Tariff Order 2002 & Tariff Order 2003 were for compliance by the KPTCL in its capacity as a Transmission & Bulk Supply licensee and the ESCOMs in their capacity as Distribution & Retail Supply Licensees. Consequent to the enactment of the Electricity Act 2003, KPTCL is now a State Transmission Utility and is barred from the trading activity and the ESCOMs have to purchase power directly from the Generating sources.

All the Directives issued in the earlier orders are deemed to have been re-issued wherever compliance to the same has not been satisfactory and will continue to apply both to KPTCL and the ESCOMs to the extent they are applicable to them. The analysis of the compliances is being done with the above background

1.0 Management Information System**1.1 Summary of Directive**

The KPTCL shall improve its management information system in the next filing to give greater details and explain the basis for all the projections indicating the sources of data and the method of estimating projected values.

1.2 Reply of KPTCL in the ERC filing for FY06:

- i. It was submitted by KPTCL that the consultants, M/S. PWC, have not submitted the final report and action is being taken to develop necessary software for consolidation of various reports received from all divisions under MS Exchange project, which was installed and commissioned in March 2004. Testing of about 15 reports is under progress and after successful testing, action will be taken to develop the required reports.

- ii. In their subsequent reply dated: 12.4.2005, it is stated that since Government of Karnataka appointed the consultants M/S PWC, no action can be taken by KPTCL for the delay by M/S. PWC.
- iii. It is further stated that the MS Exchange server is installed and 7 financial reports are being tested. The technical formats are being developed and after thorough testing the same could be implemented. The time required for implementation is about 12 months.
- iv. Web site of K.P.T.C.L. is updated by posting the capacity and peak load recorded month wise for one year in FY04-05 for all 220KV and 400KV stations. The web page exclusively for Open Access is also made available.
- v. Software for maintenance of cost register is yet to be developed. However, the accounting units are using the computers for the purpose and no uniform software is available

1.3 Reply of BESCO in the ERC filing for FY06

BESCO is in the forefront in many of the IT initiatives and is implementing many computerized programmes in its day-to-day activities. The details are enumerated hereunder

- i. **Billing** activity is computerized in all the 96 Subdivisions. Consumer data is posted on regular basis to central server. This data is made available on the Website and the Consumers can view the billing History of their Installations.
- ii. **24 hour Internet Connectivity** is established from all offices of BMAZ to Corporate office. This has enabled flow of data from Sub-Division to Division to Circle to Zone and in turn to Corporate Office.
- iii. **BESCO website (www.besco.org)** has been running successfully since last year. An E-mail system is also in place to facilitate communication among offices of BESCO. All information with regard to progress of works and other statistical returns are received in the corporate office through web.
- iv. **Any Time Payment counters:** ATPs have been installed in 20 Subdivisions in BMAZ. This facility is being extended to other Subdivisions also. BESCO is also participating in Bangalore – one project.
- v. **IVRS:** 'IVRS' has been installed which facilitates customers seeking billing information or for lodging complaints at Central Consumer Complaints Division.

- vi. As a part of **e-governance**, e-Tendering system is put in place.
- vii. **AMR:** Automatic Meter Reading of all HT installations & all LT installations above 40 HP is initiated in BMAZ area in the first instance. This project is in the initial stage of implementation.
- viii. **MMS:** Mobile Messaging Service has been running successfully since last year. Consumers are using this for lodging complaints, seeking billing and other related information. This has also facilitated communication among BESCO offices.
- ix. **TIMS (Transformer information Management System)** software has been running since last year in all Divisions and is being used to monitor the movement of individual transformers right from its receipt in the stores till it is scrapped including the intermittent repairs and maintenance.
- x. **CMS (Cash Management System):** Online (CMS) has been launched. This will facilitate BESCO to network with banks and its sub-divisions so as to ascertain its day-to-day cash flow and also reduce the floats with the banks.
- xi. **WMS (Works Management System) :** In order to ensure proper utilization of funds for various capital works programmes so as to reduce and also eliminate cost and time overrun, BESCO has implemented Works Management System (WMS). BESCO is now in a position to monitor its works more effectively.
- xii. **HR & Pay Roll:** HR & Pay Roll System has been installed in Corporate office and other pay drawing offices of BESCO. Final testing of the system is in progress.
- xiii. **MM package:** M/s KEONICS has supplied material management (**MM**) package. BESCO intends to implement this package for day-to-day transactions of BESCO Stores.
- xiv. **Energy Audit System:** Energy Audit System has been implemented in order to monitor losses at the level of Transformers and feeders.
- xv. **Financial accounting software** is being implemented to monitor and maintain the entire accounts and to furnish monthly and yearly returns.
- xvi. **Geographical Information System (GIS):** Order has been placed on M/s. ABB to implement Geographical Information System and asset indexing. Implementation of this package is under progress.

- xvii. **Audit Software:** Inspection Software has been implemented in BESCO to computerize Internal Audit activities.

1.4 Reply of GESCOM in the ERC filing for FY06

GESCOM has implemented the following improvement in MIS.

- i. **TRM (Total Revenue Management):** The total Revenue Management process has been automated in all subdivisions, i.e., billing & computerizing of all revenue ledgers completed and commissioned.
- ii. **Daily Critical information:** Each subdivision through E-Mail provides information pertaining to: Meter reading, Revenue Demand, Revenue collection, Disconnection details, Amount involved in the disconnection, Transformer failure, added, replaced details, Consumer complaints received, attended and balance details, new applications registered, serviced, balance with remarks.
- iii. **Inventory Management**
Computerization of Inventory Management: Computerized Inventory Management has already been commenced in Gulbarga and Raichur divisions. This system is also installed in other divisions and will commence working shortly.
- iv. **Centralized HT Billing:** By Centralized HT Billing Or High Value Consumer Management system (HVCM) is the means through which the information about HT Consumers can be gathered through E-Mail and analyzed and bills sent to the Consumers across GESCOM.
- v. **INTERNET ACCESS:** Internet access is extended to Corporate office, to all divisions and sub divisions to get daily critical information and to have communication among higher officers of GESCOM.
- vi. **IVRS SYSTEM:** To augment the existing complaint handling system, IVRS has been introduced in Gulbarga City. In due course of time it is replicating to all divisions
- vii. **WEB SITE:**

The GESCOM site has been developed and hosted online at <http://www.gescom.org>.

The GESCOM has developed in house software, which provides the following information and the same is already implemented at all the divisions.

- i. Feeder wise energy audit.
- ii. Interruption details.
- iii. DCB.
- iv. Metering conversion.
- v. BJ / KJ installation and
- vi. Water supply schemes.

1.5 Reply of MESCOM in the ERC filing for FY 06

MESCOM is fully aware of the requirement of powerful Management information system in improving the performance and enhancing consumer service. Unless the basic processes are not fully computerized, it is extremely difficult to achieve this objective.

i. BILLING AND COLLECTION:

A pilot project work is ventured in No.1 Sub-division of Mangalore and the work is entrusted to M/s. New Horizon Cyber Soft Ltd., Hyderabad and N Soft Ltd. Bangalore respectively for complete computerization of DCB and Billing system, including reading through handheld machine, Billing, Creation of Data Base, maintenance of computerized DCB, generation of exceptional reports, and other MIS so as to effectively implement revenue collection drive, has stabilized considerably. Minor problems as and when noticed are being addressed.

Work orders have been issued in respect of the work of Total Revenue Management to service providers in 24 O&M/s. subdivisions. This covers about 7.4 lakhs of installations. This work is expected to be completed shortly.

The reports generated through CPRS (Corporate Performance Reporting System) module are also available for presenting the performance of the divisions by using the DCB data on fixed

parameters like Collection Efficiency, Revenue Collections, Consumption, arrears, Units consumed per installation, Demand per unit, Arrears/Demand Ratio, etc., and are being reviewed in the Corporate office.

Computerization HT billing, downloading of data from ETV meters of HT installations using MRI and generation of Computerized bills is being done in MESCOM. Presently Computerized bills are being generated for all HT / EHT installations. Data of HT installations down loaded from ETV meters is being utilized for analysis.

ii. CORPORATE PERFORMANCE REPORTS :

Software for CPRS (Corporate Performance Reporting System) has been developed with the assistance of M/s. PWC. This consists of three modules viz.,

- i. Commercial and Financial reporting and monitoring
- ii. Regulatory reports and
- iii. Energy Balance Sheets module.

The reports generated through CPRS module, viz., Trend Analysis Reports, Tariff wise are also available for monitoring performances of each division over a period of time by using the DCB data on parameters like Collection Efficiency, Revenue Collections, Revenue Consumption, arrears, Units consumed/installation, Demand/unit, Arrears/Demand Ratio, etc., and are reviewed in Corporate office periodically.

For the generation of regulatory reports, a systematic availability of data taken through E-Mail is ensured. The information available through these reports is also useful for routine analysis and decision-making.

All the computers in the Corporate Office are connected through Local Area Network, (LAN) so as to enable various officers to view reports available from CPRS. Officers are made aware about the

usage facility of CPRS applications from their respective work places. Further, Personal Computers with associated equipments are supplied to the field staff wherever required.

Software is also developed for the preparation of energy balance sheet, which is capable of accepting data in prescribed formats generating various reports as per the requirements of Corporate and Regulatory body.

iii. Store Material Management System:

Software with the following features is developed and necessary data and information are being updated.

- Providing the Master for creating data base on suppliers / stores, venders and different procurement authorities.
- Unique product numbering for organization as a whole.
- Authorization process in place to lead control over the various processes.
- Placing purchase orders, inventory received compatibility to work in different situations such as stand-alone systems, LAN, WAN.
- Dynamic user control module to create users, their pass words, change of pass words, encryption of pass words.
- Audit trail feature, back up feature.

iv. GEOGRAPHICAL INFORMATION SYSTEM OF MAPPING AND DOCUMENTATION:

MESCOM has planned to undertake Geographical Information System (G.I.S.) of mapping and documenting of all the installations connected to each Distribution Transformer, connected on each feeder in 10 cities in Mysore circle and one city in Mangalore and Hassan circle where the APDRP works are under taken in order to effectively monitor Power Supply.

1.6 Reply of HESCOM in the ERC filing for FY 06

i. Billing and Collection Computerization:

- a. The computerization work of Billing & Collection is entrusted to six agencies and the same is started in all the 62 Sub-Divisions of HESCOM.

- b. Reports such as Bill generation and other 36 MIS formats have been developed and are under test. Further, efforts are underway to sort out the common errors facing day today in B & C software.
- c. The following works of developing modules on pilot basis will be taken up during the year 2005-06.

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|-----------------------|------------------------|
| 1. Pay Role | 3. Maintenance Module |
| 2. Project Management | 4. Finance Module |
| | 5. Material Management |

1.7 Comments of KERC :

BESCOM

The Commission notes that as reported by BESCOM billing activity has been computerised in all the 98 sub-divisions and further that BESCOM has also outsourced spot billing and total energy management activity in 46 sub-divisions. The Commission however has noted that errors in billing continue to occur as reported by a number of consumers. The Commission's staff has also noted that there still exist some problems in the billing software in Bangalore City. Further despite having computerised the billing activity, BESCOM is unable to furnish slab-wise consumption details based on billing software.

The Commission notes that BESCOM has started Any Time Payment(ATP) Kiosks in 31 sub-divisions of BMAZ and has also implemented IVRS and Mobile Messaging Service. The Commission appreciates these consumer friendly measures.

MESCOM

The Commission notes with concern that progress in computerisation has been tardy, since MESCOM has so far ventured computerisation of DCB and only on a pilot basis in two sub-divisions.

HESCOM

As regards HESCOM the Commission notes that computerisation of billing and collection has been entrusted to 6 agencies in all the 62

sub-divisions, which is still under test and is facing teething problems. Commission further notes that HESCOM has proposed to develop pay roll, project management, material management, maintenance and finance modules on pilot basis during FY 06. The Commission however feels that the progress so far in HESCOM has been poor.

GESCOM

The Commission has noted that GESCOM has computerised billing and ledger activities as a Total Revenue Management (TRM) and that the same has been completed in all the sub-divisions and that computerisation of inventory management has been taken up in two Divisions. GESCOM has also stated that it has developed a software to get information about feeder-wise energy audit, interruption details etc. While appreciating the efforts put in by GESCOM towards computerisation, the Commission at the same time is also disappointed that the quality of data being furnished has not improved much.

The Commission directs that all the ESCOMs shall take necessary action to computerise all the activities as envisaged by the Commission in the Tariff Order 2000, latest by the end of FY 06.

2.0 Energy Audit.

2.1 Summary of Directives.

This directive covered the planning and implementation of metering in KPTCL grid system voltage wise, reduction of transmission and distribution losses, creation of responsibility centres for energy audit, a scientific procedure for estimation of IP set consumption etc.

2.2 Reply of KPTCL in the ERC filing for FY 06:

- i. Metering in transmission system of KPTCL at 400 KV, 220 KV AND 11KV banks is in place. KPTCL states that as on December 2004, the total numbers of meters not working at interface points are 39. Action is being taken to rectify/replace the same and keep them in working condition.

- ii. Voltage wise energy audit statement from April, 2004 to December, 2004 is furnished to the Commission.
- iii. The status of metering at all voltage levels at interface points has been furnished to the Commission.

2.3 Reply of BESCO in the ERC filing for FY 06:

i. BESCO, with a goal to ascertain the correct loss levels has established a separate cell headed by a Superintending Engineer, assisted by an Executive Engineer and 4 AEEs, to monitor the energy loss levels, analyze various outputs and to take remedial measures for bringing down the Distribution and Commercial losses. Inspection teams are regularly visiting various stations and the distribution transformer centers to conduct counter checks of readings and the anomalies.

ii. All the 11KV interface points are metered. Energy input readings from each individual station are monitored everyday, both at corporate level and at all subdivision levels. The readings of energy consumptions are reconciled with KPTCL and other ESCOMs (for inter ESCOMs transaction).

iii. Energy Audit of 14 towns:-

1. As directed by the Commission, the BESCO conducting energy audit in 14 towns whose population is more than 50000

In BESCO, DTC wise Energy Audit is being carried out both departmentally and through outside agencies. In respect of Chitradurga, , Chikkaballapura, KGF and Sira towns the DTC wise energy audit is being carried out departmentally.

M/S. PRDCL have carried out the DTC wise Energy Audit in respect of selected 554 DTCs for a period of 3 months. M/S. Secure Meters have carried out DTC wise Energy Audit of selected 162

DTCs for a period of 3 months in Ramangara and Tumkur towns apart from some of the DTCs in Bangalore City.

Action is being taken for conducting Distribution Transformer Centre wise Energy Audit in all the Cities, towns and villages having population of more than 2000 in entire BESCO area.

The report and analysis of the energy audit would be a pointer to plan the improvement works aimed at reduction of distribution losses, strengthening of the distribution network and also metering programme for reduction of commercial losses.

The procedure for audit has been finalized in consultation with the Commission and every month a report is being sent. Based on the analysis of the energy audit, the following corrective measures are being implemented for reduction of both technical & commercial losses.

iv. DTC wise energy audit

The technical losses were hitherto determined by comparing the energy received on 11KV feeders with the aggregate of energy at consumers' terminals. This methodology has the deficiency that the areas of losses are not able to be focussed and graded depending on the losses. Hence DTC wise Energy Audit was considered wherein the areas of high loss levels could be categorized and remedial measures taken to reduce the losses. Accordingly DTC wise Energy Audit is being carried out in BMAZ, BRAZ and Chitradurga Zones. The DTC wise energy losses are being regularly monitored and analyzed at corporate office level and wherever the losses were more than 5% these DTCs were identified and remedial actions are being undertaken.

- a) Action is taken to replace all the MNR meters by high precision meters.

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- b) Rating is done periodically and on the basis of rating report, action is taken to replace the slow recording/ defective meters by high precision meters and also cognizable cases are booked wherever theft is detected during rating. F2 feeder of Kolar Town and BT feeder of Davanagere town have been selected for testing of meters and also replacement of defective meters.
 - c) All unmetered installations like, BJ/KJ, IP sets and street lights are being Metered.
 - d) Action is being taken to replace the lower size conductor by higher size.
 - e) Action is being taken to provide multiple circuits for the transformer centers wherever the existing circuits are heavily loaded.
 - f) Balancing of loads is carried out on the transformer centers wherever unbalancing of load is observed.
 - g) Action is being taken to shift transformer centers to the load centers.
 - h) Additional transformer centers are provided to reduce the overloading of existing transformer centers.
 - i) Vigilance activity is strengthened to put a curb on theft of electricity.
 - j) Rating of installations and calibration of metes are being carried out on a large scale.

v. Assessment of IP consumption:

As per the Commission's directives, meters have been Provided to DTCs predominantly feeding IP sets, to determine the monthly consumption of IP sets. Meters have been fixed to two to four such Pilot DTCs in each O&M section, average consumption of each IP set in each O&M section is determined and the total assessment of consumption is made by extrapolating to Sub-Division, Division and then to BESCO as a whole. BESCO is regularly furnishing the IP set readings and the assessed consumption of IP sets to the Commission on monthly basis.

Recently, IP consumption assessment was reviewed at the highest level, and during the review, it was found that a number of anomalies were found in the readings due to various reasons like not recording meters, burnt CTs, slow recording meters and application of wrong CT constants etc., Hence the assessment of IP sets consumption was found to be slightly inaccurate.

In the light of the above, a mass drive was conducted during May 2004 in all the O&M divisions, all the 651 pilot meters were calibrated and the defects were set right. After the completion of the task, the IP sets consumption has been recomputed. After the above exercises, it was found that the overall error was in the order of 1.0687. BESCOM has already brought this to the notice of the Hon'ble Commission vide our letter dated 04.12.04

The assessed IP set consumption for FY-04 and for the months of April-04 and May-04 are therefore revised by applying the above correction factor. The assessed consumption of IP sets from June-04 onwards does not need any correction factor.

2.4 Reply of GESCOM in the ERC filing for FY 06

GESCOM is conscious & concerned about the high level of distribution loss in the system. It is fully committed to reducing the losses & introducing accounting at levels for ensuring the same.

As a first step, GESCOM is collecting the information from divisions and analysis is been done at Corporate Office on a continuous basis. In order to monitor the energy losses more closely and to identify contributory factors, sub-division level analysis is also conducted at Corporate Office.

GESCOM has completed the analysis of the energy audit reports of Ten Towns upto Dec. 2004 in respect of un-metered category, meters are

provided to all streetlight circuits in the Towns, and metering of IP Sets is also carried out at all Towns. But agitated farmer released meters provided to IP Sets. However IP Set consumption is assessed on the basis of reading obtained from the IP Sets metered and the meters provided to DTC's predominately feeding to IP Sets in urban areas. In respect of Shahabad, & Koppal Towns 100% un-metered installations are metered.

There is a reduction in Energy Loss in 10 towns. In respect of Koppal towns there is increase in percentage of Loss. This may be due to non-technical losses. Vigilance Wing has initiated action to detect the theft of Energy. Basavakalyan town has been taken up this year for energy audit and the existing loss of 37.76% has been reduced to 36.58%.

Intensive raids are being conducted in all the towns. GESCOM has initiated number of steps to reduce the energy loss in towns.

- (A) All non-recording meters are replaced in Bellary & Koppal Towns. Instructions issued to complete the metering of installations in other Towns.
- (B) All urban IP Sets are metered in Yadgir, Shahabad, Koppal & Hospet Towns as on 31.12.2004. However, there is resistance by farmers for fixing meters to their IP Sets. In some cases, agitated farmers have removed the meters provided to their IP Sets.
- (C) All Streetlight circuits are metered in Shahabad, Sindhanoor, Koppal & Bellary towns and energy consumption of Streetlight is being taken as per actual consumption.
- (D) In Bidar, Raichur and Gulbarga towns, the following works are taken upto improve the distribution under APDRP, which are under progress.
- (E) Metering works for replacing the MNR and fixing meters to DC installations serviced under ATL is in progress and details are noted here below.

	Existing as on 31.3.2004	Found from 4/04 to 12/04	Replaced from 4/04 to 12/04	Balance as on 31.12.04
M N R	72,886	12,582	8,662	76,806
D C	1,06,964	-----	969	1,05,995

- (F) Meters are provided to 67,804 Nos. of BL / KJ installations.
- (G) Meters are provided to 1296 Nos. of street circuits.
- (H) Checking of installations is being conducted for detecting commercial loss. During 2004-05 up to Sep.04, 14,396 installations are inspected and non-technical loss of 10.42 % (18,80,153 units) is detected.
- (I) To reduce Technical Loss it is programmed to provide service connectors, providing joints with clamps and sockets and providing additional transformer at load centers. Improvement in distribution network has been planned including addition of new DTC and adding of 11 KV lines, shifting of DTCs to load centers and shifting of meters to accessible locations.
- (J) During April 2004 to Dec 2004, 414 DTCs are added with addition of 270 KM of 11 KV line and 329 KM of LT line.
- (K) Under APDRP scheme work is under progress in Bidar, Gulbarga and Raichur towns.
- (L) Meters are fixed to 450 Nos. of DTCs having predominant IP set load and reading are being taken regularly to assess the IP consumption.

The GESCOM intensified Vigilance raids in all Towns and in rural areas

2.5. Reply of MESCOM in the ERC filing for FY 06:

MESCOM attaches utmost importance to Energy Accounting and Energy Auditing at all levels including vigorous monitoring in respect of the 11 towns and cities and reports are being sent to K.E.R.C. regularly.

i. ENERGY AUDIT - REVISED PROCEDURE :

An exclusive cell called 'Energy Billing and Energy Auditing Cell' has been functioning in the corporate office with an Executive Engineer, 2AEEs and an AO working on the job.

The team has developed a software program for the purpose of updating and linking of data inputs, which has simplified the methodology, apart from improving the procedure earlier adopted and this has resulted in better accuracy in accounting system and in assessing losses.

The salient features are:-

- Input energy revised from KPTCL, IPPs and other ESCOMs as obtained from Interface points are incorporated in lieu of the earlier procedure of adding up with 11kV feeder imports. EHT consumption, KPC consumption and the Auxiliary consumptions are not taken in to account.
- To have true assessments, metered sales of various category of installations (other than IP sets), reflected in subsequent month's DCB and unmetered sales for categories such as IP sets, BJ&KJ and Street Lights are assessed as per guidelines issues by KERC, since 100% metering and 100% reading and billing of these installations are not achieved yet.
- For assessing IP sets consumptions, Pilot meter readings of DTCs predominantly feeding IP sets in each O&M section are obtained, section wise average consumption per IP set is calculated, after deducting 7.5% distribution losses and consumption by other loads if any, on these Pilot TCs. This section wise average is multiplied by no. of IP sets in each section and section wise consumption are added up for arriving at IP set consumption for the division.

MESCOM is continuously striving to achieve 100% metering of all IP sets, Street Lights, and BJ&KJ installations, inspite of resistance from a section of Consumers.

Since, with the present depleted strength, meter reading of all these newly metered installations has not been possible. Hence outsourcing of meter reading is undertaken.

ii. MEASURES FOR REDUCTION OF LOSSES:

A no. of measures are contemplated for reduction of losses which include Bifurcation of overloaded feeders, adding up new feeders and link lines, upgrading of conductors to keep voltage regulation within permissible range of 6%, providing additional transformers to release overloads etc.,

Further, it is proposed to carry out E&I works in few selected divisions during FY 06 in a more vigorous manner and hence the budget allocation has been increased to Rs.60 crore.

iii. REPLACEMENT OF NR METERS AND PROVIDING METERS TO DC INSTALLATIONS .

The no. of installations having 'Not recording' meters have been drastically cut down by prompt and regular replacements. 2,53,789 NR meters have been replaced during 2002-03 and another 56,550 NR meters are replaced during FY 04 and 33,500 NR meters are replaced during FY 05 up to end of Dec.2004. However, this is an ongoing process with regular occurrence of meters becoming faulty/sticky and as and when complaints are received, the same is being attended.

Care is being taken to replace faulty meters of high consumption installations like power and commercial on priority.

iv. VIGILANCE ACTIVITIES

To eliminate theft & pilferage of power, vigilance action plan has also been formulated and the targets have been set to convert commercial losses in to revenue demand. All the 8 Vigilance Police – Stations have started functioning. All the supporting staffs have been posted except for a few technical staff. As on 31.12.04, 1568 cases have been booked (both cognizable & non-cognizable) and an amount of Rs.259.99 lakhs, have been claimed as back billing

charges & compounding fee. Recovery of back billing charges and compounding fees is being pursued.

v. DISTRIBUTION LOSS OF 11 CITIES/TOWNS IN MESCOM:

- a) The computed average distribution loss for the year FY04 in the cities of Mangalore, Udupi, Shimoga, Bhadravathi, Sagar, Chamarajanagar and Mysore was well within 15%. In the cities of Chickmagalur, Mandya and Hassan, it was in the range of 15-20%.
- b) For FY 05 , Hon'ble Commission directed to include Kollegal Town for energy Audit in addition to existing selected 10 Towns / cities.
- c) During FY 05, Chickmagalur city has shown Av. loss of above 15% from April 04 to Nov 04 and all other towns including Kollegal has shown loss below 15%.
- d) Analyzing the loss figures and developing action plan to address the same is a continuous process and efforts are on to bring the losses in the cities to less than 15%.
- e) Substantial amount of energy loss will be reduced by successful implementation of APDRP works. The second phase of APDRP works is being carried out in Mysore Circle, Mangalore Circle and Hassan Circle. APDRP works in cities of Mysore, Mangalore, Hassan, Udupi, Mandya and Chamarajanagar is under progress and will be completed in 2005 – 06.
- f) During FY 06, APDRP works are proposed to be taken up in Shimoga circle comprising of Shimoga city, Bhadravathi Town, Sagar town and Chickmagalur city.
- g) Metering of IP sets in limits of eleven cities listed as above has been accomplished in MESCOM.
- h) For identifying installations, which are within municipal limits as observed by KERC study team, it is decided to redefine administrative boundaries of city sub division so that it is within the municipal limits.

2.6 Reply of HESCOM in the ERC filing for FY 06:

The energy accounting is done at the division level taking the net input and sales and losses are arrived.

Whenever faulty metering observed at IF Points, same is replaced on top priority in pursuance with KPTCL and other ESCOMs authorities. Till rectification, energy transaction at such locations is assessed through technical method of computing. Average IP set consumption is arrived on the basis of pilot readings of meters fixed to Distribution Transformer Centres feeding predominantly to IP installation duly deducting 8% L.T. loss.

ii. VIGILANCE ACTIVITIES:

At present, there are seven Vigilance Cells are functioning at different places headed by the Superintendent of Police whose HQ is at Hubli.

ENERGY AUDIT REPORT OF TOWNS/CITIES:

Further, 12 cities/towns selected for energy audit earlier has been increased to 16 Nos during FY-05. The various improvement works have been taken up such as, providing additional DTC, bifurcation of overloaded feeders, reducing LT to HT Ratio, replacing the existing EM meters of high revenue yielding Installations by High precision meters, 100% inspection of LT-3/LT-5 Installations etc.

ENERGY AUDIT REPORT ON THE SELECTED 11KV FEEDERS / TOWNS:

In addition to the above, one 11 KV feeder in each Towns/Cities having high losses have been selected for intensive activity. Concerned officers have been directed to take up the intensive improvement works and increase Vigilance activity etc, to bring down the loss level to 15% or below.

2.7 Comments of KERC:

- i. The Commission notes that even though more than 2 years have elapsed since the formation of the ESCOMs, metering of the interface points has not been completed.

The following table provides the details of number of interface points between KPTCL and ESCOMs as at the end of March 2005:

Metering Point	Bank IF		EHT			IPP		Total
	11 KV	33 KV	66 KV	110 KV	220 KV	11 KV	33 KV	
BESCOM	455	5	31	0	6	5	0	502
MESCOM	214	24	14	6	1	12	0	271
HESCOM	152	94	1	2	1	1	10	261
GESCOM	115	46	2	9	2	4	8	186
Hukkeri	4	3	0	0	0	0	1	8
Total	940	172	48	17	10	22	19	1228

Details of faulty Interface points are as follows (At the end of April 05)

Metering Point	Bank IF		EHT			IPP		Total
	11 KV	33 KV	66 KV	110 KV	220 KV	11 KV	33 KV	
BESCOM	7	0	0	0	0	0	0	7
MESCOM	0	0	0	0	0	0	0	0
HESCOM	5	1	0	0	0	0	0	6

The Commission has been emphasizing the importance of providing meters of the required accuracy at the interface points in all the review meetings with the KPTCL and the ESCOMs. But the compliance with this important directive has not been satisfactory. The result of this non-compliance has been reflected in the ERC filing for FY 05 of the KPTCL and the ESCOMs in the matter of energy sales to the ESCOMs projected by KPTCL and the energy inputs assumed by the ESCOMs in their ERC filings as indicated hereunder:

Particulars	BESCOM	MESCOM	HESCOM	GESCOM	Hukkeri
Energy Input to ESCOMs in the ERC filing of KPTCL for FY 05 in MU	14670	6062	6265	4480	149
In put from KPTCL at interface points in the ERC filing of MESCOM in MU	-	5900	-	-	-
Input from KPTCL at Interface points in the ERC filing of HESCOM in MU	-	-	6255	-	-

During validation discussions it was revealed to the Commission that wherever meters are not provided or the existing meters are faulty for whatever reasons like burnt out CTs/PTs etc, it has become necessary to compute the input at the interface point with reference to a meter reading either upstream or downstream of the interface point correcting for losses. It is learnt that this necessarily involves assumptions and approximations and as a consequence mutual agreement between the KPTCL and the concerned ESCOMs or between two ESCOMs as to the correctness of the consumption has not been reached easily. The agreement entered into between the KPTCL and the ESCOMs at the time of formation of the ESCOMs calls for provision of main and check meters at the interface points of 0.2 class accuracy with CTs and PTs of the corresponding accuracy by the seller and the buyer respectively precisely for the purpose of accurate measurement of energy sold/purchased and to obviate the necessity of computation. The Commission further observes that inaccuracies of these figures have a direct bearing on the computation of Transmission/Distribution losses of KPTCL/ESCOMs. The Commission therefore directs the KPTCL & ESCOMs to furnish to the Commission a time bound action plan within a month of this order for completing the metering all the interface points as per the terms of the agreement expeditiously.

ii. Energy Audit Metering-Voltage wise

KPTCL has stated that metering in the transmission system at 400 KV, 220 KV and 11 KV bank is in place. Voltage-wise energy audit statement from April 2004 to December 2004 is furnished.

The ESCOMs have furnished in the ERC filing, (Format D-19) break-up of losses like HT line loss, transformation loss, LT line loss and commercial loss. It is also stated by the ESCOMs that the breakup of losses is only indicative. The Commission observes that the break-up figures as furnished are not realistic in the absence of energy audit

metering at different voltage levels in the distribution system. The Commission therefore directs that the energy audit metering shall be provided at different voltage levels wherever necessary so that the breakup of the loss figures as mentioned above are furnished based on the actual measurements in the next filing.

iii. Distribution losses in towns and cities

The Commission has been monitoring distribution losses in towns and cities having population of more than 50,000 for the last four years. Initially 46 towns and cities were being monitored and subsequently during the last census it was noticed that seven more towns were observed to have population of more than 50,000 and these are included under monitoring presently. The following tables show the figures of losses as reported for FY 03 and FY 05

FY 03

ESCOMs	Number of Towns monitored	Towns with loss percentage					
		35-40%	30-35%	25-30%	20-25%	15-20%	<15%
BESCOM	14	-	- 1	1	2	7	3
MESCOM	10	-	-	-	1	5	4
HESCOM	12	-	-	3	1	5	3
GESCOM	10	2	5	3	2	1	-
Total	46	2	6	4	6	18	10

FY 05

ESCOMs	Number of Towns monitored	Towns with loss percentage					
		35-40%	30-35%	25-30%	20-25%	15-20%	<15%
BESCOM	14	-	-	2	2	4	6
MESCOM	11	-	-	-	-	4	7
HESCOM	16	-	-	1	3	5	7
GESCOM	11	2	2	3	3	1	-
Total	52	2	2	6	8	14	20

As seen from the above tables, some progress has been achieved by BESCOM, MESCOM and HESCOM as to the number of towns and cities which have shown distribution loss less than 15%. GESCOM has not achieved any progress in this regard. As stated earlier, this is also one of the reasons for the increase of loss levels in GESCOM in FY 04 and FY 05.

The Commission therefore directs that BESCOM, MESCOM and HESCOM shall focus their attention on the towns and cities, which show losses more than 15% and bring down the losses to below 15% in a time bound manner. In respect of GESCOM the Commission observes that the progress is tardy. One of the reasons for the poor progress is with regard to the high percentage of DC/ MNR installations compared to the other ESCOMs as shown in the following Table:

Percentage of DC/MNR Installations to the total number of Installations:

BESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	2.49	2.39	2.22	1.64
2004-05	0.39	0.06	0.046	0.056

MESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	2.08	2.27	2.26	2.22
2004-05	1.61	1.52	1.66	1.05

HESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	3.78	2.93	2.32	1.65
2004-05	1.49	1.49	0.41	0.28

GESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	17.65	16.91	15.99	15.07
2004-05	10.14	10.19	10.09	13.01

The Commission therefore directs GESCOM that the ratio of DC/MNR installations is brought down to the level of less than 1% in the next one year and also to take necessary steps for system improvement to achieve significant reduction of losses in the towns and cities.

iv. Census of IP sets and estimation of IP set consumption:

The Commission has issued directives in the previous Tariff Orders regarding census of IP sets. The GoK also in its letter no. EN20 PSR 2005/225 dated 20.04.2005 has informed the ESCOMs that in spite of the directive of the Commission in its Tariff Orders and also the communication of the Government in this regard to take up the census work on top priority basis, neither the KPTCL nor the ESCOMs have taken any action in the matter. The Government also directed the ESCOMs to immediately take up "Census of IP sets" by an independent agency and send the same to KERC before determination of next tariff. The Government also intimated that any gap worked out by the ESCOMs for FY 05-06 may not be considered by the Government for release of subsidy without the census report.

The Commission also addressed that the ESCOMs in this regard vide its letter dated 24.06.2005 enclosing the letter of GoK dated 20.04.2005 that unless the census report of IP sets is received by the Commission latest by 31.07.2005, it would be constrained not to allow the gaps worked out by the ESCOMs for FY 06 as already indicated by the GoK.

There has been no compliance in this regard by any of the ESCOMs except for BESCO who have stated in their letter dated 15.07.2005 that the work of survey of IP sets and computerizing the data has been awarded to M/s Comat Technologies (P) Ltd. Bangalore. BESCO also intimated that the work would be completed well within the target date of 31.07.2005 and that the report would be furnished to the Commission. BESCO has however requested the Commission that in view of the enormous

time required to complete the task, not to resort to any punitive measures as stated by the Commission. The report has still not been received in the Commission as on date.

The Commission therefore directs that all the ESCOMs shall complete census of IP sets within three months from the date of this order and report sent the Commission.

As regards assessment of IP sets consumption, since the ESCOMs have not implemented the revised methodology suggested by the Commission for estimation of IP set consumption, the Commission has initiated a study on computation of IP set consumption based on 176 DTC metered sampling points (one for each taluk) to M/s TERI with the involvement of all the ESCOMs. The Commission directs that all the ESCOMs shall involve themselves for completion of the study by M/s TERI as per the time schedule stipulated in the contract.

3.0 Directions in respect of Quality of Service.

3.1 The directives under Quality of Service contained the items like the reduction of interruptions, maintenance of good voltage & frequency, earmarking of capital expenditure for improvement of quality of power supply in rural areas, monitoring of interruptions, identifying & improving low voltage pockets, maintenance of EHT & HT capacitor banks, complaint handling machinery, reduction of accidents etc.

3.2 Reply of KPTCL in the ERC filing FOR FY 06.

- i. Information regarding Quality of Service in respect of Transmission system of KPTCL is being compiled and submitted to the Commission periodically. KPTCL has been reviewing the status of Quality of service on a regular basis and corrective steps are being taken whenever required to improve the same.
- ii. There has been consistent improvement in voltage profile in 2002-03 and also during 2003-04 in view of various measures taken by KPTCL to improve Quality of service. Regarding the system voltages, voltage level at all levels have improved and there is no complaint

from the distribution companies regarding low bus voltages at I.F. points.

- iii. The format pertaining to availability of transmission lines are being submitted periodically based on the data available in station log book and the information compiled on the other three issues namely major equipment failure details, accidents and bus voltages in select locations are being reviewed at KPTCL end only.

3.3 Reply of BESCO in the ERC filing for FY 06:

In order to improve quality of service, action is taken for execution of the following works during the year FY-05 that will be completed by 31.03.2005.

- Providing additional DTCs and refurbishment of existing DTCs.
- Reconductoring of HT / LT lines.
- Providing new RMUs and refurbishment of existing old RMUs.
- Arial bunched cable system for new layouts in Bangalore City is proposed to be taken up to reduce the raising trend in electrical accidents.
- Providing new FP Boxes.
- Provision of Rs. 85 Crores is made for execution of E&I Works for the Year 2004-05
- A provision of Rs.100.50 Crores is made for System Improvement works during FY06.
- Central complaint section is already functioning and now the consumers have the option of booking complaints through consumer friendly "IVRS" System.
- Circulars have been issued to all the field officers to adhere to the Standards of Performance Issued by the Commis, action has been initiated to constitute "Consumer Grievance Redressal Forum"
- Service Centers working round the clock are being set up for the convenience of the consumers in lodging various types of complaints round the clock and obtaining related information. These are setup in all towns with Divisions head quarters.
- Action is being taken for establishment of 24 Hrs service stations for attending to the Power Supply complaints in all the major towns of BESCO as is being done in Bangalore City.

3.4 Reply of GESCOM in the ERC filing for FY 06:

To prove its commitment on improving the quality of supply and service to its consumers, it has also set ambitious targets for itself for FY

2003-04. At the outset it would be prudent to emphasize that to improve the quality of supply from a level so inadequate to what is desirable needs significant effort, investment and time. Results too will not be very forthcoming in the initial phases although the efforts will reap rich dividends in the near future.

As many initiatives would require significant investments and hence depend on the resources available to GESCOM. While some of the resources can be raised from the outside agencies, internal resources would be important and hence tariff increase and rationalization process has to proceed in conjunction with the investments for improving quality of supply.

GESCOM intends to install additional Transformers to manage the problems of over loading and for improving voltage profile.

Following 33/11KV Sub-Stations commissioned during 03-04.

- 1) 33/11KV at Ghatboral in Bidar District commissioned on 5.11.2003.
- 2) 33/11KV at VK salagar in Gulbarga District commissioned during Aug 2003.
- 3) 33/11KV at Jawahar Nagar in Raichur District commissioned on 18.9.2003.
- 4) 33/11KV at Sirgera in Bellary District commissioned on 20.8.2003.
6 nos. of 33/11 KV sub-stations are awarded on turnkey basis and the works are in progress. 9 more 33 KV substations have been posed to PFC, RES and PMGY and the same are under process of awarding/tendering

A comprehensive scheme is prepared under APDRP.

GESCOM has 24 Hours complaint centers functioning in Gulbarga, Bellary, Raichur, Bidar, Koppal & Hospet.

3.5 Reply of MESCOM in the ERC filing for FY 06

As already stated above, APDRP works have been taken up in 5 divisions of Mysore Circle at a cost of Rs.95 crores, out of which works to the tune of Rs. 86 crores have already been completed. New APDRP projects are taken up in cities of Mangalore, Udupi, Hassan and other

ten towns of Mysore, Mandya & Chamarajanagar districts to improve quality of service and reduction of losses.

In spite of severe constraints like Network deficiencies, power shortages and crunch in fund availability, MESCOM has striven hard to supply uninterrupted 3 Phase power supply as decided from time to time to all its Rural Consumers including IP sets. Apart from this, Single Phase power supply for 8 hours per day is also ensured to Rural areas.

All efforts are being made for improvement of quality of power supply in rural areas by proper and periodic maintenance of distribution lines, DTCs & Jungle clearance and undertaking pre-monsoon inspections. Additional transformers and reconductoring work is being carried out under E&I budget wherever low voltage packets are identified. The field officers have been directed to identify the low voltage pockets in their area and draw up action plan to overcome this.

Transformer failures and timely replacements are being monitored directly and regularly from the corporate office.

Complaint handling machinery is being set up in all divisional and sub-divisional headquarters. 24 hours operational Service stations have been set up in all the major cities and towns (Mangalore, Mysore, Shimoga, Udupi and Hassan) for quick and efficient attending of complaints. Further, a public grievance cell has been set up at Corporate Office to receive the complaints from the public and arrange their redressal.

An HRD Cell is working in the direction of imparting training on attitudinal change in MESCOM staff.

3.6 Reply of HESCOM in the ERC filing for FY 06:

The average energy supply in HESCOM during Fy-04 was 16.13 MU per day and that during FY-05 up to Dec-04 is 16.04 MU per day. The power supply to Urban/Rural area was regulated as per the direction of GOK. For urban area, load shedding is not effected.

However, field officers have been instructed to analyze the occurrence of high interruptions in their areas and to take suitable measures to reduce such interruptions.

Providing 24 hours single-phase supply to rural consumers.

- 11KV Mishrikoti Feeder in Kalaghatagi sub-division is selected under Gram Jyoti scheme on pilot basis and the work is in progress.
- 11KV Ugnikeri Feeder Kalaghatagi sub-division has been selected on pilot basis under "Rural Load Management System" Scheme. Under this Scheme, the non IP Set consumers on this feeder are getting 24 Hours power supply.

HESCOM has taken up improvement works under various schemes to reduce the LT to HT ratio.

Wherever constraints are there such as over loading of Stations and Feeders etc, improvement works are taken up under various Schemes.

Details of on going 33KV works during FY-05 and new 33 KV works proposed for FY-06 are furnished in Chapter 6 under "Capital Investment Programme".

In addition, KPTCL has taken up construction of 220KV stations at Kudachi & Bagalkot (nearing completion) and 110KV stations at Hirekerur, Rattihalli, Hangal, Guledgudda, Kaladagi, and Tikota in HESCOM area.

Action is being taken to recondition the faulty capacitor banks on priority basis.

In addition, regular maintenance works such as pole to pole inspection and Jungle cutting, strengthening of poles, re-erection of slanted poles, restringing of loose spans and reconditioning of distribution transformer center earthing etc. are also being carried out.

All the field officers have been instructed strictly to take following remedial action to minimize the accidents.

- To provide intermediate poles for 11 KV & LT lines wherever necessary to avoid loose spans and to provide sufficient ground clearance.
- To replace deteriorated service wire.
- To replace lower size conductor by higher size conductor wherever necessary.
- To arrange for cutting of tree-branches touching the lines.
- To replace the deteriorated poles and providing break insulators to guy set wherever guy insulators are found damaged.
- To educate the maintenance staff to use safety equipments and safety procedures while working on lines.
- To educate public about electrical hazards.
- To identify dangerous location and hazarding installations and to take necessary action etc.
- In urban areas DTCs are being provided with wire mess fencing.
- The necessary budget provision for the above works has been made for the year FY-05 and FY-06 to meet the expenses.

3.7 Comments of KERC:

i. Comments of KERC on the reply of KPTCL

The Commission has noted that KPTCL is furnishing the details of interruptions in respect of the Transmission lines in the formats prescribed by the Commission regularly. The Commission has also noted that voltage profiles have improved appreciably resulting in substantial reduction in transmission loss over the last three years and the same is appreciated.

ii. Comments of KERC on the replies of ESCOMs

The Commission has issued directives on quality of service in all the three Tariff Orders. In the Tariff Order 2003, the Commission has reiterated its observation that there was no substantial improvement in the reduction of LT to HT ratio, which would play a great role in reduction of interruptions, improvement in voltage and loss reduction. The Commission has data of HT to LT line ratio in respect of the ESCOMs for the years FY 04 & FY 05.

LT to HT line Ratio in respect of Distribution lines:**BESCOM**

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	2.68	2.66	2.64	2.62
2004-05	2.58	2.52	2.49	2.49

MESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	3.01	3.08	3.07	3.05
2004-05	3.1	3.1	3.08	3.09

HESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	2.21	2.17	2.15	2.10
2004-05	2.09	2.07	2.07	2.05

GESCOM

YEAR	I Quarter	II Quarter	III Quarter	IV Quarter
2003-04	Not furnished	Not furnished	2.10	Not furnished
2004-05	2.095	2.09	2.09	2.09

It can be seen from the above tables that there has been no improvement in the LT to HT line ratio at all in the ESCOMs even though the improvement works are reported to have been taken up in some circles under APDRP. The Commission therefore reiterates its earlier directives with regard to bringing down the LT /HT ratio to nearly one in a time bound manner.

Performance reports and Bench Marking:

The Commission has also taken note of the fact that all the ESCOMs are submitting the data in the benchmarking formats with inordinate delay, and the same has been pointed out to the ESCOMs in a number of letters. The Commission directs that henceforth ESCOMs shall furnish the benchmarking data in the prescribed format – both monthly as well as the quarterly within the stipulated time.

As regards interruptions to 11 KV feeders also, it is seen that the average number as well as duration of interruptions both in respect of

11 KV urban as well Rural feeders have increased compared to that of the previous year instead of decreasing in BESCO as evidenced from the data furnished by BESCO. In the absence of the previous year's (2003-04) data the Commission is not able to assess the improvement or otherwise in respect of interruptions in HESCO and MESCOM. GESCOM has failed to furnish data on interruptions in spite of repeated requests.

The Commission directs GESCOM to furnish the data pertaining to interruptions in the benchmarking formats without fail. The Commission also directs all the ESCOMs to prepare detailed action plan for taking preventive measures such as trimming of tree branches overhanging the distribution lines, providing intermediate poles for longer spans, restringing of lose spans, identifying low clearances etc to reduce the interruptions in a time bound manner.

Accidents:

The total number of accidents in the state are increasing year after year. The total number of accidents in FY05 (1274) has increased by 29.88% when compared that during FY04(979) as indicated in the following Table:

ESCOMs	Year	Fatal		Non Fatal		Fatal Animal	Total
		Dept.	Non Dept.	Dept.	Non Dept.		
BESCO	FY 04	9	77	49	31	40	206
	FY 05	5	114	58	35	87	299
MESCOM	FY 04	2	51	77	24	101	255
	FY 05	9	83	87	30	146	355
HESCO	FY 04	6	72	41	44	77	240
	FY 05	5	67	57	50	131	310
GESCOM	FY 04	1	53	21	26	177	278
	FY 05	0	52	33	29	196	310

TOTAL	FY 04	18	253	188	125	395	979
	FY 05	19	316	235	144	560	1274

The fatal electrical accidents are more due to snapping of conductors, non-observance of line clear procedure, ignorance on the part of public, unauthorized persons meddling with ESCOMs' power lines, lack of maintenance works on the distribution system of ESCOMs.

In spite of repeated directives of the Commission to furnish time bound action plan to reduce electrical accidents, the ESCOMs (except GESCOM) have not furnished the same to the Commission for approval. The Commission directs that the ESCOMs (except GESCOM) shall furnish the time bound action plans to the Commission for approval within two months from the date of this Order.

4.0 Distribution Transformer Failures

4.1 Directives of the Commission: -

The Commission suggests to BESCO to formulate an incentive scheme for good performance in the area of transformer failure reduction in urban sub divisions. All urban sub divisions with percentage loss less than 5% and all rural sub divisions with percentage loss less than 12% should be suitably recognized.

4.2 Reply of BESCO in the ERC filing for FY 06:

BESCO will make all efforts to achieve the target of 12% failure in rural areas.

Officers are being made accountable for the DTC failures. For close monitoring of failures, TMS - software developed by M/s KPMG has been installed and from January 2004 onwards, close review of performance of each subdivision in handling of Transformers is being done. BESCO has put in place a scheme to award incentives to best performing O&M divisions. In this scheme, reducing failures of DTCs is

one of the criteria for assessing the performance of O&M divisions. In fact, the transformer failure rate in Bangalore Metropolitan Area Zone is maintained at zero level for the past three years.

Transformer Management System (TMS), as introduced in BESCO, envisages a better management of the transformer stock and helps to maintain appropriate inventory levels, reduce maintenance expenses and ensure customer satisfaction by reducing outages. Further it captures data relating to the complete life cycle of a transformer since its inception, failures, repairs and maintenance till it is finally scrapped. TMS would help to reduce the transformer failures. This would have a direct impact on expenditure in terms of savings related to transformer coils, transportation charges, repair charges and installation charges etc., Reduction in failures would reduce the power supply interruptions, thus ensuring greater revenues to the company.

4.3 Reply of GESCOM in the ERC filing for FY 06:

GESCOM has inherited a high Transformers failure rate caused due to over loading of Transformers, maintenance practices, purchase procedures etc. Reducing the Distribution Transformers failure not only improved the quality but also economize the cost and hence GESCOM intends to make vigorous efforts on this front. It would however like to bring to the attention of the Hon'ble Commission the fact that improvement would be gradual and also require measures such as investment, discipline in consumers on managing their demand etc.

GESCOM has established ambitious target for itself for FY 2003-04 and is measuring failure rate on a monthly basis and making efforts to reduce failure rate. The overall failure rate in GESCOM has reduced from 18.02% in FY 03 to 16.37% in FY-04.

The failure percentage during 2004-05 up to Dec. 2004 is 17.68%. When compared with last year figure, there is increase in failure rate which is due to wind and gale.

4.4 Reply of MESCOM in the ERC filing for FY 06:

The failure rate of transformers in Channarayapatna Division during 2003-04 is more than 30%. Failure rate in other divisions such as Pandavapura, Mandya and Sagar are in the range of 20-30% and in the divisions such as Udupi, Mangalore, Puttur, Madikeri, and Shimoga, the failure rate is within the range of 12%. However, the overall percentage of failure rate of transformers in MESCOM is 17.13% during FY 04.

During the year 2003-04, Out of 41,992 transformers in service, 7192 transformers failed and during 2004-05, as on 31.12.2004, out of 43,513 transformers in service, 6447 transformers have failed. During June 2004 alone substantial number of transformers (1052 Nos.) failed mainly due to heavy rains in MESCOM jurisdiction.

Since overloading of transformers is one of the prime reasons for failure of transformers, it is proposed to install more number of transformers, wherever overloading exists. A major portion of APDRP funds and E&I funds is being utilised for the purpose. And as such it is expected that the percentage of failure of distribution transformer will reduce gradually.

4.5 Reply of HESCOM in the ERC filing for FY 06:

Single phasing of power supply during peak hours and un-scheduled load shedding in the rural area are the major reasons for failure of transformers. Remedial measures such as straightening of poles, restringing of loose spans, reconditioning of DTC's earthing are routine and carried out. The failure rate of distribution transformer is being monitored in monthly review meetings at Corporate level. However, efforts are being made to bring down the failure rate.

4.6 Comments of KERC:

As per details furnished by the ESCOMS in the monthly statements details of transformers failures in the past two years is furnished in the following Table:

Sl.no	ESCOM	FY03	FY04	FY05
1	BESCOM	14.79%	12.98%	13.27%
2	MESCOM	18.32%	17.81%	18.86 %
3	HESCOM	16.99%	14.94%	15.12%
4	GESCOM	NA	16.37%	21.07%

The Commission notes that the distribution transformer failure rate in BESCOM during FY 05 was 13.27% as against 12.98% in FY 04. This clearly indicates that failure rate of transformers in areas other than BMAZ area has increased although it is claimed by BESCOM that failure rate in BMAZ is zero percent.

The Commission further notes with concern that failure rate of distribution transformers has increased in all other ESCOMs also- from 17.81% in FY 04 to 18.86% in FY 05 in MESCOM, from 14.94% in FY 04 to 15.12% in FY 05 in HESCOM and from 16.37% in FY 04 to 21.07% in FY 05 in GESCOM.

As seen from the above, the failure rates have increased considerably during FY 05 compared FY 04 in all the ESCOMs. The failure rates have been abnormally high in GESCOM. All ESCOMs shall take suitable measures to reduce transformer failure. The Commission has been repeatedly urging that the overall combined failure rates of distribution transformers (rural plus urban areas) shall be less than 10%. The Commission again reiterates that all the ESCOMs should bring down the failure rates of distribution transformers to less than 10% by the end of FY 06.

5.0 Directive on Capital works programme:

- 5.1. This directive covered earmarking of funds for improving the T&D system, time bound action plan for improving T&D in rural areas, prioritizing the capital works, realistic project cost estimates, benchmarking of system parameters, interest charging, maintenance

of cost registers, preparation of completion reports, action plan for enhancing safety etc.

5.2 Reply of KPTCL in the ERC Filing for FY06:

- i. KPTCL is prioritizing new works as per the approved power system study report prepared by M/S PRDCL on need based requirements and latest requirements. Accordingly such works are taken up for execution based on earmarked capital expenditure.
- ii. Further, as per the directive of the Commission, works are being prioritized and the works with higher benefit to cost ratio and energy savings will be taken up on priority. In this regard, it is submitted that a Technical Advisory Committee comprising of technical experts has been formed. This committee will study in detail the issue like loss reduction, energy saving, improvement in voltage conditions, and other parameters before taking up any work. The works, which are approved by TAC, will only be taken up for execution. Adequate budget provision for 2005-06 has been made for all the on-going works.
- ii. The detailed project reports are prepared on realistic basis for establishing stations for which lands are available after conducting the survey for transmission lines and station estimates are prepared based on the layout plan, bill of materials and earth mat design. KPTCL has taken measures to improve the quality of DPRs which aspect has also been appreciated by the Commission.
- iv. Bench marking of system parameters are taken up before commencement of the work and placed before TAC for approval.
- v. KPTCL is incorporating the element of IDC in all the DPRs prepared and approved by it from 1-1-2004.
- vi. Transparency Act of GOK is being followed by KPTCL for the tendering procedure.
- vii. Power System Studies are conducted by our consultants M/S PRDCL and they have identified new stations, transmission lines, augmentation of stations and strengthening of existing transmission network and have furnished the yearly phased implementation up to 2007 as a need based programme to achieve the parameters envisaged by the Commission. The total amount earmarked for the year FY05 in the budget for transmission lines and sub-stations is Rs.900 crores out of which Rs.592 crores is earmarked for rural areas which is about 65.77% of total amount.

5.3 Reply of BESCO in the ERC filing for FY 06:

As directed by the Commission BESCO is preparing an annual plan of works in advance and adhering to the schedule. Budgets are released to the divisions based on the above plan perspective. The system of works is regularly monitored at the field administrative offices and at the corporate office. The entire Works Management System is already computerized for better monitoring of works and cost registers.

All estimates irrespective of the cost are prepared by the field staff in actual terms after due spot inspection. A certificate is also obtained from the field officers in regard the spot inspection, economics of estimate and the safety in execution of works. The cost registers maintained at the divisional offices will give a true picture of the actual physical and financial progress, which is regularly monitored.

BESCO has taken note of the Honorable Commission's directive that no work estimated to cost more than Rs. 1.00 Lakh should be awarded without going through the process of competitive biddings.

Capital investment program of the current year and also of the ensuing year are submitted to the Commission in advance along with ERC filing and approval of the Commission for the investments is obtained. Notwithstanding this, all individual works costing more than Rs. 1.00 Crore are being regularly submitted to the Commission along with detailed project report for the approval of the Commission.

Capital works Budget for FY-06

The budget allocation for FY-06 for BESCO is provisionally made at Rs. 728.2 Crores. In view of the budget constraint in the capital works program of BESCO as per FRP, which is put at Rs. 166 Crores.

BESCO proposes to invest in its areas, in a big way for strengthening and improvement of the existing system. As such Rs.98.5 Crores is proposed to be earmarked for E&I Works. These works are exclusive of the works proposed under APDRP. Provision of Rs.5.8 Crores is made for procurement of new transformers and for replacement of failed DTCs.

In order to fulfill its social obligation, BESCO envisages Rs.17.60 Crores for RE, TSP and SCP Program and a further Rs. 7.80 Crores for electrification of residential colonies for poorer sections of people, formed under various Govt. schemes like Rajeev Gandhi Rural Housing Corporation Limited, Ashraya colonies etc. Most of the capital works are proposed to be carried out on total Turnkey basis by calling tenders to avoid bottlenecks due to paucity of labour and other resources and for timely completion of the works in order to reap early benefits.

Since 100% universal metering is not yet completed in BESCO, it is proposed to invest a sum of Rs. 10.00 Crores during FY-06 to enable completing the metering programme. Provision is made on logistics terms for civil engineering works to the tune of Rs. 5.00 Crores and service connection works to the tune of Rs. 19.40 Crores.

Externally Aided Projects:

APDRP works in 10 towns is proposed to be continued in FY-06 also and a fresh allocation of Rs. 100 Crores is earmarked. Though in BESCO earlier filing for FY-05, an allocation of Rs. 277 Crores were made for ongoing APDRP works, yet in all probabilities the entire work will not be completed in the limited period of next 2 months, hence Rs. 100 Crores has been shown for the spill over works of current year. BESCO intends to take up Distribution Automation System for its distribution network under the aegis of Japan Bank Investment Corporation (JBIC) who has shown interest to invest in this project. However all these are in the nascent stage, yet to be crystallized requiring elaborate study and hence symbolic provision is made for the purpose of approval by the Commission. Hence these expenditures are not factored in formats D-9, D-15, D-16 & D-17 and only the FRP allocation of Rs. 166 Crores are taken into account in the present ERC filing.

There is continuous effort and commitment of BESCO to improve Distribution system in Rural areas by providing additional DTCs, Reconductoring of HT < lines, Providing new 11 KV lines etc., The

BESCOM as a matter of policy proposes to provide more Nos. of smaller capacity transformers to reduce the losses and to increase HT / LT ratio. Predominant portion of the investments is proposed to be made in augmenting and strengthening the distribution network. In Bangalore City, the ongoing scheme of works like the conductor in LV side of Distribution Transformers is being changed from 2/4 ACSR to Rabbit ACSR, which will reduce the LV line losses substantially. Similar technical loss reduction efforts will be taken up in the other 13 selected towns initially and proposed to be extended to other towns also.

In order to bring in further Information Technology initiatives in BESCOM, Rs 1.90 Crores is proposed to be invested under the program of computerization during FY-06.

APDRP; A number of works under APDRP are proposed to be taken up

5.4 Reply of GESCOM in the ERC filing for FY 06:

GESCOM has proposed an Investment Plan of Rs 330.80 crores during FY 06

5.5 Reply of MESCOM in the ERC filing for FY 06:

In spite of severe financial crunch, MESCOM in its endeavour to provide quality supply to its consumers has proposed to make an investment of Rs 193.87 crores during 2004-05, for Capital Investment works. During 2005-06, it is proposed to invest Rs.360.50 crores for Capital works.

The Capital Works Programme is being drawn up for all the Divisions so as to provide quality and uninterrupted Power supply to the consumers. Further works for energisation of Hamlets, Harijan Basthies, Tribal Colonies, Water Works etc., are being taken up on priority, as per socio-economic policies of the Government. Works to reduce energy loss of the feeders to be below 15% is also planned.

The priority areas for MESCOM is energy loss reduction and rural electrification and metering.

5.6 Reply of HESCOM in the ERC filing for FY 06:

The allocated budget for FY-04 is Rs.353 Crs and that for FY 05 is Rs. 506 Crs

7 nos. of 33 KV Sub-Stations have been commissioned during FY 04 and 4 nos. during FY 05. Augmentation work was carried out in 5 nos of 33 KV sub-stations during FY 04. Additional 5 MVA Power Transformer is installed in Munavalli 33 KV Station during FY-05.

The estimated cost for distribution works is being arrived at based on field survey and application of the latest schedule of rates.

- HESCOM is making efforts to prepare Project cost estimates on a realistic basis.
- Documentation of Bench Marking of parameters is being done & will be submitted to the Hon'ble Commission after validating the Data received from the field units.
- Cost registers are maintained and updated regularly. Completion reports are also prepared as soon as the works are completed.
- HESCOM has taken note and will follow Hon'ble Commission's directive that no work estimated to cost more than Rs. 1.00 Lakh should be awarded without going through a process of competitive bidding.
- There is continues effort and commitment of HESCOM to improve T&D system in Rural Areas by providing additional DTCs, re-conductoring, new 11 KV lines etc.,

HESCOM has made budget provision of Rs250 Crs and Rs 100 Crs during FY-05 and FY-06 respectively towards APDRP works. The 50% of the amount will be provided by the GOI, out of which 25% is made available as subsidy and other 25% as loan from Gol, and other remaining 50% will be borne by HESCOM. HESCOM requests the Hon'ble commission to allow the debt servicing cost on borrowings to fund such capital investments.

5.7 Comments of KERC:

i. Comments of KERC on the replies furnished by KPTCL:

The Commission has noted that KPTCL is submitting scheme reports of works costing more than Rs. 5 crores on a regular basis. KPTCL is also furnishing the quarterly progress reports of works costing more than Rs 5 crores also on a regular basis and the same is appreciated. However, as regards to the scheme reports, the Commission has noted that the same mistakes being pointed out in respect of earlier scheme reports are being committed again and again resulting in avoidable lengthy correspondence and consequent delay in communicating approvals to the Scheme Reports. The Commission therefore directs that KPTCL may bestow more attention before submitting the scheme reports for approval of the Commission.

ii. Comments of KERC on the replies furnished by ESCOMs:

Only BESCO & HESCO are submitting Scheme Reports in respect of works costing more than Rs. 1 crore for the approval of the Commission. MESCOM and GESCOM (especially GESCOM) has not been submitting Scheme Reports of works costing Rs. 1 crore and above for the approval of the Commission.

None of the ESCOMs are submitting the quarterly progress reports and work completion reports of works costing more than Rs 1 crore in the formats prescribed by the Commission except HESCO., which are required to be furnished as per the Practice Directions issued by the Commission. Even in respect of HESCO the progress reports are not being furnished in a complete form as details of expenditure incurred etc are not being provided.

The Commission therefore directs that all the ESCOMs shall submit scheme reports for works costing more than Rs. 1 crore for the approval of the Commission before taking them up for execution and further the ESCOMs shall also submit the quarterly progress reports of works costing more than Rs 1 crore regularly. In case of failure on the part of the ESCOMs to comply with the directives the

Commission would be taking appropriate action to disallow the expenditures in the ERCs as deemed appropriate.

6.0 Metering

6.1 Directives of the Commission:-

The Commission has directed BESCO to first examine the options available in order to identify possible alternatives to universal metering of all BJ installations. This study may be completed within a period of 3 months from the date of this order. The BESCO shall obtain the approval of the Commission for the implementation of any such alternative. Further the Commission has directed BESCO to submit to the Commission for approval a metering programme for metering of IP sets and street light connections.

6.2 Reply of BESCO in the ERC filing for FY 06:

As a part of the drive for universal metering ambitious programme has been envisaged for providing meters to the unmetered category of consumers. All the old meters and DC/MNR meters are being replaced on priority basis. Number of high precision meters is being increased. High precision meters with more years of warranty are being installed in a big way. Over 1.5 Lakhs meters would be installed during this year covering all consumers except IP consumers. In IP set category also number of meters installed would be increased gradually. It is proposed to complete 100% metering during 2005 except in IP segment where there is stiff resistance from the consumers.

Further, strict instructions have been issued to all the field officers to service all the new installations of all categories duly providing the meters. Instructions have been issued to replace the MNR/DC meters henceforth by good meters either departmentally or through contract agencies with the meters procured by the consumer himself from retail outlets.

For new installations the novel scheme of purchase of meters by the consumer himself through the retail outlets for servicing of their new installations has been found successful.

6.3 Reply of GESCOM in the ERC filing for FY 06:

GESCOM has planned to meter 1, 09,600 BJ/KJ installations during 2003-04. 97,000 BJ/KJ installations are to be metered on turnkey basis by the following Private. Agencies at Gulbarga and Yadgir divisions.

All urban streetlight circuits (where street light is existing) were metered during 2003-04. Order has been placed to M/s. TTL Ltd., Delhi for providing 5466 rural streetlight circuits on turnkey basis. Work is started by firm. Metering work is under progress. During 2003-04, 230 Nos. of streetlight circuits were fixed and 1296 Nos. were fixed during 2004-05 as on 31.12.2004.

During the meeting of Board of Directors held on 2-7-2003 the Board felt that fixing of meters to 51,865 IP Sets is an ambitious target and considering the protest from the farmers associations it was possible to achieve this target. Hence it is planned to meter 5,000 IP Sets during 2003-04, which was also not achieved. During 2002-03 4,912 IP Sets were metered, from April-2003 to March 2004 only 263 Nos. of IP Sets were metered. 775 Nos. of IP Sets meters released by agitated farmers.

6.4 Reply of MESCOM in the ERC filing for FY 06:

Metering of Bj/Kj installations :

During 2002-03, MESCOM has provided meters to 1,33,894 BJ/KJ Installations. During 2003-04, 39,343 BJ/KJ Installations have been provided meters and during FY 05 up to Dec 2004, 40,571 BJ/KJ Installations have been provided meters. There is wide spread protest against the metering of BJ/KJ Installations in MESCOM area.

6.5 Metering of IP set installations:

Metering of IP set installations was taken up in 9 O&M divisions, by awarding turnkey contract. A total of 1,16,778 installations were provided with meters in FY 03, another 34,697 IP set installations were metered in FY 04 and during FY 05, 23,394 IP set installations have been metered up to Dec 2004. Here again there were large scale of violent protest from the farming community and as such the programme had to be restricted in few divisions, But in the coastal districts like Dakshina Kannada, Udupi and Malnad areas of Chikmagalur, Hassan, Shimoga, Kodagu, where there were mild or no protests, and where the farmers community were co-operative, the metering progress was well achieved.

6.6 Metering of street light installations:

During 2003-04, 995 street light installations were metered and during 2004-05 up to Dec 2004, 8158 street light installations have been provided meters.

The work of providing meters and control boxes to a total of 19672 installations covering all the O&M divisions of MESCOM is taken up on Total Turn Key basis. The work is expected to be completed shortly.

6.7 Reply of HESCOM in the ERC filing for FY 06:

Metering program of IP Sets, BJ/KJ and Street Lights have been undertaken in right earnest.

Note: The earlier target of 36670 Nos of fixing meters to IP sets for FY-05 has been revised to 7155 Nos and that to BJ/KJ installations reduces from 75000 Nos to 49022 Nos.

Metering progress to IP set is slow due to the farmer's agitation and protest. However, the Riots are being convinced that the IP metering is only for study purpose.

DC/MNR installations have been reduced drastically.

6.8 Comments of KERC

As per the Electricity Act 2003, no installation should be supplied with electricity without providing a correct meter after two years from the date of enactment of the Act(i.e., after 9.6.05)

ESCOMs have stated that they have already taken up universal metering programme from 2002 itself as per the policy directives of the GoK. Commission however notes that the progress in respect of universal metering(in respect of unmetered categories) is not all satisfactory especially in respect of the IP installations as shown in the following Table:

METERING OF IP SETS, BJ/KJ AND STREET LIGHT INSTALLATIONS AS ON 31-3-2005 IN ESCOMs

Sl. No.	ESCOM	Total no. of IP installations existing as on 31-3-2005	Total no. of IP installations for which meters are fixed as on 31-3-2005	Total no. of BJ/KJ installations existing as on 31-3-2005	Total no. of BJ/KJ installations for which meters are fixed as on 31-3-2005	Total no. of Street Light installations existing as on 31-3-2005	Total no. of Street Light installations for which meters are fixed as on 31-3-2005
1	BESCOM	489630	21746 (4.44%)	367841	227436 (61.82%)	18389	13342 (72.55%)
2	GESCOM	204731	10707 (5.23%)	407474	204534 (50.19%)	7337	7337 (100%)
3	HESCOM	390305	129404 (33.15%)	279588	243283 (87.01%)	9767	9767 (100%)
4	MESCOM	324784	174483 (53.72%)	223018	112176 (50.29%)	19672	11021 (56.02%)
5	TOTAL	1409450	336340 (23.86%)	1277921	787429 (61.62%)	55165	41467 (75.17%)

The Commission notes that although there is substantial compliance to the directive in respect BJ/KJ and street light installations especially in HESCOM and GESCOM, the same cannot be said in respect of the IP set installations. As already pointed out, as per Electricity Act 2003, no installation should be supplied with power without providing a meter from 10.06.2005. Hence for any delay in adhering to the above condition, ESCOMs have to send proposal for extension of the deadline, for approval of the Commission.

7.0 Toll Free Telephones

7.1 Directives of the Commission:-

The Commission has directed BESCO to set up toll free telephone numbers so that customers who have complaints about BESCO services can easily register the same.

7.2 Reply of BESCO in the ERC filing for FY 06:

One Toll free telephone in BMAZ and one in Davangere have already been provided in BESCO Area.

7.3 Reply of GESCOM in the ERC filing for FY 06:

To augment the existing complaint handling system, IVRS has been introduced in Gulbarga city and its No. is 1912. This will help in recording the complaints all the time with out involvement of an individual. In due course it is replicating to all the divisions.

7.4 Reply of MESCOM in the ERC filing for FY 06:

Toll free telephones have been provided to the cities of Mangalore, Udupi, Mysore, Shimoga, Sagar, Bhadravathi and Mandya. Action will be taken to extend this facility to all other important towns of MESCOM.

All complaints received are duly registered in the complaints section of section office / service stations and the complaints attended expeditiously and on priority. The jurisdictional sub-divisional and divisional officers during their periodic visits make it a point to check the complaint register and particularly analyze the complaints which have taken longer time to attend and advise the concerned as to how to overcome such situation.

7.5 Reply of HESCO in the ERC filing for FY 06:

HESCOM has provided toll free telephones to Hubli, Dharwad, Gadag, Belgaum and Bijapur cities. Steps are taken to arrange toll free telephone facility to other Towns/Cities also.

7.6 Comments of KERC:

Toll free telephones have been provided in only a few cities. The ESCOMS are yet to provide the same in other towns. Commission directs that Toll Free Telephones should be provided in all the District Headquarters of ESCOMs within the end of FY 06.

8.0 MERIT ORDER POWER PURCHASE PLAN

8.1 Directives of the Commission:-

Plan for purchasing power on merit order basis must be prepared for each month at least 15 days before the commencement of the month and got approved by the Commission.

8.2 Reply of KPTCL in the ERC filing for FY 06:

KPTCL has been following the principle of Merit Order Despatch in power procurement for meeting the demand of its consumers. KPTCL is planning the power purchase as per the annual forecast being done by the utilities. KPTCL has been furnishing the monthly procurement details along with cost to the Commission on a regular basis.

8.3 BESCO

The energy requirement for FY 05 is 14,670 MU. And the BESCO has planned to purchase 16,013 MU for the FY 06.

8.4 GESCOM

The energy requirement for FY 05 is 4480 MU. The energy allocation for GESCOM for FY 06 as per K.P.T.C.L. Lr.No.DF/B-36/6580/ERCFY06/F/2004-05/511-516 dated: 25-11-2004 is 4740 MU.

Month wise anticipated energy requirement of GESCO is also indicated in that Letter.

8.4 MESCOM-

The allotment of energy to MESCOM for FY 05 has been revised to 5900 MU from 6092 MU. And the MESCOM has planned to purchase 6220 MU for FY 06.

8.5 HESCOM

The energy requirement for FY 05 is 6255 MU. And the HESCOM has planned to purchase 6476 MU for the FY 06.

8.6 Comments of KERC:

The Commission has pointed out that the increase in cost of power purchase has been steadily pushing up the average cost of supply. As ESCOMS have to purchase power directly from the Generating Companies they have to exercise due diligence in strictly following the merit order purchase. The Commission directs that the ESCOMs shall submit monthly plan for power purchase each month on the 15th of the preceding month for the approval of the Commission.

9.0 DIRECTIVE WITH REGARD TO DISCONNECTION OF UN-AUTHORIZED IP SETS:**9.1 Directives of the Commission:-**

K.P.T.C.L. should report to the Commission latest by 31st March,2001 confirming that all un-authorized IP sets have been disconnected.

9.2 Reply of BESCOM in the ERC filing for FY 06:

Vigilance wing has been strengthened. All police stations in BESCOM have been provided with requisite staff. Action is being taken to book cases and regularize unauthorized IP sets as per Anti Theft Law enacted by GOK.

High voltage distribution system is being implemented.

9.3 Reply of GESCOM in the ERC filing for FY 06:

GESCOM has instructed all field officers for survey of un-authorized IP sets existing 'DTC' wise. Up to end of Dec-2004, 23,951 Nos. of un-authorized IP sets were identified. GESCOM has prepared action plan for regularization of un-authorized IP sets, the approximate cost of which works out to Rs.179 Crores and waiting for the GOK guidance.

9.4 Reply of MESCOM in the ERC filing for FY 06:

The Vigilance Wing has been strictly instructed to conduct raids to create awareness among the unauthorized IP sets owners. Vigilance Wing has prepared a plan of action for booking the cases under Anti Theft Law. Unauthorized IP sets are being regularized by following positive approach of creating awareness among the IP set owners of the provisions of Anti Theft Law.

However, regularization of unauthorized IP sets depends on many factors, which are not in the hands of MESCOM.

9.5 Reply of HESCOM in the ERC filing for FY 06:

As per ESCOM Monitoring Committee under Energy Department of GOK, enumeration of IP sets (Census) was taken up by HESCOM departmentally. Out of 3.86 Lakhs of IP sets on record, 3.71 Lakhs have been enumerated during the period from May 2003 to Aug 2003. During the course of enumeration, about 9829 Nos. of IP sets noticed unauthorized. Before initiating the action under Anti Theft Law provision, the concerned have been advised to get regularized the installation. Action is being taken cautiously to avoid agitation and protest by farmers.

9.6 Comments of KERC:

The sample survey was done and unauthorized installations were identified and part of them regularized. However, it is learnt that unauthorized IP sets are coming up in large numbers in all the ESCOMs

even after ATL (Anti Theft Law) drive. These unauthorized installations are causing overloading of transformers, leading to transformer failures and large interruptions. Commission directs the ESCOMs to take action to disconnect the unauthorized installations and take action on the erring persons as per Law.

10.0 STUDIES CONDUCTED

10.1 Directives of the Commission: -

The Commission has directed to take up studies in respect of Cost of service, Paying capacity of subsidized categories, Manpower study and Census of IP sets.

10.2 Reply of BESCO in the ERC filing for FY 06:

M/s PRDCL was assigned to conduct a study regarding the Wheeling charges. It is reported by M/s PRDCL that the Wheeling charges assigned to BESCO by the Commission for wheeling of energy is adequately compensated. No further studies are undertaken by BESCO.

10.3 Reply of GESCOM in the ERC filing for FY 06:

Cost of service: Planned to take up in FY 06

- Paying capacity of subsidized categories: Linked to GVP (Gram Vidyuth Prathinidhi) scheme. After feed back from GVP, a study will be conducted.
- Manpower study: Not yet taken up.
- Census of IP sets: Work is taken up. As at the end of Dec 04, 23,951 Nos. of unauthorized IP sets are identified.

10.4 Reply by the MESCOM:

The enumeration of IP sets is being carried out to identify unauthorized IP sets.

10.5 Reply by the HESCO:

- Cost of service: At the instance of GOK, M/s. PWC have presented COS model and approach papers as to Cost of service: studies are to be undertaken. Accordingly, study will be undertaken.

Census of IP sets: To identify the No. of exiting IP sets under various categories namely Bore well, Open well, River Bed and others have been taken up departmentally from May 2003 to Aug 2003.

10.6 Comments of KERC:

ESCOMs are yet to comply with this directive. The Commission has requested the GOK to outsource the study in respect of Cost of service to Consultants.

11.0 Street Light Metering:

11.1 Directives of the Commission:-

The Commission has directed ESCOMs to implement metering of streetlight installations within a period of one year.

11.2 Reply by BESCO in the ERC for FY06:

The target for fixing meters for the year 2005 is 15,000. Works have already been entrusted to the firms on total turnkey basis and the work is in progress. About 7974 meters have already been provided during the year and BESCO is striving hard to achieve 100% target in FY-06 under Universal Metering Program.

11.3 Reply by GESCOM in the ERC for FY06:

GESCOM has metered all urban streetlight circuits (where street light phase is existing) up to end of March,2004. Work has been awarded to M/s TTL Limited, Delhi to meter **5466** rural Streetlight circuits on turnkey basis.230 numbers of street light circuits were metered during 2003-04 and 1296 numbers were metered during 2004-05 up to the end of December,2004 and street light metering work is expected to be completed during FY05.

11.4 Reply by MESCOM in the ERC for FY06:

During 2003-04, 995 street light installations were metered, and during 2004-05, up to December,2004, MESCOM has provided 8158 nos. of meters to street light installations.

The work of providing meters and control boxes to a total of 19672 street light installations covering all the O&M divisions of MESCOM is taken up on total turnkey basis. The work is expected to be completed shortly.

11.5 Reply by HESCOM in the ERC for FY06:

HESCOM has provided meters to all street light installations.

11.6 Comments of KERC:

The progress of metering to street light installations as per quarterly reports of all the ESCOMs are as follows as on 31-3-2005 :-

Sl.No.	ESCOM	Total no. of Street Light installations existing as on 31-3-2005	Total no.of Street Light installations for which meters are fixed as on 31-3-2005
1	BESCOM	18389	13342 (72.55%)
2	GESCOM	7337	7337 (100%)
3	HESCOM	9767	9767 (100%)
4	MESCOM	19672	11021 (56.02%)
5	TOTAL	55165	41467 (75.17%)

The Commission directs BESCOM, GESCOM and MESCOM to complete cent per cent metering of all the street installations without further delay.

12.0 DIRECTIVE ON SOLAR WATER HEATER:

12.1 ESCOMs were directed to conduct a detailed survey to estimate the actual quantity of benefit to the system as a result of installation of solar water heaters.

12.2 Reply by GESCOM in the ERC for FY06:

GESCOM is yet to conduct the study of installations provided with solar water heaters. It is programmed to conduct survey during 2004-05.

12.3 Reply by MESCOM in the ERC for FY06:

The matter is being examined and will be decided soon.

12.4 Comments of KERC:

The Commission directs all the ESCOMs to conduct the study without further delay and furnish report to the Commission.

13.00 Billing of LT 4 (c) installations metered on per unit basis:**13.1 Directives of the Commission:-**

The Commission has directed ESCOMs to ensure full implementation of the metered billing in all cases of earlier LT-4 (c) pertaining to private horticultural nurseries, coffee, tea, coconut and areca nut plantations.

13.2 Reply by BESCOM in the ERC for FY06:

The billing under this category is based on the readings of the meters fixed to the installations. As directed by the Commission all the LT4 (c) installations are provided with meters and action is being taken by BESCOM to replace the meters wherever found faulty.

13.3 Reply by GESCOM in the ERC for FY06:

The directions of the Honorable Commission have been complied with.

13.4 Comments of KERC:

The Commission directs all the ESCOM to follow this directive scrupulously.

14.0 Classification of consumers under LT-4 (b)**14.1 Directives of the Commission:-**

The Commission has directed BESCO to report to the Commission the number of consumers who have been classified as LT-4 (b) in terms of Tariff Order

14.2 Reply by BESCO in the ERC for FY06:

Consequent to the direction of the Hon'ble Commission, the licensee BESCO has classified installations under LT-4 (b) and the total number of such installations as on 30th September 2004 is 23047. However, there has been a vehement protest from the IP Set owners and this is causing problem in identification of such consumers and this has resulted in withdrawal of Demand raised in consumer accounts.

14.3 Reply by GESCOM in the ERC for FY06:

As on date 2281 consumers have been categorized under LT-4(b), GESCOM has instructed all the field Officers to issue the declaration forms to IP Set owners, Identification of IP Set owners who are employee's of State & Central Govt. Department / Under Taking etc., is also in progress. GESCOM has also introduced an incentive scheme for LM/ALM to motivate them to identify consumers falling under LT-4(b) category. The scheme provides for payment of Rs. 10 per installations identified and classified as LT-4(b).

14.4 Comments of KERC:

All the ESCOMs are directed to furnish the latest status in respect of LT 4(b) classification within two months from the date of this order.

15.0 Directive on Remote meter reading of the 11KV feeder meters (Page No. 67 of Tariff Order 2002):

15.1 The Commission has noted that there is no proper way of assessing the quality of power supply at present. The Commission informed KPTCL during meeting held on 12.10.2001 that since all the 11 kV feeders are

installed with electronic load survey meters, it should be possible to remotely read these meters to get the parameters of numbers of hours of power supply and interruption, voltage, load, etc., by installing modems, internet connections, etc.

The Commission attaches great importance to this work and directs ESCOMs to take up and complete the work in the shortest possible time.

16.0 DIRECTIVE ON TIME OF THE DAY METER:

16.1 In Tariff Order 2000, it was directed that the licensee shall declare peak hours and non peak hours and set the energy meters to read demand and energy separately for peak and non peak hours to enable the Commission to devise peak and non peak Tariff.

16.2 Comments of KERC:

The Commission notes that none of the ESCOMs have sent proposal to the Commission in this regard. In this connection the Commission would like to point out that ToD metering is in vogue in the neighboring states of AP and T.N. The Commission suggests that concerned officers of the ESCOMs may visit these states and adopt the same after sending suitable proposals to the Commission for approval.

17.0 Directive on Infrastructure Facilities to Installations regularized under ATL:

17.1 DIRECTIVE OF KERC: -The Commission directs that infrastructure facilities for additional loads regularized in regularization drive in March and April-02 before the ATL came in to force shall be brought on the system such as changing of undersized conductor providing additional poles installing additional transformer, installing meters to all un metered connection within 6 months.

17.2 Reply by GESCOM in the ERC for FY06:

During ATL period 12,135 IP installations regularized out of which 5867 numbers serviced under service connection provision (Without line material) only. For 586 numbers, infrastructure is created. For the balance 5682 nos., infrastructure is to be created, out of which for 366 nos., works are under progress and for 463 nos., works are to be taken up. Balance 4853 nos., are under process. It is planned to complete all the works of ATL installations during 2005-06.

17.3 Reply of MESCOM in the ERC filing for FY 06:

During 2003-04, works to an extent of Rs.6.05crores for Providing infrastructure facilities to installations regularized under ATL have been completed. Further, MESCOM wishes to complete the work of providing infrastructure to ATL installations by taking up the work on priority.

17.4 Reply of HESCOM in the ERC filing for FY 06:

During pre ATL drive in March-April 2002 and further up to June 2002, 26,056 IP sets were regularized. Out 16860 IP sets which required infrastructure, 8829 numbers of IP sets have been provided with infrastructure up to January 2005. The work of providing infrastructure to the balance 8031 number of IP sets is in progress.

17.5 Comments of KERC:

The Commission regrets to note that there has been an inordinate delay in providing necessary infrastructure to the installations regularized under ATL drive. The Commission directs that all the ESCOMs shall complete providing the infrastructure to the installations regularized under ATL drive by the end of 2005-06 positively and report compliance to the Commission.