Evaluation Study

of
Hubli Electricity Supply Company Ltd.
(HESCOM), Hubli

Department of Public Enterprises (DPE),
Government of Karnataka

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Executive Summary

- HESCOM Limited was incorporated on 30.04.2002 under the Companies Act, 1956 and the company started operation with effect from 01.06.2002 with its headquarters at Hubli. The Company was established with an objective to carry on the business of distribution and supply of electricity more efficiently and economically.

- The Company has geographical jurisdiction of 49 taluks spread over in seven Districts comprising of Dharwad, Belgaum, Gadag, Haveri, Uttar Kannada, Bagalkot & Bijapur.

- The assets of erstwhile KEB related to seven districts in the northern western Karnataka were transferred to HESCOM.

- HESCOM has customer base of about 38 lakhs electricity consumers covering an area of 54,513 sq.kms & population of over 1.66 crores.

- The Company has assets worth Rs. 4,900 crores. Annual revenue of about Rs. 4,600 crore and an equal amount of expenditure.

- The Company has accumulated losses amount to Rs. 650 crore as on 31.3.2013. However, made a modest profit of Rs. 40 crore during 2012-13 and Rs. 39 crores during 2011-12.

- The Company has supplied 11,000 million units of electric power in 2013-14, but still there is a severe shortage of power.

- Sale of unmetered energy during 2008-09 was accounting 52% of the total sale of energy and 55% during 2012-13.

- The sale of energy to LT1 BJ/KJ and LT4 IP account for 56.34% during 2008-09 and 57.55% during 2012-13.

- Customer Density in HESCOM has increased from 60 customers per sq.kms during 2008-09 to 70 customers per sq.kms during 2012-13.
- Customer per employee has increased from 465 customers per employee during 2008-09 to 526 customers per employee during 2012-13.
- Sale of energy during 2008-09 was 1,698 units per customer per year and increased to 2,204 units per customer per year during 2012-13.
- Sale of energy during 2008-09 was 0.101 MU per sq.kms per year and increased to 0.154 MU per sq.kms per year during 2012-13.
- HESCOM has achieved collection efficiency of 88.90% during 2008-09, 92.36% during 2009-10 and 96.05% during 2012-13.
- The Distribution loss of the HESCOM has reduced from 20.86% during 2009-10 to 19.88% during 2012-13.
- HESCOM may initiate steps for engaging a technical consultancy organization for conducting detailed survey, for preparing Detailed Project Report (DPR) and Viability Report to assess technical and financial viability of achieving LT to HT ratio of 1 : 1.
- The failure rate of Distribution Transformers during 2009-10 stood at 14.97% in overall (Rural & Urban areas).
- The failure rate of Distribution Transformers during 2012-13 stood at 17.24% in overall (Rural & Urban areas).
- HESCOM has achieved most of the major objects outlined in the MoA while registering as Company. HESCOM has taken several steps in improving its performance and efficiency.
- HESCOM has shown reducing trend in financial cost to sales ratio, which has decreased from 10.37% to 6.19% during the period review. Similarly, employees cost ratio has decreased from 11.18% to 8.28%. The power purchase cost to sales ratio has decreased from 103.05% to 78% and again increased to 80.96%.

- Return on capital was negative during first three years of review and it was around 3% during 2011-12 and 2012-13. Similar trend in return on equity has been observed. The return on net worth was negative during first three years of review and 315% during 2011-12 and 22.27% during 2012-13. The high return on net worth during 2011-12 is attributed to earning of the profit and low net worth.

- The debt equity ratio was very high at 3.42 during 2008-09 and reduced to 1.26 during 2012-13. The debt equity ratio maintained around 1.50 during 2011-12 and 2012-13.

- The earnings per share was negative during first three years and HESCOM has earned about Rs. 0.60 per share during 2011-12 & 2012-13. The number of consumers / customers per employee has increased from 465 to 525 during the period of review. Similarly, revenue per employee has increased from Rs. 0.27 crores to Rs. 0.64 crores during the period of review.

- The networth of HESCOM was negative during first three years of operation and marginally became positive at Rs. 12.62 crores during 2011-12 and Rs. 183 crores during 2012-13.

- The debt equity ratio was very high at 3.42 during 2008-09 and reduced to 1.26 during 2012-13. The debt equity ratio maintained around 1.50 during 2011-12 and 2012-13. This is in view of increase in share capital.

- Average sales revenue per month has increased from Rs. 156 crores during 2008-09 to Rs. 384 crores during 2012-13. Number of month's debtors outstanding has decreased from eight months to four months during the period of review and debtors to sales ratio decreased from 65% to 34% during the period of review.

- Average monthly purchase of power has increased from Rs. 160 crores during 2008-09 to Rs. 311 crores during 2012-13. The creditors to purchase ratio increased to 102% during 2009-10 from 80% during the previous year and reduced to 42% during 2012-13.

- The current ratio and quick ratio have improved during the period of review, however, are much lower than expected value.

- Comparative Key Financial Figures/ Ratios of HESCOM & DGVC.

Particulars	HESCOM	DGVC	DGVC/ HESCOM (%)
Number of Consumers	36,87,256	2,333,476	63.28
Energy Purchased (Mus)	9,593	12,365	128.90
Energy Sold (Mus)	6,676	10,563	158.22
Unit Loss (MUs)	1,918	1,867	97.34
Collection efficiency (%)	96.20	96.74	
T& D Losses (%)	19.99*	14.57	
Distribution losses (%)		10.24	
AT& C Losses (%)	23.15	17.36	
Average Realization per Unit (Rs.)	5.09	4.84	
Return on capital employed (%)	2.59	5.97	
Return on equity (%)	5.62	28.51	
Return on networth (%)	315	4.82	
Debt Equity Ratio	1.60	0.12	
Earning Per Share(in Rs.)	0.56	2.85	508.93
Debt Collection Period (No. of days)	131	33	25.19
Number of Employees	7,394	4,813	65.09
No. of Consumers per Employee	499	485	97.19
Revenue from Sale of Power per Employee (Rs. in crore)	0.52	1.26	242.31
Rating	B+	A+	

*excluding transmission losses of about 4% of KPTCL

- The broad suggestions & recommendations are presented below:

  - HESCOM may initiate steps to replace old electro-mechanical meters by high precision static meters. Limit the MNR meters to 1% by replacing such meters by high precision static meters. Fix the meters to IP connections or DTC metering of the DTCs feeding to IP sets as there is farmer's protest.

  - HESCOM may initiate steps to meter all distribution transformers other than R-APDRP towns.

  - HESCOM may take steps to implement HVDS in more areas to prevent losses in phased manner as the scheme involves heavy capital investment (one transformer per IP set).

  - HESCOM may consider publish the names of consumers having arrears over Rs. one lakh value regularly.

  - HESCOM shall create awareness more in rural sector regarding safety and theft of power which leads to imprisonment apart from heavy penalty.

  - HESCOM may get credit rating done for the Company for availing financial assistance from new sources. Further, the Company may engage professional agency involved in arranging debt at lower cost.

  - HESCOM may take initiatives to prepare realistic power Master Plans for their systems to develop a strategy to meet the growing electricity demands of the different sectors of the state's economy over the next 15 years (on par with electrical power survey data conducted by CEA).

  - HESCOM shall encourage customers for making payment through online payment especially for R-APDRP towns in 1st phase.

- HESCOM may consider to give wide publicity and propaganda for energy saving measures, metering of connections, prompt payment of electricity bill and safety measures by way of demand side activities.

- HESCOM may come out with New Charter of Consumer fixing maximum period for providing different type of services to the consumers, on the similar lines of DGVL.

- Suitable measures may be taken to fill up existing vacant post as required (through KPTCL), for phasing out contract employment, outsourcing in core activities.

- All employees in HESCOM are on deputation from KPTCL. In view of this, HESCOM may consider to have their own Cadre for recruitment of employees at least for 'C' & 'D' Cadre of employees and limit deputation of employees in 'A' & 'B' Cadre only.

- Steps may be initiated for replacement of manpower depleted due to superannuation with action plan well in advance.

- HESCOM may outsource services for housekeeping, security, transportation and other non-core activities in the existing vacant posts under group 'C' & 'D' cadre. This would possibly reduce employees cost to the Company in these cadres.

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Chapter-1: Introduction

1.1 Background

Transmission and distribution system in the State was under the control of the Government of Karnataka (then Mysore) till the year 1957. In the year 1957, Karnataka Electricity Board was formed and the private distribution companies were amalgamated with Karnataka Electricity Board (KEB).

Electric Power Utilities throughout India are undergoing major restructuring and are likely to start deregulated market operation. To improve the performance of the Power Sector and in tune with the reforms initiated by the Central Government, the Government of Karnataka came out with a general policy, envisaging fundamental and radical reforms in the Power Sector. Accordingly, the Karnataka Electricity Reforms Act was passed by the Karnataka Assembly.

The said Act has mandated major restructuring of the Karnataka Electricity Board and its Corporatization. Power generation activity was separated from transmission and distribution of power. Further transmission and distribution activities were separated and entrusted to KPTCL and ESCOMs respectively. Distribution of electric power is vested with independent distribution companies viz., Bangalore Electricity Supply Company (BESCOM), Mangalore Electricity Supply Company (MESCOM), Hubli Electricity Supply Company (HESCOM), Gulbarga Electricity Supply Company (GESCOM) and Chamundeshwari Electricity Supply Company (CESCOM) in their specified area of jurisdiction. This was followed by the constitution of Karnataka Electricity Regulatory Commission (KERC) in November 1999.

As a result, the HESCOM Limited was incorporated on 30.04.2002 under the Companies Act, 1956 and the company started operation with effect from 01.06.2002 with its headquarters at Hubli. The Company came into

existence with geographical jurisdiction of seven Districts comprising of Dharwad, Belgaum, Gadag, Haveri,Uttar Kannada, Bagalkot & Bijapur with an objective to carry on the business of distribution and supply of electricity more efficiently and economically. The assets of erstwhile KEB related to seven districts in the northern western Karnataka were transferred to HESCOM.

1.2 Evaluation Study

HESCOM is a part of Ministry of Energy, Government of Karnataka comes under oversight of the Department of Public Enterprises, Government of Karnataka. The present evaluation study has been sponsored by the Department of Public Enterprises.

The Department of Public Enterprises (DPE), Government of Karnataka, envisaged to take up Study of Public Sector Enterprises (PSEs) of Government of Karnataka. The Study is aimed at evaluating performance on both physical and financial aspects of PSEs in order to strengthen the Enterprise to enable to perform better.

The Department decided to get study of HESCOM along with other select PSEs. DPE has selected Technical Consultancy Services Organization of Karnataka (TECSOK) to study activities of HESCOM and prepare a report thereon.

Officers of TECSOK visited HESCOM and held discussions with senior Officers of HESCOM. The Company has made available Annual Reports and other information required for the Study. The Evaluation Report is prepared based on the discussions and information & data collected from the Company and other information from secondary sources.

TECSOK acknowledges with thanks Department of Public Enterprises, Government of Karnataka, for entrusting this Study. TECSOK also places on record the cooperation extended by the HESCOM during the Study.

Chapter-2: Terms of Reference of the Study & Methodology

2.1 Term of Reference

The Department of Public Enterprises had indicated Terms of Reference of the Study in the Memorandum of Understanding. The broad outlines of Terms of Reference of the Study are as follows:

- Broadly examine activities performed by HESCOM with reference to its objectives outlined in the MOA for its creation.
- Analyse the financial performance of HESCOM, for 3-year period covering its growth and customer-base.
- Detailed financial analysis of all the major transactions of HESCOM of last three year shall be made for understanding the overall financial efficiency.
- Examine and analyse finance portfolio of mobilizing long term funds required for creating infrastructure facilities and suggest suitable options of getting low cost funds.
- Review long term capital requirement at a cheaper cost from pension funds, PF funds, equity funds etc., for HESCOM and suggest the feasibility.
- Examine the business model adopted by the company & its constraints and suggest best option for improving the efficiency.
- Review distribution losses vis-à-vis CEA guidelines, if any.
- Suggestions & recommendations for performance improvement and delivery of its mandated services to its customers.

2.2 Methodology

The Study Report was prepared based on the following methodology:

(i) Collection of primary data on operations and performance.

(ii) Discussions with senior officers of HESCOM to know the operations& performance and Key factors affecting the performance of HESCOM.

(iii) Obtaining annual reports of HESCOM and analysing the same.

(iv) Benchmarking the performance of HESCOM against better performing organization in the power distribution (any one of the DISCOMs) through data collected from secondary sources.

(v) Information collected was scrutinized, compiled and analyzed and the Report was prepared based on the outcome of the analysis.

Chapter-3: About HESCOM

3.1 Background

HESCOM Limited was incorporated on 30.04.2002 under the Companies Act, 1956 (No. 1 of 1956) and the company started operation w.e.f. 01.06.2002 with the headquarters at Hubli.The Company came into existence with geographical jurisdiction of seven Districts comprising of Dharwad, Belgaum, Gadag, Haveri, Uttar Kannada, Bagalkot & Bijapur with an objective to carry on the business of distribution and supply of electricity more efficiently and economically.

The area of operation of the Company is wide spread. The Company is covering the areas where the agricultural consumption is comparatively on higher side.

It purchases power mainly from Karnataka power Corporation and also a number of Independent Power Producers and sells the same on retail to its consumers. Karnataka Government has designated Power Company of Karnataka Limited (PCKL) as nodal agency to purchase power from Independent Power Producers. Purchase price is regulated by the Power Purchase Agreements while the retail sale price is regulated by the Karnataka Electricity Regulatory commission. Consequently the Company does not have the freedom of altering the purchase and sale price.

The cumulative effect of transmission losses, power thefts, regulated price mechanisms, capital investments for infrastructure renewal as well as replacement etc., put the Company in a tight spot. The company finds meeting its monthly cash needs hard. To prevent power thefts, the Company introduced a new scheme called Nirantara Jyothi which requires a parallel system of transmission lines involving massive capital investment in the order of hundreds of crore rupees over the next few years.

3.2 Objectives

HESCOM was registered under Companies Act with following Main Objects to be pursued, as per MoA:

1. **Acquire, establish, construct and operate electrical lines for the purpose of distribution and supply of electrical energy and associated sub-stations**

   To carry on the business of distribution and supply of electricity in the State of Karnataka and to acquire, establish, construct, erect, lay, operate, run, manage, monitor, repair, maintain, enlarge, alter, renovate, modernize, work and use in the State of Karnataka and elsewhere, electrical lines for the purpose of distribution and / or supply of electrical energy and associated sub-stations, including distribution centres, cables, wires, transmission lines & equipment, transformers, switch gear, accumulators, plants, motors, meters, apparatus, computers and materials connected with distribution and / or supply of electrical energy, communication and telemetering equipments.

2. **Purchase & sale of electrical energy and coordinate with other companies**

   To carry on the business of purchasing, selling, importing, exporting, wheeling, trading of power, including finalization of tariff, billing and collection thereof and to enter into any agreements for the carrying on of such business.

3. **Sources of purchase of power**

   To study, investigate, collection information & data, review, operations, plan, research, design& prepare project reports, diagnose operational difficulties, weaknesses, advise on the lines& sub-stations, to prepare forecasts of customer demand, source of purchase of power, to prepare business plans and strategy documentation.

4. License to supply electricity

To do anything which any person engaged in the business of supplying electricity is authorized or required to do under or by virtue of any license issued to it authorizing such person to supply electricity.

There are several objects incidentals or ancillary to the attainment of main objects.

3.3 Vision, Mission & Strategy

A. Vision

1. 100% Rural Electrification
2. Reduce T&D Losses gradually to below 15%
3. 100% Metering at all levels right from feeder end to consumer installations
4. Elimination of Low Voltage Pockets by reorganizing the existing feeders consequent to establishment of new Sub-stations by HESCOM and KPTCL.
5. Reduction in interruption
6. Power Supply on Demand
7. Eliminate commercial losses by increased vigilance activities
8. Application of Information Technology in more and more activities
9. Increasing business efficiency by reducing AT & C Losses.

B. Mission

The mission of the HESCOM is to ensure reliable quality power to its customers at competitive prices. HESCOM is committed to achieve this mission through:

1. Encouraging best practices in distribution.
2. Ensuring high order maintenance of all its technical facilities
3. Emphasizing the best standards in customer services

C. Strategies

1. Enhancement of revenue generation.
2. Strengthening and refurbishing distribution network to reduce losses and cost of operation.
3. Enhancing employee productivity.
4. Providing best services to its consumers.
5. Energy Audit at 33 KV / 11 KV DTC level to bring down avoidable losses.
6. Enhancement of vigilance activities to reduce power theft and pilferage.

3.4 Snapshot

- Exclusive power distribution rights for 49 taluks in the seven districts (except Hukkeri taluk). The Company is presently operating through two Zones, seven Circles and 22 O&M Divisions with an area of 54513 Sq. kms & population of over 1.66 crs.
- Customer base of about 38 lakh electricity consumers.
- HT/LT Lines and Distribution Transformers as detailed below:

HT Line	56,965 kms
LT line	1,09,541 kms
DTC	99,038 Nos.

- Assets worth Rs. 4,900 crore.
- Sanctioned strength is more than 13,000 against which, only 7,230 employees are working for the Company.

- Annual revenue of about Rs. 4,600 crore and an equal amount of expenditure.
- The Company has purchased 11,237 million units at generation level in 2013-14, but still there is shortage of power to meet demand in full.
- Theft of power is minimised to greater extent by way of intensive vigilance activities and various level energy audit. Still the awareness is to be created in rural sector and the losses can be reduced around 2%. It also loses nearly 18% of the power towards distribution losses.
- For nearly ten years, the Company was in loss. The accumulated losses amount to Rs. 650 crore as on 31.3.2013 (mainly due to high cost power purchase in the year 2008-09 and 2009-10).
- The Company could make a modest profit of Rs. 40 crore during 2012-13 and Rs. 39 crores during 2011-12.
- Outstanding power purchase bills to tune of over Rs. 1500 crores are due for payment.
- There are secured loans to tune of Rs. 1000 crore which the company has to repay @ Rs. 250 a year.
- There are also outstanding bills and other short term liabilities which are due for payment.
- Receivables like tied grants from Central as well as State Government reach the Company with a time lag.
- Its monthly cash outgo is in the range of about Rs. 250 crore while the inflow is only of the order of Rs. 150 crore.

3.5 Organization Structure & Manpower

HESCOM is registered as Limited Company under Companies Act. The number of Directors of the Company shall be not less than 3 (three) and not more than 12 (twelve). The Directors may be either whole time functional Directors or part time or non-functional or non-executive Directors. The Board is headed by Chairman. Managing Director of HESCOM is Chief Executive of the Company and assisted by Director (Technical), Financial Adviser, General Managers, Controller and Company Secretary. Organization structure at corporate office and at Hubli & Belgaum zones are presented in Chart-3.1 & 3.2.

HESCOM has sanctioned manpower strength of 13,137 of which 7,232 are filled up and 5,905 are vacant. The percentage of vacancy is 45% in HESCOM. The details of Manpower strength in different group of employees is given in Table-3.1.

Table-3.1: Manpower Strength

Group	Sanctioned	Working	Vacant	
			No.	%age
A	334	295	39	11.67
B	440	197	243	52.23
C	5340	3373	1967	36.84
D	7023	3367	3656	52.06
Total	**13137**	**7232**	**5905**	**44.95**

Chart-3.1: Organization Structure - HESCOM

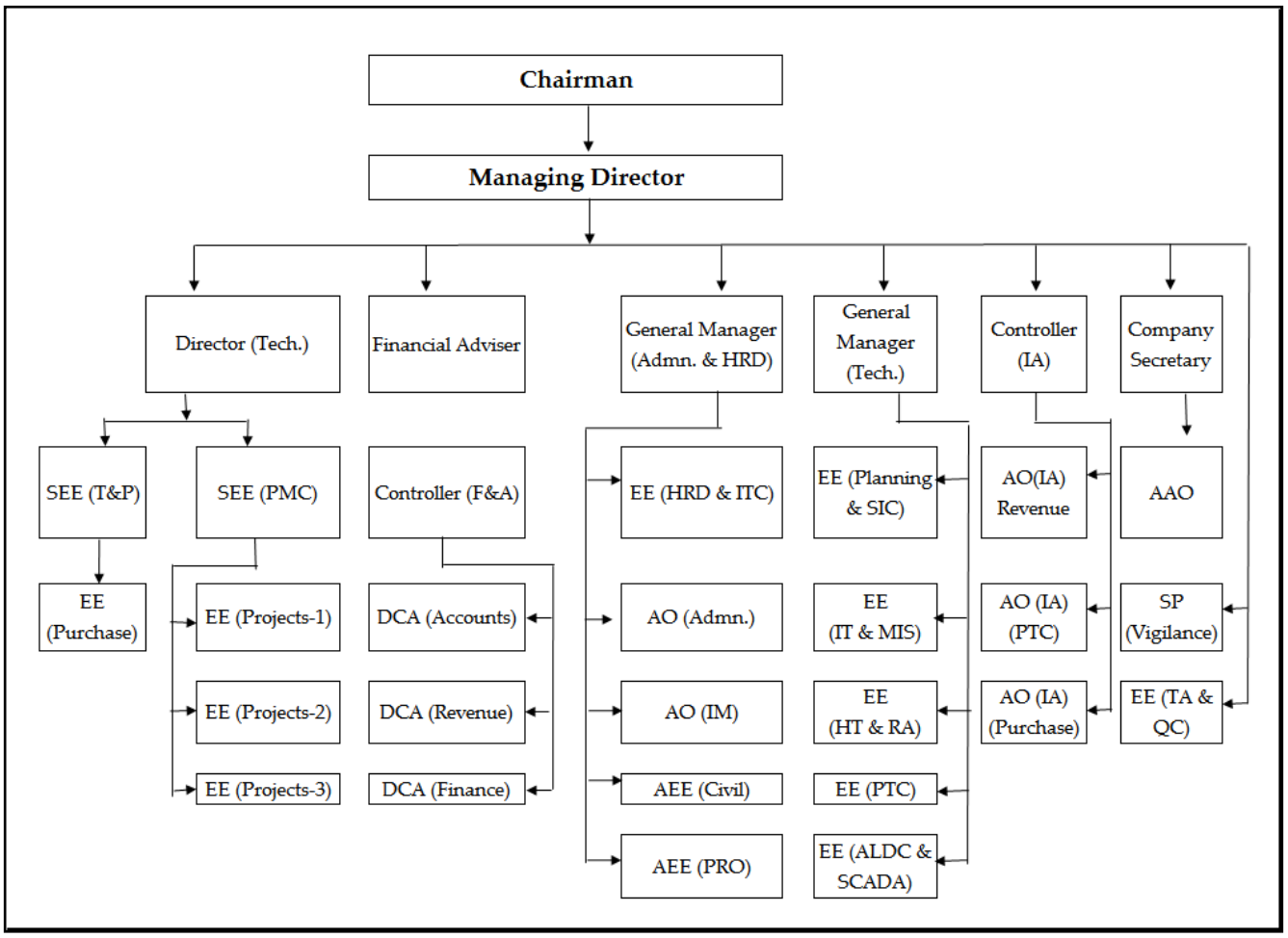
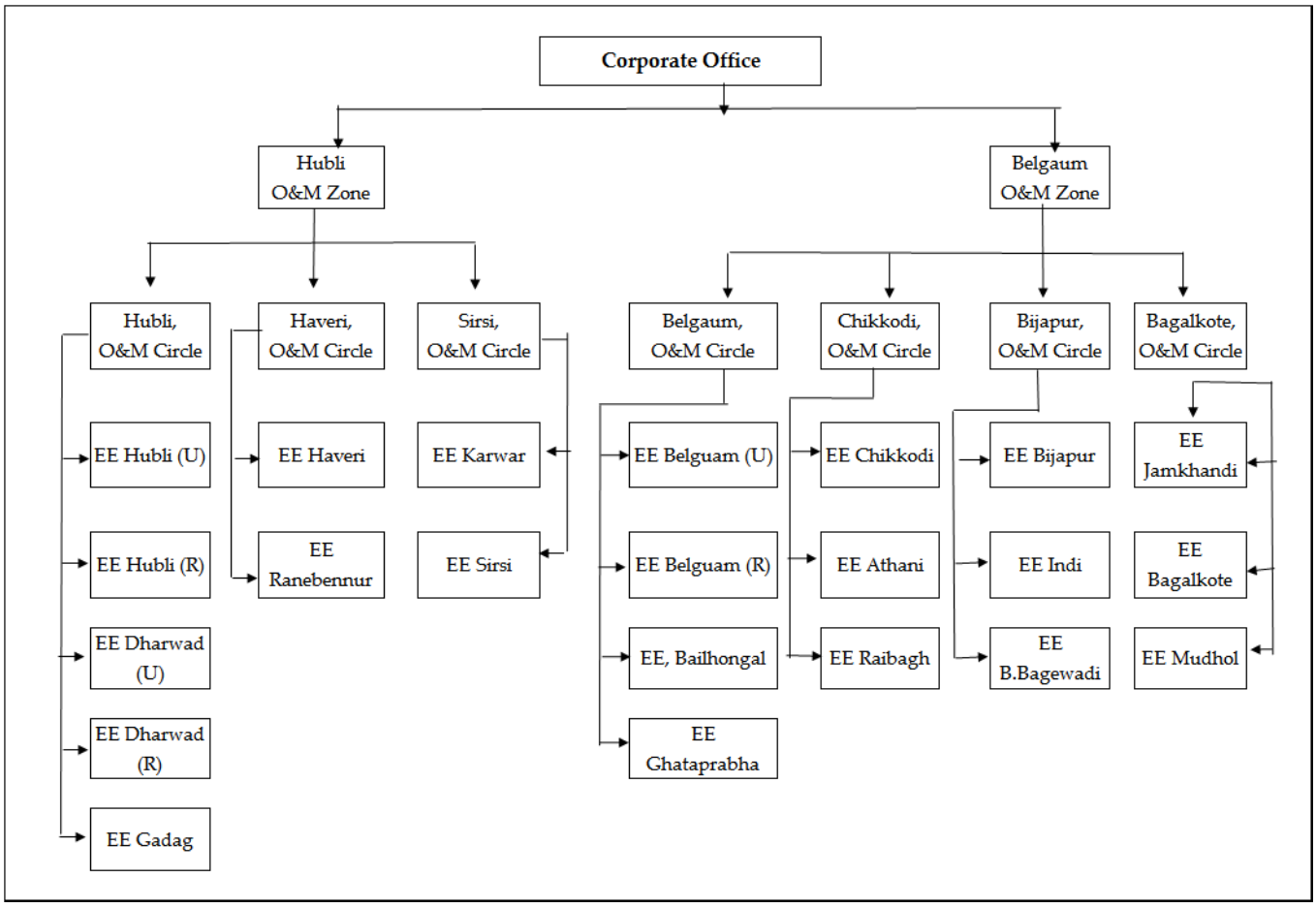


Chart-3.2: Organization Structure –Corporate Office



3.6 Schemes

It has social obligations in terms of implementing certain State Government policies like free power to the irrigation pump sets, supporting drinking water supply schemes, providing lighting for the streets in habitations, providing electricity connection to remote villages under the ongoing Government schemes etc. There is partial reimbursement by GOK towards infrastructure and towards energy consumption of IP set less than 10 HP.

3.6.1 KutirJyothi / Bhagyajyothi

This is a scheme of providing 1 bulb connection to poor rural households. At present, there are about 7.64 lakh consumers who are benefited by this scheme. At present this category of consumers are charged a nominal tariff of Rs. 30/- per installation per month based on an estimated consumption of 18 units per month.

3.6.2 Irrigation Pump Sets

- Power is being supplied to Unmetered IP sets at highly subsidized rates of Rs. 720/- per HP per annum. The realization rate from this category is Rs. 0.54 p/u in 2002-03 as against the cost of supply of Rs. 3.73 pu.
- Various schemes of tariff rebates are also provided to deserving sections of the society as approved by the KERC.
- Under LT-2(a) tariff schedule, a rebate of 25 paise per unit is given for a House / School / Hostels meant for Handicapped, Aged Destitute and Orphans and Rehabilitation Centres run by Charitable Institutions.
- A rebate of 50 Paise per unit is allowed, if solar water heaters are installed and used under LT-2(a) tariff schedule. The rebate is limited to Rs. 50 per installation per month.

- Under LT-3 commercial tariff category, a rebate of 20% on fixed and energy charges is allowed in monthly bills in respect of telephone booths having STD/ISD/FAX facility run by handicapped people.
- As per the tariff order issued on March 10, 2003, a rebate of 2 paise per unit is allowed if capacitors are installed as per section 23 of KERC (ES&D) Code, 2001 in respect of all metered IP set installations.
- Rural Rebate at 25% on fixed charges is also allowed to consumers falling under category LT2a, LT2b, LT3 and LT5 fed from rural feeders which are subject to rural load shedding for six hours or more daily.

Chapter-4: Review of Activities

4.1 Customer Profile

The Company had a customer base of 32.55 lakhs during as on 31.03.2009 and increased to 38.05 lakhs as on 31 03.2013. During five years, about 5.5 lakhs customers were added registering annual growth of about 3.4%. LT1 (BJ/KJ) Customers and LT4 IP are covered under free / subsidized power supply of Government Scheme comprise about 35% of the customer base during the period of review. The details of category-wise customer base are given in the Table-4.1:

Table-4.1: Details of category-wise customer base

Category	2008-09		2012-13	
	Installations in Nos.	%	Installations in Nos.	%
LT1 BJ/KJ	671,981	20.64	764,905	20.10
LT2	1,767,179	54.29	2,058,070	54.09
LT3	227,266	6.98	274,138	7.20
LT4 IP	478,757	14.71	550,538	14.47
LT5	65,371	2.01	84,870	2.23
LT6 W/S & P/L	34,366	1.06	43,570	1.15
LT7	9,097	0.28	26,951	0.71
HT	1,240	0.04	1,914	0.05
Total	**3,255,257**	**100.00**	**3,804,956**	**100.00**

Customer Density in HESCOM has increased from 60 customers per sq.kms during 2008-09 to 70 customers per sq.kms during 2012-13.

Customer per employee has increased from 465 customers per employee during 2008-09 to 526 customers per employee during 2012-13.

4.2 Sale of Energy

Sale of energy during 2008-09 was 5,529 MU of which 2,875 MU was unmetered accounting 52% of the sale of energy. Sale of energy during 2012-13 was 8,388 MU of which 4,620 MU was unmetered accounting 55% of thesale of energy. The sale of energy to LT1 BJ/KJ and LT4 IP account for 56.34% during 2008-09 and 57.55% during 2012-13.The details of category-wise metered and unmetered energy sales are given in the Table-4.2.

Table-4.2: Details of category-wise metered and unmetered energy sales

Category	2008-09				2012-13			
	Metered	Un-metered	Total	% of Energy Sales	Metered	Un-metered	Total	% of Energy Sales
LT1 BJ/KJ	81.83	50.75	132.58	2.40	104.87	38.40	143.27	1.71
LT2	821.25		821.25	14.85	1,136.98		1,136.98	13.55
LT3	206.25		206.25	3.73	337.08		337.08	4.02
LT4 IP	157.20	2,824.88	2,982.08	53.94	133.64	4,582.06	4,715.70	56.22
LT5	266.51		266.51	4.82	294.45		294.45	3.51
LT6 W/ S & P/L	224.09		224.09	4.05	293.23		293.23	3.50
LT7	10.42		10.42	0.19	16.13		16.13	0.19
HT	885.54		885.54	16.02	1,451.75		1,451.75	17.31
Total	**2,653.09**	**2,875.63**	**5,528.72**	**100.00**	**3,768.13**	**4,620.46**	**8,388.59**	**100.00**

Sale of energy during 2008-09 was 1,698 units per customer per year and increased to 2,204 units per customer per year during 2012-13.

Sale of energy during 2008-09 was 0.101 MU per sq.kms per year and increased to 0.154 MU per sq.kms per year during 2012-13.

4.2.1 IP Set Sector

HESCOM covers mainly agricultural sector consumers (14.47% of total consumers) and the energy consumption is nearly 55% of the total sale to this sector.

Hence, the detailed study and educating the village folk regarding energy efficient pump set usage / use of capacitors, the problems arising out of unauthorized connections i.e. transformers, the problems arising out of unauthorized connections i.e. transformers failure / overloading of conductor capacity etc. Further, regularization of unauthorized IP sets is another major task in HESCOM, which requires heavy capital investment wherein GoK support is required.

4.3 Power Purchase in HESCOM

The Government of Karnataka allocates to all ESCOMs in Karnataka for their respective share of source of power purchase. Accordingly, all ESCOMs have to purchase the power. Allocation of source of power purchase varies / changes year-on-year keeping in view the generation forecasting and other aspects. The Government has nominated PCKL as nodal agency for purchasing power through bidding from IPPs (short term/medium term, day-ahead basis energy depending on requirement) with due approval from KERC as regards cost per unit. Apart from above PCKL coordinates for power purchase agreements as regards from Karnataka Generating stations (KPCL) and Central Generating stations among all ESCOMs.

The long term power purchase agreement is generally for 25 years extendable to another 10 years. Period for short-term purchase is from 3 months to 1 year and for medium term it is between 1 year to 3 years. SLDC is the Nodal agency for monitoring and allocation of State Grid energy. SRLDC is the Nodal agency for Central Grid allocation and also for energy through trade. Karnataka Electricity Regulation Commission (KERC) will decide the rate of power to be purchased from different sources.

Table 4.3: Composition of power purchase

KPCL Hydel (Sharavati)	31.51%
KPCL Hydel (Others)	17.52%
KPCL Thermal	18.18%
Central Government Station (CGS)	18.18%
IPPs	18.18%
Non Conventional Energy (NCE)	100%
Short Term	16.21%

4.4. Cost of Power Purchase

HESCOM purchases power from KPCL and IPPs at the tariff fixed by the Karnataka Electricity Regulatory Commission (KERC) from time to time. HESCOM has purchased 7,582 MUs of power at the average cost ofRs. 2.42 per unit at generation point and Rs. 2.44 per unit at interference point during 2009-10. Similarly, HESCOM has purchased 11,237 MUs of power at the average cost of Rs. 3.39 per unit at generation point and Rs. 3.59 per unit at interference point during 2012-13.

4.5 Meter Reading, Billing & Collection Efficiency

HESCOM aims at 100% achievement in metering of all its consumers. However, this could be achieved only after installing meters to all the IP sets and BJ/KJ installations.

HESCOM has achieved 86.21% overall efficiency in Metering and 99.68% in Billing during 2009-10. LT-2, LT-3, LT-5, LT-6, LT-7 and HT categories recorded almost 100% metering. However, LT-1 (BJ/KJ) records 82.72% whereas LT-4 IP sets recorded only 29.40%.

HESCOM has achieved 87.23% overall efficiency in Metering and 99.90% in Billing during 2012-13. LT-2, LT-3, LT-5, LT-6, LT-7 and HT categories recorded almost 100% metering. However, LT-1 (BJ/KJ) records 84.05% whereas LT-4 IP sets recorded only 33.92%.

HESCOM has achieved collection efficiency of 88.90% during 2008-09, 92.36% during 2009-10 and 96.05% during 2012-13.

4.6 Power Receiving Stations

KPTCL is transmitting energy to HESCOM through various Transmission Network & Electrical Sub-stations. There were 339 sub-stations of different networks during 2009-10 and 362 sub-stations during 2012-13.

4.7 Distribution Losses

The Distribution loss of the HESCOM has reduced from 20.86% during 2009-10 to 19.88% during 2012-13. Details are presented in Table-4.5.

Table-4.5: Distribution Losses

Sl. No.	Particulars	Energy in MU			
		2009-10	2010-11	2011-12	2012-13
1	Total energy available for sale	7,401.89	8,407.44	9,593.11	10,470.26
2	Total metered sales	2,868.86	3,153.10	3,467.61	3,735.66
3	Total un-metered sales	2,989.17	3,526.46	4,207.59	4,652.92
4	Total Sales	5,858.03	6,679.56	7,675.19	8,388.58
5	Distribution losses	1,543.85	1,727.99	1,917.91	2,081.68
6	Percentage of Distribution of losses	**20.86%**	**20.55%**	**19.99%**	**19.88%**

4.8 Reduction of Distribution Losses

HESCOM has been taking various extensions and improvement works in orderto reduce distribution losses. The details of present initiatives taken by HESCOM are as follows:

- Feeder work for 11 KV link lines for 129 Nos. measuring 700 kmshas been completed out of 152 Nos.
- HESCOM has so far metered 40,244 DTCs out of existing 99,038 DTCs at the end of March-2013. Energy audit is being done for almost all urban DTCs to analyze loss levels.

- HESCOM has undertaken "Niranthara Jyoti Yojana" (NJY) prestigious project of Government of Kartanata. This will enable for bifurcation of IP sets and rural loads. Thus, proper assessment for IP sets consumption pattern and other rural consumption is possible. Under this project, 22 feeders in 3 Taluks namely; Bailhongal, Shiggaon and Savanur have been completed on pilot project basis.
- NJY under phase-1 which covers 20 Taluks out of which 19 Taluks work is under progress. (246feeders). Out of 246 feeders, 109 feeders work is completed.
- NJY under phase-2, which covers 14 Taluks and work, is under progress. Out of 210 feeders 70 feeders works is completed. (As of now total of 335 feeders work completed in total).
- Efforts are being made to ensure that DC or Meter Not Recording (MNR) installations are within 1% of the total.
- The major system improvement works like DTC metering in Urban area, replacement fold Electromechanical by Static meters, implementation of ABC cables in theft prone areas, additional transformer etc., are covered in R-APDRP which intern result in reduction of Distribution Losses.

4.9 Energy Audit

Division wise Energy audit of HESCOM is being conducted every month to calculate distribution loss energy audit of all the 21 Divisions is being monitored every month in HESCOM. Energy audit of 73 major cities / towns is also being conducted every month. Energy Audit of 11KV feeder level is also monitored. There are about 2,140 feeders in HESCOM distribution system.

4.10 Reduction of Aggregated Technical & Commercial Losses (AT&C)

The following measures undertaken by the company are being monitored to reduce the AT & C Losses:

a) To remove rural loads on town / City feeders so that Towns/ Cities are fed from separate urban feeders, with input Energy meters kept always in good working conditions.

b) Arranging to provide metering equipment to DTCs in the towns &analyzing HT and LT Losses after the synchronization of individual DTC and its connected LT installations.

c) Load balancing on the DTCs.

d) Replacement of MNR meters by good Energy Meters.

e) Achieving 100% reading and billing of LT installations.

f) Minimizing the Door Lock & unread installations(i.e. by taking readings on subsequent dates).

g) Proper metering of Street Light and water supply (LT-6) installations for monitoring the consumption. It is proposed to provide timer switches to control "off and on" of Street lights in urban areas of HESCOM.

h) Metering & monthly billing of IP Set installations coming on town feeders.

i) To continue all out-efforts in increasing the metered consumption &issuing of 100 % bills.

j) To increase the revenue collection by rigorous disconnection drives & continuous monitoring thereby increasing the collection efficiency &over all business efficiency (to reduce AT & C Losses).

k) To sort out & dismantle long disconnected installations to avoid possible theft of Energy by unauthorized reconnection and for judicious use of released idle meters etc., in the system.

l) To pool up vigilance & MT batches to create mass raids to detect theft of Energy & to arrest possible theft.

m) To bring up customer awareness by chalking out programmes for proper education about electricity.

n) Study of category wise consumption pattern of LT3 and LT5 installations and thereby taking measures like rating, sealing of terminal covers with numbered poly carbonate seals etc.

o) It is proposed to replace 10-year old Electro-mechanical meters by high precision static meters.

p) Efforts are being made to meter all the un-metered installations in BJ/KJ categories and DTCs feeding predominant IP set installations.

q) Regular rating of HT and LT installations are being monitored and the metering system is kept in good condition.

r) All the 505 interface points between KPTCL & HESCOM are metered and the energy received at all these points are measured and recorded.

4.11 Distribution Transformer Failure

HESCOM is committed to reduce the failure rate of transformers by way of various Extension and Improvement works and by removing of load on the over loaded Transformers by adding new Transformer Centres.

The failure rate of Distribution Transformers during 2009-10 stood at 16.71%in rural and 4.02% in Urban Areas (total 14.97%). Totally, 13,016 Distribution Transformers have failed and about 12,742 Transformers are replaced during the year.

Totally, 17,071 Distribution Transformers have failed and about 16,840 Transformers are replaced during the year. The failure rate of Distribution Transformers during 2012-13 stood at 19.22% in rural and 6.28% in urban

areas (total 17.24%). High rate of failure of DTCs in rural areas is due to overloading of transformer by drawal of excess power mainly by IP sets. The drawal of excess power is attributed by unauthorized connections of IP sets. Other reasons attributed are: heavy lightening in rainy season, falling of branches of trees, loose spans touching each other, rural LT network passing through sugarcane field and other farm land.

Fixing of meters to IP connections could be speeded up to reduce excess drawal of power. HESCOM may take suitable steps to control and monitor unauthorized connections of IP sets in rural areas. However, it is politically sensitive issue.

The numbers of transformers repaired during 2012-13 were 16,297 as against 11,585 during 2009-10.

4.12 HT / LT Lines

HESCOM has been drawing new HT & LT lines to strengthen the infrastructure. The details of total length of HT & LT lines during the period of review are presented in Table-4.6.

Table-4.6: Details of HT & LT Lines

Sl. No.	Year	HT Line (kms)	LT Line (kms)
1	2009-10	53,104	1,05,030
2	2010-11	54,608	1,06,494
3	2011-12	55,480	1,07,803
4	2012-13	56,965	1,09,541

The ratio of LT Line to HT Line was 1.98 during 2009-10 and reduced to 1.92 during 2012-13.

In order to improve distribution network, it is desirable to have length of LT lines equal to length of HT lines so that LT HT line ratio would be 1 : 1. Achieving the LT HT ratio of 1 : 1 is one of the measures of reducing

distribution losses. HESCOM has LT HT ratio of 1.92 : 1. To achieve LT HT ratio of 1 : 1, HESCOM has to take steps for converting about 53,000 kms length of LT line to HT line. Approximate cost of conversion of LT line to HT line would be Rs. 1,590 crores at Rs. 3 lakh per km.

It is estimated that there would be about 3% reduction in distribution losses after achieving LT HT ratio of 1 : 1. Thus, HESCOM would be saving 360 million units of power per annum on the power purchase of 12,000 million units per annum. In other words, there would be saving of about Rs. 125 crores per annum and takes about 13 years to recover the cost.

HESCOM may initiate steps of conversion of LT lines to HT lines in phased manner. For implementing the project, a technical consultancy organization may be engaged for conducting detailed survey, for preparing Detailed Project Report (DPR) and Viability Report.

4.13 Metering

HESCOM has been fixing meters to the consumer connection and as well as at distribution transformer level. The percentage of metered DTCs has been reducing during the period of review even though number of DTCs metered have increased. The details of new meters fixed to consumers and DTCs are presented in Table-4.7.

Table-4.7: Details of New Meters Fixed to Consumers and DTCs

Sl. No.	Year	New Meters	Distribution Transformers		
			Total	Metered	%age
1	2008-09	73,265	-	-	-
2	2009-10	73,087	-	-	-
3	2010-11	35,017	90,994	39,341	43.23
4	2011-12	29,534	93,851	39,723	42.33
5	2012-13	33,782	99,038	40,244	40.63

HESCOM need to take suitable steps for fixing meters to DTCs. Initially, it may be aimed to cover 100% DTCs in urban areas and subsequently most of the DTCs under the jurisdiction of HESCOM. For this purpose, there is a need to allocate more funds for metering of 100% DTCs for which necessary approval may be taken from KERC and competent authority.

4.14 Establishment of 33.11 KV Sub-stations

HESCOM has been taking up establishment of sub-stations and other works. The details of 33/11 KV sub-stations were augmented during the period of review are presented in Table-4.8.

Table-4.8: Details of Establishment of Sub-stations

Sl. No.	Year	Stations Awarded (Nos.)	Stations Commissioned (Nos.)	Under progress (Nos.)
1	2009-10	56	17	-
2	2010-11	16	10	14
3	2011-12	14	6	6
4	2012-13	8	3	5
	Total	**94**	**36**	**25**

It may be observed that commissioning of sub-stations is less than 40% of the awarded sub-stations. Some of the reasons for slow rate of commissioning of sub-stations are:

- Delay in handing over of the land due to objections by the land owners / farmers, resolving standing crop issues.
- Remote location of land allocated by the Revenue Authorities for establishing sub-stations without proper approach road and connectivity. This causes delay in transportation of materials to the site.
- Delay due to monsoon period during the implementation period of the work.
- Implementing agency faces problem of delivery of procured material from outside the State, fluctuation in market rate of raw materials, labour problem etc.

In view of the above, there is a need for improving speed of establishment of sub-stations and suitable monitoring mechanisms may be put in place in this regard.

4.15 Re-conductoring

HESCOM has been taking up re-conductoring works of 33 KV and 11 KV lines to reduce losses in distribution line and improve voltage. During 2009-10, 33 KV reconductoring of 80 number of feeders (1,358 kms length) work were awarded and 73 number of feeders (1,140 kms length) was completed. Similarly, during 2009-10, 11 KV reconductoring of 123 number of feeders (1,445 kms length) work were awarded and 123 number of feeders (1,381 kms length) was completed.

During 2011-12, 33 KV reconductoring of 79 number of feeders (1,358 kms length) work were awarded and 3 number of feeders (41kms length) was completed.

4.16 High Voltage Distribution System (HVDS)

HESCOM has taken up implementation of HVDS as per the directive of KERC on pilot basis in Byadagi taluk of Haveri Division. In addition, it is proposed to take up pilot project in Sadalga Sub-division, of Chikkodi Division. The HVDS project aims at reduction of line losses and prevents theft of energy with the following measures:

a) Envisages 11 KV lines (Rabbit Conductor) upto one or two cluster of IP pumps.

b) Power is distributed to users by installing small capacity 25 KVA transformer and power is distributed preferably through insulated overhead cables or areal bunch cables (ABC cable to each IP set).

Advantages on implementation on HVDS

- As per CEA guidelines standard 11 KV loss is 3% and LT loss for rural is around 6.5%. This will guarantee minimum saving of 3% as LT line is reduced to bare minimum (almost nil).
- Number of IP consumers to each distribution transformer is minimum i.e. two or three. Hence, distribution transformer failure rate will be low.
- Unauthorized hooking directly to LT lines is not possible as LT is LESS (almost nil) and it is areal bunched cable.
- Number of accidents occurring due to LT line conductor will be minimal.
- High quality voltage earns total consumers satisfaction.
- Accurate assessment of IP set consumption and distribution system losses.
- Less number of consumers affected due to DT fault / failure.
- Due to improved quality voltage, pump set motor will draw less current. Hence, pump set motor burning will be avoided.
- Number of feeder interruptions minimized.
- As only two or three pump sets are connected on each distribution transformer, consumer share responsibility.
- Considerable savings in power purchase cost and distribution transformer repair cost.

4.17 Quality of Power Supply

HESCOM will continue the efforts to improve quality of service in rural as well as urban areas by undertaking the following works in the year 2013-14. Details are given in Table-4.9

Table-4.9: Works Undertaken to Improve Quality of Service

Sl. No.	Proposed Works for Improving the quality of service	Unit	Physical Quantities	Financial Quantities (Rs. in crs.)
1	Construction of new 33 KV Stations & Lines	Nos./Kms	5/83	9.63 / 9.22
2	Augmentation of 33 KV Stations	Nos.	30	22.56
3	Nirantara Jyothi Yojana	Nos.	456	282.45
4	R-APDRP (Part A & B)	Nos./Town	163	49.18
5	Replacement of Rabbi conductor by Coyote of 33 KV line	Kms	238	24.90
6	HVDS (Pilot Project in Gadag Division)			50.00

In addition to above, HESCOM has planned to take up the following extensive maintenance works to improve the quality of service i.e. reduction of interruption in rural areas.

1. Providing intermediate poles to reduce sagging in HT & LT lines.
2. Providing Additional distributional transformers to reduce over loading of existing transformers.
3. Extensive maintenance of equipment's of 33KV Stations as per the maintenance schedule prescribed by equipment manufactures.
4. Conversion of lengthy single phase line into three phase lines.
5. Increasing HT line length to reduce HT to LT line ratio.

4.18 Micro Feeder Franchisees (Gram Vidyut Pratinidhis)

HESCOM is franchising distribution of power in rural areas in association with Gram Panchayats to improve the Rural Revenue Collection by carrying out various activities such as:

- Meter reading, bill distribution and Revenue Collection
- Depositing the collection with utility
- Registering complaints and forwarding to utility.
- Facilitating utility in attending the grievance of low tension consumers LT-1, LT-2, LT-3, LT-4, and LT-5 up to 40 HP].

HESCOM has given 1,124 Micro Feeder Franchisees (MFF) during 2012-13 and the performance is given in the Table-4.10.

Table-4.10: Performance of **Micro Feeder Franchisees during 2012-13**

Total No. of Gram Panchayats	1,290
No. of MFF Working	1,124
Total Base Line Target for the year 2012-13	Rs. 247.76 crs.
Total Revenue Collection	Rs. 178.08 crs.
Collection Efficiency (collection v/s Baseline* 100)	71.87%

One of the objectives of franchising distribution of power in rural areas is to increase collection efficiency. However, revenue collection efficiency is about 72%. In order to achieve higher collection efficiency, HESCOM may take suitable steps to incentivize franchises achieving over 95% collection efficiency.

4.19 Demand Side Management (DSM)

HESCOM has taken up DSM in agriculture sector, which aims at energy saving. HESCOM has formed DSM Cell in Corporate office and Divisional office.

The DSM is being implemented on pilot basis in Chikkodi and Ranebennur covering replacement of about 590 pump sets with energy efficient pump sets. It is expected in reduction of energy consumption by 4% to 50%.

In addition, advertisement, publicity and other mass campaigns are taken up for adopting energy saving methods by the consumers. HESCOM is allowing discount in energy bill to the domestic consumers for installing solar water heaters. It is implementing Belaku Yojane for replacing incandescent lamps (ICL) by CFL bulbs (now this scheme has been entrusted to KREDL).

4.20 Human Resources Development and Institutional Strengthening

The employee training and development is being organized so that greater thrust is given to build competency for meeting the new emerging business challenges. HESCOM has established Industrial Training Centre in the year 2002 at Vidyutnagar, Hubli. During the period of review from 2009-10 to 2012-13, HESCOM has training over 8,000 employees. Further, HESCOM provides apprenticeship training to ITI candidates. During the same period, HESCOM provided apprenticeship training to over 230 candidates. In addition, HESCOM is imparting training to its officers & staff in various disciplines for effective discharge of the duties. During the period indicated above, HESCOM has trained over 8,100 employees

4.21 Latest IT Initiatives in HESCOM

a) **HESCOM Website:** The HESCOM Website is maintained by ITSection of HESCOM andwww.hescom.co.in is running successfully. Website is updated instantly. HESCOM Website provides all the basic information regarding company profile and activities.

b) **ERP (Enterprise Resource planning):** ERP Package includes Finance and Accounts, HRMS, Store Inventory, Material Management, Project Monitoring and Legal activity monitoring, tender monitoring, transformer failure and replacement monitoring. Under this project all the modules are accessible through mobile. The customization of software is under process.

c) **PLO (Paperless Office):** PLO is implemented w. e. f 08.01.2012 to reduce usage of paper and fast tracking of letter, files without wasting time. PLO is successfully implemented in corporate office, HESCOM. Major benefits of PLO are Cost, Space Management, Data retrieval, access anywhere and security.

d) **Bio-Metric Devices:** Web based bio metric devices have been installed at 26 locations in 1st phase and at 97 locations in 2nd phase. This device captures the in time, out time of employees by taking finger scan. The attendance is available online and various reports can be taken from Biometric attendance software.

e) **Customer Call Center:** CCC was established under RAPDRP Part-A projects at Corporate Office, HESCOM, Hubli. CCC is operational in HESCOM for proper monitoring of customer care activity such as registration of consumer complaints and speedy redressal of consumer grievances. The helpline executives are working round the clock.

f) **E-procurement:** The E-procurement system has been implemented in HESCOM on 19.07.2010 to procure works, goods and services through the e-procurement platform through e-procurement portal of Government of Karnataka.

g) **ATP (Anytime payments) Counters:** ATP Counters are working in HESCOM in various divisions enabling consumers to pay their bills 24X7 days. Fresh tenders were invited to install additional ATP machines in HESCOM on BOOM basis.

h) **ECS (Electronic Clearing System):** ECS is being implemented on pilot basis in Hubli Division. It is decided to implement ECS facility in other divisions of HESCOM. The same is mandatory for all officers/employees of HESCOM.

i) **Billing Activities:** In all 65 Sub divisions and 45 Accounting Sections has been computerized through outsourcing to 6 different Agencies. Spot Billing is done through handheld machines and computerized receipts are being issued.

4.22 Customer Care

The Company is committed to the best care of its Customers. Towards this end 24x7 Centralized Customer Care Centre has been established at Corporate Office of HESCOM for proper monitoring of Customer Care activity such as registration of consumer complaints and speedy redressal of consumer grievances.

24x7 Customer Care Centres are working in eight locations. The same facility is being extended to additional four towns.

Central Complaint sections are working successfully in Hubli and Belgaum Divisions. Ladder mounted vehicles are provided across HESCOM's for attending Consumer Complaints within short time.

Public meetings are being conducted to redress the Consumer grievances at all Divisions and Sub-divisions in every month. Press statements and notifications in local newspapers are given in advance regarding these meetings.

The Company is offering the following consumer friendly measures for their benefits:

1. Time of the Tariff (TOD)
2. Soujanya Counters in all Sub-Divisions
3. 24Hrs. Customer care centers with Toll free telephone numbers functioning in 9 Divisions of HESCOM.
4. Janasamparka Sabhas are being conducted regularly in all Divisions and Sub Divisions.
5. Creating awareness among school children about electricity usage, safety measures and conservation.
6. Providing Cheque drop boxes in all Sub-Divisions/Accounting sections.

4.23 Consumer Friendly Grievance Redressal Mechanism

Protection of consumer's interest is the main motive of the Company.

Following are the steps initiated by the Company for accomplishment of this goal:

- Interaction meetings to redress grievances of the consumers are held regularly with consumers' associations like Chamber of Commerce and Industries and Farmer's Welfare Associations etc.

- Vidyut Adalats are headed by the Deputy Commissioner of the District in all the Districts for redressal of consumer grievance.

- Senior Officers of the rank of Executive Engineer (El.), are made available during the peak hours between 6.30 P.M. to 7.30. P.M. for proper monitoring of customer complaints and speedy redressal of complaints. Similarly, the services of AE/JE are spared at the service stations for attending to customer complaints.

- For attending to consumer complaints quickly, active 24x7 Customer Care Centre at the Corporate Office of HESCOM is established.

  Customers can even approach Managing Director directly over phone (Mobile/Land Phone) with their complaints or in person. The landline and Mobile phone numbers have been published in News Papers; Executive Engineer (Ele), HRD, at Corporate office is constantly monitoring the complaints.

- Mobile Phones have been provided to AEEs, EEEs, SEEs and CEEs. Hence, customers can directly contact any of the field officers to get complaints attended immediately.

- 2853 CUG (Close User Group) Sims have been issued to all cadres of Employees/Officers starting from Asst. Line man.

- In each Assembly Constituency, a Vidyut Salaha Samithi is being constituted on the basis of approved list received from GOK for redressal of consumer grievances. So far 10 such Samithies were constituted.

- New Divisions and new Sub-divisions are created for better delivery of services to Customers of HESCOM.

- District CGRF (Consumer Grievance Redressal Forum) is constituted for each Revenue District under HESCOM jurisdiction with an Officer of the rank of Superintending Engineer (Ele) is made as Chairman and an Officer of the rank of Executive Engineer (Ele) has been made as a member of the Forum. A Consumer representation is made duly appointing a member from the Consumer side.

4.24 Power Theft

Vigilance Wing of HESCOM regularly takes up checking of installation for possible power theft or misuse of power connection. After detection of power thefts HESCOM initiate action of levying penalty and disconnection of the power supply. The details of installations inspected, cases reported, penalty levied and collected are given in the following Table-4.11.

Table-4.11: Details of installations inspected, cases reported, Penalty levied and collected

Year	No. of Installations checked	Cases of Registered	Penalty (Rs. in lakhs)	
			Levied	Collected
2011-12	27,612	7,440	1,120.05	991.33
2012-13	28,403	7,450	997.21	971.55
2013-14	25,346	6,181	1,083.60	834.75

HESCOM has initiated several measures like replacement of old meters, metering of DTCs, implementation of ABC cables, HVDS project and mass rates to detect power theft and reduce such cases. HESCOM may take steps to cover more areas under HVDS and implementation of ABC cables

4.24 Objectives Achieved

HESCOM has achieved most of the major objects outlined in the MoA while registering as Company. HESCOM has taken several steps in improving its performance and efficiency.

Chapter-5: Implementation of Schemes

5.1 Energisation of Drinking Water Supply Scheme

Under Drinking Water Supply Scheme both in rural and urban areas, HESCOM has serviced 6,715 drinking water installations during 2009-10 to 2012-13. Details are given in Table-5.1

Table-5.1: Energisation of Drinking Water Installations

Sl. No.	Year	No. of Installations
1	2009-10	1,511
2	2010-11	789
3	2011-12	1,065
4	2012-13	3,350
	Total	**6,715**

5.2 Energisation of IP Sets

HESCOM has serviced 53,531irrigation pump sets during 2009-10 to 2012-13. Details are given in Table-5.2.

Table-5.2: Energisation of IP Sets

Sl. No.	**Year**	**No. of Installations**
1	2009-10	12,376
2	2010-11	11,823
3	2011-12	10,752
4	2012-13	18,580
	Total	**53,531**

5.3 Electrification of Tandas, Villages and Houses

HESCOM has undertaken electrification of Tandas, villages and BPL houses. Details are given in Table-5.3.

Table-5.3: Energisation of Drinking Water Installations

Sl. No.	Year	No. of Colonies	No. of Villages	No. of Houses
1	2009-10	78	4	22,285
2	2010-11	17	1	8,686

5.4 Energisation of Ganga-Kalyan Installations

HESCOM has serviced 11,464 Ganga Kalyan installations during 2012-13. Details are given in Table-5.4.

Table-5.4: Energisation of Ganga Kalyan Installations

Sl. No.	Year	No. of Installations
1	2009-10	2,787
2	2010-11	4,001
3	2011-12	1,767
4	2012-13	2,909
	Total	**11,464**

5.5 R-APDRP

Ministry of Power, Govt. of India has launched Restructured Accelerated Power Development and Reforms Programme (R-APDRP) in XI five year plan. The programme is proposed to be implemented on all India basis covering town/ cities with a population of more than 30,000 as per population data of 2001 census. As per the above guideline, 31 towns are selected from HESCOM.

Projects under the Scheme shall be taken up in two parts. Part-A shall include the projects for establishment of baseline data and IT applications for energy Accounting & Auditing and IT enabled Consumer Service Centre. Part-B shall include regular distribution strengthening of projects.

Projects under Part-A include Establishment of Data Centre at Bangalore city, Establishment of Disaster Recovery Centre at Hubli and IT applications, which include the following modules:

i) Meter Data Acquisition
ii) Energy Audit
iii) New Connection
iv) Disconnection & Dismantling
v) Development of Commercial Database of Consumers
vi) Metering
vii) Billing
viii) Collections
ix) Centralized Customer Care Services
x) Web Self Service
xi) Asset Management
xii) Asset Maintenance
xiii) GIS based customer indexing and asset mapping
xiv) GIS based integrated network analysis module
xv) Management Information System (MIS)
xvi) System Security Requirement
xvii) Identity and Access Management System
xviii) DGPS based GIS survey in the identified towns, AMR implementation and establishment of LAN, MPLS VPN and other networking in the identified towns.

The present progress achieved during 2012-13 is given below:

Part-A progress

i) Metering, Billing & Collection (MBC) module Go-live status MBC gone live in 29 towns out of 29.

ii) GIS based Network Survey:Survey completed, submitted to SDO, verification is under progress: 29 towns.

iii) GIS based Consumer Indexing: Survey completed, submission to SDO & verification is under progress: 29 towns

iv) Meter& Modem installation to the DTC, HT, feeder and boundary meters for Automatic meter Reading through GPRS. Meters are installed in 29 project towns. Modem installation along with SIM is completed in 26 towns completed.

v) Network Bandwidth Service Provider: primary NBSP already commissioned in 29 towns. Secondary NBSP commissioned are 29 towns.

5.6 Nirantara Jyoti Yojana (NJY)

With a view to provide 24 Hours of reliable supply for households and other non-farming communities in rural areas. The Government had initiated "Niranthara Jyothi" scheme. The scheme comprises bifurcation of rural load into two separate feeders:

- Rural feeders (called Niranthara Jyothi Feeders) getting 24 hours continuous3-phase power supply catering to Residential, Commercial and Industrial consumers in Rural areas.
- Agricultural feeders catering to the demand exclusively of agricultural consumers.

Status regarding implementation of Niranthara Jyothi scheme in HESCOM:

- In HESCOM totally there are 48 Talukas, out of which 11 Taluks in Uttara Kannada Districts are already being fed with 24 Hrs power supply and hence they are excluded from NJ scheme.

- Pilot Project has been implemented in three Talukas viz.Bailhongal in Belgaum District, Shiggaon & Savanur Taluks in Haveri District.

- In Hukkeri Taluk, this scheme is being implemented by Hukkeri co-operative society.

- In the remaining 34 Taluks NJY works are proposed to implement in 2 phases, in first phase 20 Taluks 252 Nos., of 11KV feeders in 1,891 villages and in second phase other 14 Taluks 210 Nos., of 11KV feeders in 1,550 villages. The progress of implementation is presented in Table-5.5.

Table-5.5: NJY Progress

Sl. No.	Particulars	Pilot	Phase-1	Phase-2	Total
1	Number of Taluks	3	20	14	37
2	Date of Issue of DWA	2008-09	May-11	Jan-12	
3	Total number of villages coming under this scheme	189	2,029	1,550	3,768
4	No. of Proposed Feeders	22	246	210	478
5	Cost of the project in (Rs. crores	23.55	264.28	219.51	507.34
6	Total number of poles to be erected	18,062	1,76,131	1,24,936	3,19,129
7	No. of poles erected as on date	18,062	1,32,963	83,781	2,15,381
8	Total 11 KV line to be constructed	668.60	8,030.28	5,391.42	14,590.30
9	11 KV line progress achieved	668.60	4,799	2,380	6,594.19
10	Percentage of poles erected	100	75	67	
11	Percentage of conductor constructed	100	60	40	
12	No. of NJY feeders completed	22	145	99	266
13	Expected completion period	Completed	Oct-13	Oct-13	

5.7 Integrated Extended Supervisory Control and Data Acquisition(IE SCADA)

Integrated Extended Supervisory Control and Data Acquisition (IE SCADA) project is taken up collectively by KPTCL and its constituents ESCOM. This project helps to obtain and monitor real time data of all generating stations, all substations of various voltage levels, all IPPs and all EHT consumers in the State. In HESCOM 136 numbers of 33kV substations are included under SCADA. Progress of SCADA is categorized under two parts.

Establishment of Area Load Dispatch Center

At Distribution Control Center (DCC), Corporate Office, Hubli works such as erection of Large Video Screen, installation of 2 x 10 kVA UPS, networking cabling etc., has been completed. Supply, erection and commissioning of VSAT for DCC is pending and communication is achieved through 2 Mbps Leased Line. DCC is operational at corporate office, HESCOM, Hubli and 24x7 load monitoring is being carrying out.

Field Progress

In HESCOM 136 numbers of 33/11kV substations are included in first phase of IE SCADA project out of which all 136 substations have been validated. Real time Data is available for all the stations.

Second Phase:

In HESCOM 32 numbers of 33/11kV stations are proposed for implementation of IE SCADA project in second phase. Implementing agency has been selected to take up second phase of the project.

5.8 Electrification of Houses under RGGVY Scheme

The Government of India has introduced a scheme for creation of Rural Electricity Infrastructure and Household Electrification known as Rajeev Gandhi Grameena Vidyutikarana Yojna (RGGVY) through Rural Electrification Corporation Ltd. Under this Scheme infrastructure facilities are being provided for electrification of houses belonging to the people Below Poverty Line. The beneficiaries of this scheme are to be identified by concerned Panchayats. The project financing is made through REC, which includes 90% capital subsidy and 10% loan. The scheme is implemented in all the seven districts coming under the jurisdiction of HESCOM. Details of achievement are given in Table-5.6.

Table-5.6: Energisation of Houses

Sl. No.	Year	No. of Households awarded	No. of houses completed
2	2010-11	2,53,739	2,15,728
3	2011-12	2,53,739	2,19,371
4	2012-13	2,53,739	2,24,061

5.9 Bachat Lamp Yojana being Launched by BEE.

The details of BPL consumers covered under Bachat Lamp Yojana aimed at replacing Incandescent bulbs with Compact Florescent Lamps (CFL) in BPL families are given in Table-5.7.

Table-5.7: Details of Bachat Lamp Yojana

Lot No	Name of the Circle	Total BJ/KJ Installa-tions	LT-2 (Residential) installation	Total installa-tions	Total CFL Bulbs to be Replaced	Estimated Project Cost in (Rs. lakhs)
1	Hubli	150,313	424,384	574,697	1,847,849	277
2	Belgaum	127,954	394,045	521,999	1,704,134	256
3	Bijapur	113,935	195,902	309,837	897,543	135
4	Sirsi	58,587	250,727	309,314	1,061,495	159
5	Haveri	129,154	161,359	290,513	774,590	116
6	Bagalkot	89,933	193,582	283,515	864,261	130
7	Chikkodi	64,255	124,224	188,479	561,151	84
	Total	**734,131**	**1,744,223**	**2,478,354**	**7,711,023**	**1,157**

This scheme has been entrusted to KREDL.

Chapter-6: Tariff & Regulatory Affairs

6.1 Tariff for 2013-14

HESCOM has been filing its applications for Approval of Annual Revenue Requirement(ARR) and Electricity Regulatory commission(ERC) for the Distribution Business and Retail Supply Business for the respective Control Periods. HESCOM has also filed Annual Performance Review (APR) and Tariff Revision Application for 2013-14.

The Hon'ble Commission has assessed average cost of supply of power at Rs. 4.96 per unit for 2013-14 and passed the tariff order 2013.

6.2 Application for Revision of Tariff

HESCOM has filed Annual Performance Review (APR) and Tariff Revision Application for 2014-15 and requested for enhancement of tariff.

Prayer before the Honorable Commission

HESCOM with averments made in the respective paras of the ERC/ARR & Tariff Petition for 2014-15 duly detailing the revenue requirement of HESCOM respectfully prays the Hon'ble Commission to;

a. Consider the Annual Performance of HESCOM for 2012-13 and carry forward the revenue surplus of Rs.40.69 crores to ARR of 2014-15.
b. Approve the revenue deficit of Rs.288.69 crores for 2014-15.
c. Approve the total revenue deficit of Rs.288.69 as detailed in above paras and allow HESCOM to increase the tariff to an extent of Rs.0.66 per unit across all category of consumers except LT-1(BJ/KJ) & LT-4a (IP sets 10HP & below).
d. To approve the proposed purchase, sales, losses, CAPEX, ARR and ERC for the control period 2014-15.

Chapter-7: Financial Performance

7.1 Capital Expenditure

HESCOM has been incurring capital expenditure for strengthening of infrastructure of power distribution. The capital expenditure incurred by HESCOM has decreased during 2010-11 and maintained at about Rs. 250 crores during 2011-12 and 2012-13. The details of expenditure under Major heads are during the period of review presented in Table-7.1.

Table-7.1: Details of Expenditure under Major Heads

(Rs. in crores)

Sl. No.	Details	2009-10	2010-11	2011-12	2012-13
1	Service Connection	38.60	10.14	6.77	11.93
2	Ganga Kalyan	-	13.31	8.16	16.41
3	Extension & improvement	40.54	11.41	5.21	6.82
4	Replacement of Failed Distribution Transformers	63.79	50.49	65.55	73.64
5	Replacement of Conductors	22.79	8.70	3.75	4.66
6	Providing Infrastructure to UAIP	9.56	2.10	0.14	2.13
7	Energization of IP sets (general)	-	-	6.31	1.56
8	Metering	0.97	2.51	2.76	5.23
9	Rural Electrification works (RGGVY, NJY, RLMS, Hamlets etc.)	85.34	19.62	79.40	75.50
10	APDRP	1.25	-	-	-
11	RAPDRP	-	0.67	13.85	23.47
12	ALDC/SCADA	3.76	1.97	1.50	1.42
13	Stations	38.81	25.16	20.81	18.90
14	Civil Works	7.05	2.37	1.44	1.34
15	Flood Affected Works	9.80	8.55	5.91	3.58
16	Others	1.67	2.95	2.92	3.94
	Total	**323.93**	**159.95**	**224.48**	**250.53**

HESCOM is utilizing funds from various schemes of Government of India and Government of Karnataka towards capital expenditure for strengthening the infrastructure. HESCOM has availed financial assistance under APDRP scheme, RAPDR scheme, PMGY scheme, Ganga Kalyan scheme, Nirantara Jyothi Yojane, and RGGVY schemes. HESCOM has taken loan from various financial institutions like REC, PFC and commercial banks like UCO Bank, SBI, Syndicate Bank, Corporation Bank and Commercial Bank. In addition, it has borrowed funds from KPTCL and also from State Government.

7.2 Profit & Loss Account

HESCOM has incurred losses during initial three years of review and earned profit during last two years of review. HESCOM has earned profit of Rs. 39.75 crores during 2011-12 and Rs. 40.69 crores during 2012-13. Summary of Profit & Loss Account is presented in Table-7.2.

Table-7.2: Summary of Profit & Loss Account

(Rs. in crores)

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
A	**Income**					
	Revenue from operations	1,868.95	2,277.59	3,102.16	3,868.32	4,611.19
	Other income	12.64	13.09	17.87	42.23	35.61
	Total revenue	1,881.59	2,290.68	3,120.03	3,910.55	4,646.80
B	**Expenditure**					
	Purchase of power	1,925.94	1,790.51	2,478.35	3,027.83	3,733.01
	Finance costs	193.79	270.18	289.53	280.81	285.5
	Employee benefit expenses	208.87	223.84	306.01	370.40	381.91
	Depreciation	51.54	82.27	89.49	92.80	88.03
	Administrative and other expense	77.68	78.93	75.57	98.96	117.65
	Total expenditure	2,457.82	2,445.73	3,238.95	3,870.80	4,606.1
C	Profit before tax	-576.23	-155.05	-118.92	39.75	40.70
D	Prior period (cr)/dr	-15.73	18.58	-54.22	-	-
E	Income tax	-0.25	-	-	-	-
F	Profit after tax	-560.25	-173.63	-64.70	39.75	40.70

HESCOM has shown reducing trend in financial cost to sales ratio, which has decreased from 10.37% to 6.19% during the period review. Similarly, employees cost ratio has decreased from 11.18% to 8.28%. The power purchase cost to sales ratio has decreased from 103.05% to 78% and again increased to 80.96%.

Return on capital was negative during first three years of review and it was around 3% during 2011-12 and 2012-13. Similar trend in return on equity has been observed. The return on net worth was negative during first three years of review and 315% during 2011-12 and 22.27% during 2012-13. The high return on net worth during 2011-12 is attributed to earning of the profit and low net worth.

The debt equity ratio was very high at 3.42 during 2008-09 and reduced to 1.26 during 2012-13. The debt equity ratio maintained around 1.50 during 2011-12 and 2012-13.

The earning per share was negative during first three years and HESCOM has earned about Rs. 0.60 per share during 2011-12 & 2012-13. The number of consumers / customers per employee has increased from 465 to 525 during the period of review. Similarly, revenue per employee has increased from Rs. 0.27 crores to Rs. 0.64 crores during the period of review.

The details of different ratios based on the profit & loss account are presented in the Table-7.3.

Table-7.3: Financial Ratios on P&L

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Finance costs to sales (%)	10.37	11.86	9.33	7.26	6.19
2	Employees cost to sales (%)	11.18	9.83	9.86	9.58	8.28
3	Power purchase cost to sales (%)	103.05	78.61	79.89	78.27	80.96
12	Return on capital employed (%)	-230.70	-120.51	-56.77	2.59	2.76
13	Return on equity (%)	-240.10	-74.41	-27.73	5.62	5.75
14	Return on net worth	-212.87	-170.51	-66.76	314.98	22.27
15	Debt equity ratio	3.42	2.54	2.51	1.60	1.26
17	Number of employees	7000	7128	7515	7394	7252
18	Number of consumers per employee	465.04	482.54	473.55	498.68	524.68
19	Revenue from sale of power per employee (Rs. in crore)	0.27	0.32	0.41	0.52	0.64
20	Capital expenditure (Rs. in crores)		323.93	159.95	224.48	250.53

7.3 Balance Sheet

The share capital of HESCOM was increased to Rs. 707.53 crores during 2011-12 from Rs. 233.34 crores. HESCOM has been carrying forward earlier losses and the accumulated losses marginally reduced during last two years of review due to earning of profit. The accumulated losses where Rs. 730.76 crores during 2010-11 and reduced to Rs. 648.75 crores during 2012-13. The summary of balance sheet is presented in Table-7.4.

Table-7.4: Summary of Balance Sheet

(Rs. crores)

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
A	**Sources of funds**					
1	Shareholders funds					
	Share capital	233.34	233.34	233.34	707.53	707.53
	Share application / share deposit	-	329.91	400.34	-	124.00
	Reserves and surplus	(496.53)	(665.08)	(730.60)	(694.91)	(648.75)
	Total	**(263.19)**	**(101.83)**	**(96.92)**	**12.62**	**182.78**
2	Non current liabilities					
	Long term borrowings	500.38	245.91	210.89	991.50	753.68
	Deferred tax liabilities	5.66	-	-	-	-
	Other long term liabilities	-	-	-	470.68	489.73
	Long term provisions	-	-	-	60.19	47.96
	Total	**506.04**	**245.91**	**210.89**	**1,522.37**	**1,291.37**
3	**Current liabilities**					
	Short term borrowings	297.55	347.48	375.62	137.19	140.72
	Trade payables	1,551.10	1,821.93	2,286.62	1,649.41	1,559.99
	Other current liabilities	1,107.41	1,471.33	1,326.54	1,517.32	1,731.79
	Short term provisions	-	-	-	-	0.64
	Total	**2,956.06**	**3,640.74**	**3,988.78**	**3,303.92**	**3,433.14**
	Total sources of fund	**3,198.91**	**3,784.82**	**4,102.75**	**4,838.91**	**4,907.29**
B	**Application of funds**					
1	Assets					
	Non current assets					
	Fixed assets					
	tangible assets	1,198.54	1,353.77	1,372.75	1,300.51	1,255.97
	Intangible assets				-	-
	Capital work in progress	47.69	33.32	25.85	71.93	123.34
	Intangible assets under development				-	-
	Fixed assets held for sale				-	-
	Total	**1,246.23**	**1,387.09**	**1,398.60**	**1,372.44**	**1,379.31**

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
2	**Non current investments**	**0.01**	**2.51**	**2.51**	**2.51**	**2.51**
	Deferred tax assets (net)				-	-
	Long term loans and advances				102.52	242.66
	Other non current assets				418.05	499.74
	Total	**0.01**	**2.51**	**2.51**	**523.08**	**744.91**
3	**Current assets**					
	Current investments					
	Inventories	37.30	34.41	34.87	66.30	90.83
	Trade receivables under financing activity	1,206.21	1,364.63	1,565.56	1,524.96	1,548.39
	Cash and cash equivalents	84.30	32.39	33.37	146.15	91.56
	Short term loans and advances	64.84	63.73	76.25	686.90	419.90
	Other current assets	560.02	900.06	991.59	519.08	632.39
	Total	**1,952.67**	**2,395.22**	**2,701.64**	**2,943.39**	**2,783.07**
	Total application of funds	**3,198.91**	**3,784.82**	**4,102.75**	**4,838.91**	**4,907.29**

The networth of HESCOM was negative during first three years of operation and marginally became positive at Rs. 12.62 crores during 2011-12 and Rs. 183 crores during 2012-13.

The debt equity ratio was very high at 3.42 during 2008-09 and reduced to 1.26 during 2012-13. The debt equity ratio maintained around 1.50 during 2011-12 and 2012-13. This is in view of increase in share capital.

Average sales revenue per month has increased from Rs. 156 crores during 2008-09 to Rs. 384 crores during 2012-13. Number of months debtors outstanding has decreased from eight months to four months during the period of review and debtors to sales ratio decreased from 65% to 34% during the period of review. Debtors (trade receivables) are alarmingly high, which consists of receivables from government agencies like local bodies, offices, water supply and irrigation department.

Average monthly purchase of power has increased from Rs. 160 crores during 2008-09 to Rs. 311 crores during 2012-13. The creditors to purchase ratio increased to 102% during 2009-10 from 80% during the previous year and reduced to 42% during 2012-13.

The difference in trade receivables to trade creditors has reduced from Rs. -345 crores during 2008-09 to Rs.-12 crores during 2012-13.The current ratio and quick ratio have improved during the period of review, however, are much lower than expected value.

The details of ratios on balance sheet are given in Table-7.5.

Table-7.5: Financial Ratios on Balance Sheet

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	Earning per share (in Rs.)	-2.40	-0.74	-0.28	0.56	0.58
2	Total assets	3,198.91	3,784.82	4,102.75	4,838.91	4,907.29
3	Less current liabilities	2,956.06	3,640.74	3,988.78	3,303.92	3,433.14
4	Net Assets	242.85	144.08	113.97	1,534.99	1,474.15
5	Net worth	(263.19)	(101.83)	(96.92)	12.62	182.78
6	Debt	797.93	593.39	586.51	1,128.69	894.40
7	Equity	233.34	233.34	233.34	707.53	707.53
8	Debt equity ratio	3.42	2.54	2.51	1.60	1.26
9	Trade Receivables (Rs. cr.)	1,206.21	1,364.63	1,565.56	1,524.96	1,548.39
10	Sales (Rs. cr.)	1,868.95	2,277.59	3,102.16	3,868.32	4,611.19
11	Per month sales avg. (Rs. cr.)	155.75	189.80	258.51	322.36	384.27
12	Debtors outstanding no of months	7.74	7.19	6.06	4.73	4.03
13	Debtors to sales (%)	64.54	59.92	50.47	39.42	33.58
14	Trade payables (Rs. cr.)	1,551.10	1,821.93	2,286.62	1,649.41	1,559.99
15	Power purchased (Rs. cr.)	1,925.94	1,790.51	2,478.35	3,027.83	3,733.01
16	Per month purchase avg.	160.50	149.21	206.53	252.32	311.08
17	Creditors to purchases (%)	80.54	101.75	92.26	54.47	41.79
18	Trade Receivables (Rs. cr.)	1,206.21	1,364.63	1,565.56	1,524.96	1,548.39
19	Trade creditors (Rs. cr.)	1,551.10	1,821.93	2,286.62	1,649.41	1,559.99
20	Diff (Rs. cr.)	-344.89	-457.30	-721.06	-124.45	-11.60
21	Current ratio CA/CL	0.66	0.66	0.68	0.89	0.81
22	Quick ratio	0.65	0.65	0.67	0.87	0.78

7.4 Cash Flow

Monthly cash flow statement of HESCOM indicates negative balance of Rs. 75 crores to Rs. 120 crores during 2008-09. During 2012-13, the range of negative balance is Rs. 45 crores to Rs. 160 crores. The main problem of negative cash flow is due to non-receipt of payment by government agencies like local bodies, offices, water supply and irrigation department. Similarly, HESCOM is also not making payment for the power purchases. The subsidies released by government for free and subsidized power supply is adjusted for making payment towards power purchases.

7.5 Cost of Finance

The interest payment by HESCOM on long term and short term finance was Rs. 130 crores during 2008-09 and increased to Rs. 170 crores during 2009-10 and 2010-11 and reduced to Rs. 159 crores during 2011-12 and Rs. 139 crores during 2012-13.

The ratio of financing cost already covered in the earlier analysis shows reducing trend in financial cost to sales ratio, which has decreased from 10.37% to 6.19% during the period review.

7.6 Removal of Power Subsidy

The agricultural consumers comprise 14.47% of the total consumers and the energy consumption by agricultural consumers is nearly 55% of the total sale. The power supply to IP sets less than 10 HP are covered under free / subsidized power supply of Government scheme. The subsidy amount will be released by Government to HESCOM based on the availability of resources with the Government.

Power supply to drinking water supply schemes, providing lighting for the streets in habitations, providing electricity connection to remote villages under the ongoing Government schemes are cross-subsidized by industrial consumers.

If the subsidized power supply and cross-subsidy of power supply is removed, HESCOM could be able to fix lower tariff for domestic and industrial consumers. The cash flow position of the Company would improve as HESCOM need not wait for release of subsidy by the Government. In addition, all financial ratios would be improve in favour of HESCOM.

Chapter-8: Long Term Capital Requirement

8.1 Requirement

Most of the infrastructure created in the jurisdiction area of HESCOM was during KEB period and are more than 25 to 30 years old. Due to deterioration of poles, conductors etc., snapping of conductor is taking place on regular interval resulting in frequent accidents. Huge compensation is being paid due to loss of human lives, animals, burning of sugarcane fields etc. Following measures are taken periodically to strengthen and improve the infrastructure:

- Replacement of age old HT/LT lines by underground cables (UG) in urban area of Hubli, Dharwad and Belgaum.
- Replacement of tubular, iron, ladder, poles by suitable RCC, PSC & PCC poles.
- Reduction of lengthy 11 KV lines by bifurcating them.
- Bifurcation of industrial / urban feeders from rural load.
- Replacement of 11 KV Weasel conductor by Rabbit conductor.
- Reconductoring of LT Lines
- Construction of 11 KV link line for different feeders.
- Preventive measures to reduce electrical fatal accidents by suitable LT reconductoring work.
- Replacement of 38KV Rabbit conductor by Coyote conductor.
- Augmentation of overloaded transformers (more than 150% of load) either by higher capacity DTCs or additional DTCs to reduce transformer failures.
- For proper and efficient recording of energy consumption, it is necessary to replace existing old electromechanical meters by static meters.

- To strengthen the sub-stations and reduce the loss and interruptions, replacement of age old equipment of 33 KV sub-stations is required.

8.2 Regularization of Unauthorized IPs

Regularization of unauthorized IP sets is as under:

- Number of unauthorized IP sets existing at the end of 28.2.2011 is 46,058.
- Number of unauthorized IP sets registered for regularization at the end of 31.1.2013 is 39,367.
- Balance number of unauthorized IP sets to be regularized (compared to registration) is 17,367.
- Total number of 22,000 unauthorized IP sets regularized upto January 2013 end.
- Due to strict policies, it has become difficult to monitor the unauthorized IP sets.
- Disconnection of UAIPs leads to law and order problem and strikes.
- The transformers are getting over loaded due to which the transfer failure is increasing.
- Distribution losses are also increasing
- To reduce the effect of UAIP set on the system regularization of unauthorized IP setsis taken up in HESCOM.
- Infrastructure required for these unauthorized IP sets is as follows:
  - HT line required
  - LT line required
  - 25 KVA DTC required
  - 63 KVA DTC required
  - 100 KVA DTC required

8.3 Capital Investment Plan

HESCOM proposes to invest for carrying out of preventive measures to reduce accidents, replacement of old/faulty equipment's/power transformers in 33 KV stations & faulty distribution transformers & faulty/Not recording meters by HP EM meters etc.

In order to extend the reach of electricity to the economically weaker sections of the Society, HESCOM proposes to energies IP-sets under RE General / Ganga Kalyan schemes, to create infrastructure for electrification of HB/JC/AC Tandas & Hamlets / servicing BPL households under RGGVY.

HESCOM proposes to take up various extensions and improvement works in order to reduce distribution losses. HESCOM proposes to take up several new initiative works and also replacement works.

The outline of capital budget for the year 2013-14 to 2017-18 is presented in the Table-8.1. It may be observed that the projected capital budget is in the range of Rs. 700 to Rs. 800 crores except for the year 2013-14.

Table-8.1: Outline of Capital Budget

(Rs. in crores)

Sl. No.	Particulars	Year				
		2013-14	2014-15	2015-16	2016-17	2017-18
1	Mandatory works, social obligation & other works	173.89	93.00	93.00	93.00	93.00
2	Expansion of network & system improvement works	516.22	231.00	155.00	160.00	160.00
3	Reduction of T&D and ATC losses	245.21	295.50	267.50	270.50	257.50
4	New Initiative works	32.54	12.00	12.00	12.00	12.00
5	Replacement & other miscellaneous works	334.70	166.00	156.00	166.00	156.00
	Total	**1,302.56**	**797.50**	**683.50**	**701.50**	**678.50**

8.4 Sources of Funds

HESCOM has availed financial assistance under APDRP scheme, RAPDR scheme, PMGY scheme, Ganga Kalyan scheme, Nirantara Jyothi Yojane, and RGGVY schemes. HESCOM has taken loan from various financial institutions like REC, PFC and commercial banks like UCO Bank, SBI, Syndicate Bank, Corporation Bank and Commercial Bank. In addition, it has borrowed funds from KPTCL and also from State Government. Thus, HESCOM is utilizing funds from various schemes of Government of India and Government of Karnataka towards capital expenditure for strengthening the infrastructure. HESCOM may continue to avail the funds from the sources already availed in earlier instances.

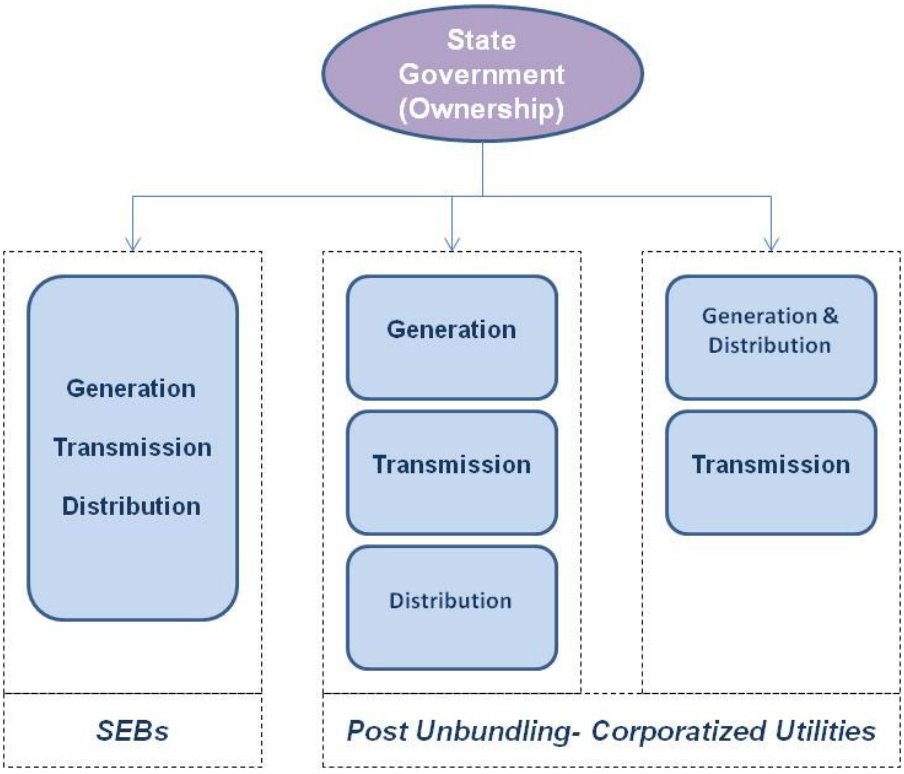
HESCOM may find it difficult to get financial assistance from other / new sources because of huge accumulated losses. HESCOM may get credit rating done for the Company for availing financial assistance from new sources. Further, the Company may engage professional agency involved in arranging debt at lower cost.

Chapter-9: Business Model &Plan

9.1 Business Model

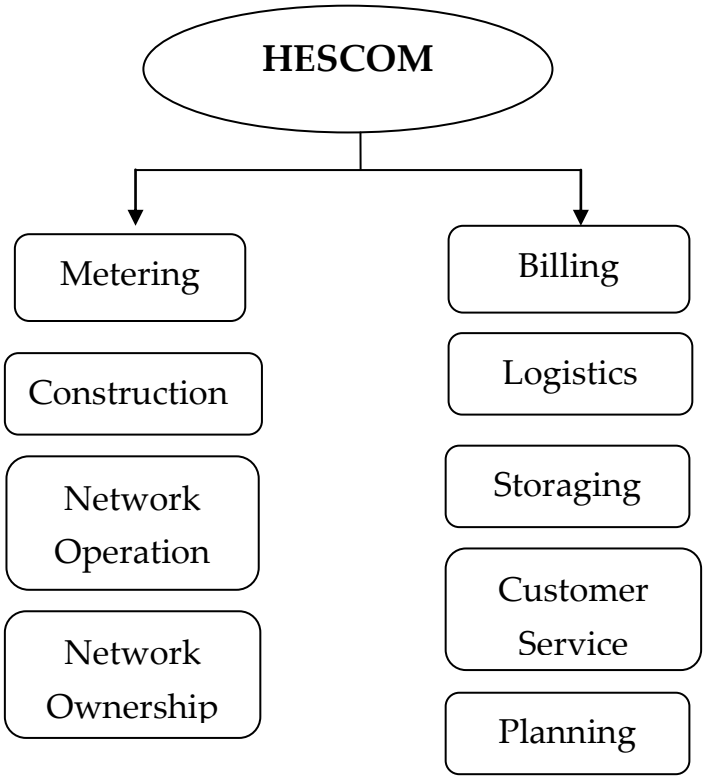
The SEBs that were unbundled at an earlystageof reforms have been segregated into generation, transmission, and distribution companies, and in some cases into multiple distribution companies. A pictorial representation of different forms of government ownership in electricity distribution is presented in Chart-9.1.

Chart-9.1: Unbundling of SEBs



HESCOM is electricity distribution Company and following traditional business model of carrying out most of the tasks in-house. The outsourcing activity is very limited. The business model of HESCOM is presented in Chart 9.2.

Chart-9.2: Business Model



9.3 Business Plan

HESCOM has prepared Business Plan Projections for the period 2014-18. The salient features are as follows:

9.4 Consumers projections

HESCOM has estimated that the number of installations will increase from present level of 38 lakhs during 2012-13 to 40 lakhs during 2013-14 and to 48 lakhs during 2017-18. The consumers in HESCOM are projected at the growth rate of 4.3% per year and given in Table-9.1.

Table-9.1: Estimated Number of installations

Category	2013-14	2014-15	2015-16	2016-17	2017-18
LT	4,013,341	4,192,430	4,383,546	4,588,666	4,810,422
HT	2,172	2,439	2,740	3,081	3,468
Total	4,015,513	4,194,868	4,386,286	4,591,748	4,813,890

9.5 Sales Projections

HESCOM has estimated sale of power will increase from present level of 8,400 MU during 2012-13 to 9,700 MU during 2013-14 and 15,980 MU during 2017-18. The sale of power in HESCOM are projected at the growth rate of 15% per year and given in Table-9.2.

Table-9.2: Estimated sale of Power

(Rs. in crores)

Category	2013-14	2014-15	2015-16	2016-17	2017-18
LT	7,985.88	8,928.36	9,989.79	11,186.23	12,536.11
HT	1,725.00	2,027.05	2,398.98	2,862.05	3,445.24
Total	9,710.88	10,955.41	12,388.77	14,048.27	15,981.35

9.6 Distribution & Transmission loss

HESCOM has projected to reduce the transmission losses to 3.86% and distribution losses by 17.5% during 2017-18. The details of projected losses are given in Table-9.3.

Table-9.3: Distribution & Transmission Loss

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18
Energy Purchase (MU)	11,129.37	13,905.34	15,683.14	17,737.07	20,149.09
LESS Trans Loss (MU)	438.50	545.09	611.64	688.20	777.75
LESS Trans Loss %	3.94	3.92	3.90	3.88	3.86
Energy Available (MU)	10,690.87	13,360.25	15,071.50	17,048.87	19,371.33
Energy Sold (MU)	8,713.06	10,955.41	12,388.77	14,048.27	15,981.35
Distribution Loss (%)	18.50	18.00	17.80	17.60	17.50
Distribution Loss MU	1,977.81	2,404.85	2,682.73	3,000.60	3,389.98

9.7 Probable Power Purchase availability

HESCOM has projected purchase of 11,130 MU of power at Rs. 3,814 crores during 2013-14 and 20,149 MU of power at Rs. 6,045 crores during 2017-18. The details of power purchase are given in Table-9.4.

Table-9.4:Probable Power Purchase availability

Year	Energy in MUs	Cost in (Rs. Cr.)
2013-14	11,129.36	3,813.89
2014-15	14,170.80	4,593.00
2015-16	15,962.40	5,273.46
2016-17	17,737.07	5,321.12
2017-18	20,149.09	6,044.73

9.8 Probable Transmission cost & Power purchase related cost

HESCOM has projected transmission cost and power purchased related cost at Rs. 553 crores during 2013-14 and likely to reach Rs.600 crores during 2017-18. Projected transmission and power purchase cost are given in Table-9.5.

Table-9.5: Probable Power Purchase availability

Year	Cost in (Rs. Cr.)
2013-14	553.33
2014-15	519.23
2015-16	565.42
2016-17	580.00
2017-18	600.00

9.9 Probable Aggregate Revenue Requirement

Aggregate Revenue Requirement (AAR) is estimated at Rs. 4,450 crores during 2013-14 and Rs. 8,150 crores during 2017-18. The details are given in Table-9.6.

Table-9.6:Aggregate Power Requirement

Year	Cost in (Rs. Cr.)
2013-14	4,448.52
2014-15	6,220.45
2015-16	7,067.21
2016-17	7,300.96
2017-18	8,149.67

Chaptrer-10: Transmission and Distribution Losses (T&D)

10.1 Introduction

In India, average T & D (Transmission & Distribution) losses, have been officially indicated as 23 percent of the electricity generated. However, as per sample studies carried out by independent agencies including TERI, these losses have been estimated to be as high as 50 percent in some states. As per study carried out by SBI Capital Markets the T&D losses have been estimated as 58% for one company. With the setting up of State Regulatory Commissions in the country, accurate estimation of T&DLosses has gained importance as the level of losses directly affects the sales and power purchase requirements and hence has a bearing on the determination of electricity tariff of a utility by the commission.

10.2 Components of T&D losses

Energy losses occur in the process of supplying electricity to consumers due to technical and commercial losses. The technical losses are due to energy dissipated in the conductors and equipment used for transmission, transformation, sub- transmission and distribution of power. These technical losses are inherent in a system and can be reduced to an optimum level. The commercial losses are caused by pilferage, defective meters, and errors in meter reading and in estimating unmetered supply of energy.

10.3 Level of T& D Losses

According to a study carried out by Electric Power Research Institute (EPRI) of the USA, the losses in various elements of the T&D system usually are of the order is given in Table-10.1

Table-10.1: Details of Losses in Various Elements of the T&D System

System Element	Power Losses (%)	
	Minimum	Maximum
Step-up transformers & EHV transmission system	0.5	1.0
Transformation to intermediate voltage level, transmission system & step down to sub-transmission voltage level	1.5	3.0
Sub-transmission system & step-down to distribution voltage level	2.0	4.5
Distribution lines and service connections	3.0	7.0
Total Losses	**7.0**	**15.5**

The losses in any system would, however, depend on the pattern of energy use, intensity of load demand, load density, and capability and configuration of the transmission and distribution system that vary for various system elements. According to Central Electricity Authority (CEA) vide its publication 'Guidelines for Reduction of Transmission and Distribution Losses' it should be reasonable to aim for total energy losses in the range of 10-15% in the different states in India. In most developed countries the T&D losses are less than 10 percent.

HESCOM has registered high percentage of distribution losses during the period of review when compared to the CEA guidelines of total energy losses of 10% to 15%. However, the losses have decreased marginally during the period of review. The details of distribution losses incurred by HESCOM is presented in the Table-10.2.

Table-10.2: details of distribution losses incurred by HESCOM

Year	%age Distribution of losses
2009-10	20.86
2010-11	20.55
2011-12	19.99
2012-13	19.88

10.4 Reasons for high technical losses

The following are the major reasons for high technical losses in our country:

- Inadequate investment on transmission and distribution, particularly in sub-transmission and distribution. While the desired investment ratio between generation and T&D should be 1:1. Low investment has resulted in overloading of the distribution system without commensurate strengthening and augmentation. (HESCOM has to restrict capital expenditure since funding/financial assistance are limited)
- Limited growths of sub-stations and distribution system with the short-term objective of extension of power supply to new areas (as more CAPEX is required).
- Large scale rural electrification through long 11kV and LT lines.
- Too many stage of transformations.
- Restricted load management due to inadequate infrastructure.
- Inadequate reactive compensation
- Using of IP sets of sub standard measures used in agricultural pumping in rural areas cooler air-conditioners and industrial loads in urban areas leading to commercial losses.

10.5 Reasons for Commercial Losses

Theft and pilferage account for a substantial part of the high transmission and distribution losses in India. Theft / pilferage of energy is mainly committed by two categories of consumers i.e. non-consumers and bonafide consumers. Antisocial elements avail unauthorized/unrecorded supply by hooking or tapping the bare conductors of L.T. feeder or tampered service wires. Some of the bonafide consumers willfully commit the pilferage by way of damaging and / or creating disturbances to measuring equipment installed at their premises. Some of the modes for illegal abstraction or consumption of electricity are as follows:

- Making unauthorized extensions of loads, especially those having HP tariff.
- Tampering the meter readings by mechanical jerks, placement of powerful magnets or disturbing the disc rotation with foreign matters.
- Stopping the meters by remote control.
- Willful burning of meters.
- Changing the sequence of terminal wiring.
- Bypassing the meter.
- Changing CT ratio and reducing the recording.
- Errors in meter reading and recording.
- Improper testing and calibration of meters.

10.6 Reducing Losses

As the T&D loss was not able to capture all the losses in the network, concept of Aggregate Technical and Commercial (AT&C) loss was introduced. AT&C loss captures technical as well as commercial losses in the network and is a true indicator of total losses in the system.

Measures for reducing technical losses Short term measures and long term measures are presented below:

Short term Measures

- Identification of the weakest areas in the distribution system and strengthening /improving them so as to draw the maximum benefits of the limited resources. the length of LT lines by relocation of distribution sub stations/ installations of additional distribution transformers (DTs).
- Installation of lower capacity distribution transformers at each consumer premises instead of cluster formation and substitution of DTs with those having lower no load losses such as amorphous core transformers.
- Installation of shunt capacitors for improvement of power factor.

Long term measures

- Mapping of complete primary and secondary distribution system clearly depicting the various parameters such as conductor size line lengths etc.
- Compilation of data regarding existing loads, operating conditions, forecast of expected loads etc.
- Carrying out detailed distribution system studies considering the expected load development during the next 8-10 years.
- Preparation of long-term plans for phased strengthening and improvement of the distribution systems along with associated transmission system.
- Estimation of the financial requirements for implementation of the different phases of system improvement works.
- Formulation of comprehensive system improvement schemes with detailed investment program so as to meet system requirement for first 5 years period.

Measures for reducing non-technical losses

There are a range of methods being employed by utilities the world over to mitigate power theft. Some of these measures are given below.

- Set up vigilance squads to check and prevent pilferage of energy.
- Severe penalties may be imposed on those tampering with the meter seals etc.
- Energy audits should be introduced and personal responsibility should be fixed on the district officers (executive engineers) for energy received and energy sales in each area.
- Installation of tamper-proof meter boxes and use of tamper-proof numbered seals.
- Providing adequate meter testing facilities. A time bound program should be chalked out for checking the meters, and replacement of defective meters with tested meters.

10.7 Initiatives required

Steps are to be taken to reduce the T&D losses same in a systematic manner by all the players in the field.

- The central or the state governments should draw plans to provide financial support to the utilities for installations of meters on at least all the distribution transformers in a phased manner.
- It should be made obligatory for all the big industries as well as the utilities to carry out energy audit of their system to identify high loss areas and take remedial measures to reduce the same.
- Schemes for incentive awards to utilities who are able to reduce T&D losses beyond a certain pre-fixed limit.
- The financial institutions should be encouraged to provide easy loans to utilities for taking remedial measures to reduce the T&D losses.
- Publicity campaigns should be carried out to make the consumer aware of the high penalties on the unauthorized use of electricity.
- Utilities should prepare realistic power Master Plans for their systems to develop a strategy to meet the growing electricity demands of the different sectors of the state's economy over the next 15 years.

10.8 Measures taken by HESCOM

The following measures undertaken by the company are being monitored reduce the AT & C Losses:

a. To remove rural loads on town / City feeders so that Towns/ Cities to be fed from separate urban feeders, with input Energy meters kept always in good working conditions.

b. Arranging to provide metering equipment to DTCs in the towns & analyzing HT and LT Losses after the synchronization of individual DTC and its connected LT installations.

c. Load balancing on the DTCs.

d. Replacement of MNR meters by good Energy meters.

e. Achieving 100% reading and billing of LT installations.

f. Minimizing the Door Lock & unread installations (i.e., By taking readings on subsequent dates).

g. Proper metering of Street Light and water supply (LT-6) installations for monitoring the consumption. It is proposed to provide timer switches to control "OFF and ON" of Street lights in urban areas of HESCOM.

h. Metering & monthly billing of IP Set installations coming on town feeders.

i. To continue all out-efforts in increasing the metered consumption & issuing of 100 % bills.

j. To increase the revenue collection by rigorous disconnection drives & continuous monitoring thereby increasing the collection efficiency & over all business efficiency (to reduce AT & C Losses).

k. To sort out & dismantle long disconnected installations to avoid possible theft of Energy by unauthorized reconnection and for judicious use of released idle meters etc., in the system.

l. To pool up vigilance & MT batches to create mass raids to detect theft of Energy & to arrest possible theft.

m. To bring up customer awareness by chalking out programmes for proper education about electricity.

n. Study of category wise consumption pattern of LT3 and LT5 installations and thereby taking measures like rating, sealing of terminal covers with numbered poly carbonate seals etc.

o. It is proposed to replace 10 year old Electro-mechanical meters by high precision static meters.

p. Efforts are being made to meter all the un-metered installations in BJ/KJ categories and DTCs feeding predominant IP set installations.

q. Regular rating of HT and LT installations are being monitored and the metering system is kept in good condition.

r. All the 505 interface points between KPTCL & HESCOM are metered and the energy received at all these points are measured and recorded for analysation.

Considering this, the Distribution loss proposed for 2014-15 is given in Table-10.3.

Table-10.3: Distribution Loss of HESCOM of Actual and Approved (Units in MUs) 2014-15

Particulars	Revised estimation	Approved in KERC
	2014-15	2014-15
Input Energy inclusive of EHT sales in MU	11184.90	11404.91
EHT Sales	460.35	460.35
Input energy exclusive of EHT sales in MU	10724.55	10944.56
Total sales including EHT sales in MU	9115.69	9295.29
Total sales Excluding EHT sales in MU	8655.34	8834.94
Distribution loss as % of input energy inclusive of EHT sales in %	18.50	18.50
Distribution loss as % of input energy Exclusive of EHT sales in %	19.29	19.28

Chapter-11: Ratings

11.1 Background

The Integrated Rating methodology for State Power Distribution Utilities was developed by Ministry of Power (MoP). The methodology was developed by MoP keeping in view poor financial health of State Distribution utilities and the need to base future funding exposures on an objective rating mechanism. The main objectives of developing the integrated rating methodology for the state distribution utilities are:

- To devise a mechanism for incentivizing /dis-incentivising the entities in order to improve their operational & financial performance.

- To facilitate realistic assessment by Banks/FIs of the risks associated with lending exposures to various distribution utilities and enable funding with appropriate loan covenants for bringing improvement in operational, financial and managerial performance.

- May serve as a basis for Govt. assistance to the state power sector through various schemes like RAPDRP, NEF, etc.

MoP has mandated Power Finance Corporation (PFC) to co-ordinate the rating exercise, which in turn has appointed ICRA & CARE to carry out the rating exercise. The broad parameters that have been used for the rating are as follows:

Scores have been assigned both on the basis of absolute & relative improvement in operational and financial performance parameters. Financial performance parameters like subsidy received, cost coverage ratio, AT&C losses, financial planning, etc carry the maximum weightage of about 60%.Efficient Regulatory practices is the second most important factor holding weightage of 15%. These include Issue of regulatory guidelines, Issue of tariff guidelines, Timely filing of tariff petition; & Timely issue of tariff order. Other parameters relating to submission of audited accounts, metering, IT & computerization, no default to Banks/FIs,

Renewable energy purchase obligations compliance, etc account of around 25%. Certain parameters carry negative scores on non compliance like Non auditing of accounts (upto minus 12%), SEBs unbundling (upto minus 5%), Non filing of tariff petition (upto minus 5%), Deterioration of AT&C loss (upto minus 5%), Untreated revenue gap (upto minus 5%), Increase in payables, presence of regulatory assets, negative net worth (each upto minus 3%).

The rating has been based primarily on data submitted by the SEBs / State distribution utilities in response to questionnaires sent by the rating agencies. Other sources of data accessed include Audited Accounts, Annual Administrative Reports, assessment of Financial Resources for Annual Plan submitted to the Planning Commission and Tariff Orders issued by the SERCs.

11.2 Grading Scale and Grades

Score Distribution	Grade	No. of Utilities	Grading Definition
Between 80 & 100	**A+**	**4**	Very High Operational and Financial Performance Capability
Between 65 & 80	**A**	**2**	High Operational and Financial Performance Capability
Between 50 & 65	**B+**	**11**	Moderate Operational and Financial Performance Capability
Between 35 & 50	**B**	**10**	Below Average Operational and Financial Performance Capability
Between 20 & 35	**C+**	**8**	Low Operational and Financial Performance Capability
Between 0 &20	**C**	**4**	Very Low Operational and Financial Performance Capability

The proposed grading scale of **'A+ to C'** is **different** from the prevalent rating scale adopted by CRAs **(AAA to D)** as the prevalent rating measures the degree of safety regarding timely servicing of financial obligations based on "probability of default"; *however*, current grading exercise analyzes the operational and financial health of the distribution entities based on the rating framework approved by Ministry of Power. Further, credit rating for distribution utilities entails comparison with other corporates, as compared to the integrated rating exercise wherein comparison of the entity is done with other distribution utilities only.

The data collected, as above, has been supplemented with meetings with key officials of the SEBs / State distribution utilities.

11.3 Utility-Wise Grades

Sl. No.	Name of the Utility	Rating Agency	Grade
1	Dakshin Gujarat Vij Company Limited	ICRA	**A+**
2	Uttar Gujarat Vij Company Limited	ICRA	**A+**
3	Madhya Gujarat Vij Company Limited	ICRA	**A+**
4	Paschim Gujarat Vij Company Limited	ICRA	**A+**
5	West Bengal State Electricity Distribution Co. Ltd.	ICRA	**A**
6	Maharashtra State Electricity Distribution Co. Ltd.	ICRA	**A**
7	Bangalore Electricity Supply Company Limited	ICRA	**B+**
8	Mangalore Electricity Supply Company Limited	ICRA	**B+**
9	Southern Power Distribution Company of AP Limited	CARE	**B+**
10	Eastern Power Distribution Company of AP Limited	CARE	**B+**
11	Hubli Electricity Supply Company Limited	ICRA	**B+**
12	Kerala State Electricity Board	CARE	**B+**
13	Central Power Distribution Company of AP Limited	CARE	**B+**
14	Himachal Pradesh State Electricity Board Limited	CARE	**B+**
15	Gulbarga Electricity Supply Company Limited	ICRA	**B+**
16	Chhattisgarh State Power Distribution Company Ltd.	CARE	**B+**
17	Punjab State Power Corporation Limited	ICRA	**B+**
18	Northern Power Distribution Company of AP Limited	CARE	**B**
19	Assam Power Distribution Company Limited	ICRA	**B**

Sl. No.	Name of the Utility	Rating Agency	Grade
20	Chamundeshwari Electricity Supply Corporation Ltd.	ICRA	**B**
21	Uttar Haryana Bijli Vitran Nigam Limited	CARE	**B**
22	Tamil Nadu Generation and Distribution Corporation Ltd.	ICRA	**B**
23	Dakshin Haryana Bijli Vitran Nigam Limited	CARE	**B**
24	MP Pashchim Kshetra Vidyut Vitaran Company Ltd.	CARE	**B**
25	MP Poorv Kshetra Vidyut Vitaran Company Limited	CARE	**B**
26	Bihar State Power Holding Company Limited	ICRA	**B**
27	MP Madhya Kshetra Vidyut Vitran Company Limited	CARE	**B**
28	Tripura State Electricity Corporation Limited	CARE	**C+**
29	Uttarakhand Power Corporation Limited	CARE	**C+**
30	Jaipur Vidyut Vitran Nigam Limited	CARE	**C+**
31	Jodhpur Vidyut Vitran Nigam Limited	CARE	**C+**
32	Ajmer Vidyut Vitran Nigam Limited	CARE	**C+**
33	Meghalaya Energy Corporation Limited	CARE	**C+**
34	Jharkhand State Electricity Board	CARE	**C+**
35	Purvanchal Vidyut Vitaran Nigam Limited	ICRA	**C+**
36	Paschimanchal Vidyut Vitaran Nigam Limited	ICRA	**C**
37	Dakshinanchal Vidyut Vitran Nigam Limited	ICRA	**C**
38	Kanpur Electricity Supply Company Limited	ICRA	**C**
39	Madhyanchal Vidyut Vitran Nigam Limited	ICRA	**C**

11.4 Dakshin Gujarat Vij Company Limited A^+

11.4.1 Background

The Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1st April, 2005. The Generation, Transmission and Distribution businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies, namely GUVNL (the holding company), GSECL (generation company), GETCO (transmission company) and four power distribution companies viz. DGVCL, UGVCL, PGVCL and MGVCL.

11.4.2 Key Strengths

- Consistent track record of profitable operations and strong cost coverage given satisfactory collection performance, cost reflective tariffs, also supported by gains from Unscheduled Interchange (UI) and sale of surplus power available to GUVNL which in turn does the trading.

- Timely submission of audited accounts, with the audited accounts for 2011-12 being submitted by September 30, 2012.

- Completion of unbundling and corporatization of erstwhile Gujarat Electricity Board (GEB) w.e.f. April 2005.

- Comfortable cost coverage ratio and capital structure.

- Healthy cash collections from the consumers, also aided by improvement in AT&C Loss Levels which stand at 11.6% with a declining trend.

- Fuel & Power Purchase Cost Adjustment (FPPCA) framework is operational, allowing the increase in such „uncontrollable" cost items to be recovered from consumers on quarterly basis.

- Regulatory clarity in place, also reinforced by the fact that GERC came out with an suo-moto order for 2012-13 due to delays in tariff petition filing by the DISCOMS.

- Sound financial flexibility and timely subsidy support from the state government.

11.4.3 Key Concerns

- Absolute subsidy dependence for the state as a whole remains high, given the subsidized nature of tariff particularly towards agriculture consumers.

- Subsidy dues receivable from GoG for the sector as a whole have built-up from Rs. 727.7 crore as on March 31, 2010 to Rs. 1451 crore as on March 31, 2012, due to budgetary allocation for a year remaining lower than actual subsidy claims. On annual basis, actual subsidy received has been at about 90% of the budgetary allocation for last three year period.

- Likelihood of delays by DGVCL in filing of its tariff petition for 2013-14, as also observed for 2012-13.

11.5 Hubli Electricity Supply Company Limited B^+

11.5.1 Background

The Government of Karnataka (GoK) initiated reform process in the state power sector during 1999-2000, with reorganization and corporatization of erstwhile Karnataka Electricity Board (KEB) and subsequent unbundling on functional lines into a transmission & distribution company called Karnataka Power Transmission Corporation Ltd (KPTCL) and a generating company called Visvesvaraya Vidyuth Nigam Ltd (VVNL) in April 2000. Thereafter, KPTCL was further unbundled into 5 independent companies effective from 01.06.2002 , with one transmission company named KPTCL and five distribution companies , namely BESCOM, MESCOM, HESCOM, GESCOM and CESCOM.

11.5.2 Key Strengths

- Timely support received from GoK for budgeted subsidy.
- Comfortable capital structure.
- Timely submission of audited accounts for 2011-12 by September 30, 2012.
- Significant improvement in AT&C loss levels; however it remains high at around 25.2% during 2011-12.
- More than 90% of power purchased through long term power purchase.
- Power utilities in Karnataka are already unbundled and corporatized.
- There is regulatory clarity in the state; MYT regime is in place and there have been regular tariff filings and orders.

11.5.3 Key Concerns

- Relatively low cost coverage (89% in 2011-12).
- Weak financial profile marked by net losses, low interest coverage ratio and high receivable and payable days.
- Significant dependence on subsidy support from government on account of high proportion of agriculture consumers.
- Relatively high level of tariff imposed on commercial/ industrial consumers to cross-subsidize other consumer segments.
- Subsidy build-up (subsidy receivable of Rs 1086 crore as on 31st March, 2012) due to delays in receiving true-up subsidy.
- NJY scheme should have been implemented and energized in still short period.

11.6 Improving the Ratings of HESCOM

The broad parameters of ratings are based on the following:

- Financial performance parameters like subsidy received, cost coverage ratio, AT&C losses, financial planning, etc., carry the maximum weightage of about 60%.

- Efficient Regulatory practices like issue of regulatory guidelines, issue of tariff guidelines, timely filing of tariff petition and timely issue of tariff order holding weightage of 15%.

- Submission of audited accounts, metering, IT & computerization, no default to Banks/FIs, Renewable energy purchase obligations compliance etc., account of around 25%.

- Parameters carry negative scores comprise:
  - Non auditing of accounts (upto minus 12%)
  - SEBs unbundling (upto minus 5%)
  - Non filing of tariff petition (upto minus 5%)
  - Deterioration of AT&C loss (upto minus 5%)
  - Untreated revenue gap (upto minus 5%)
  - Increase in payables, presence of regulatory assets, negative net worth (each upto minus 3%).

HESCOM has secured score ranging between 50 to 65 with Grade B^+, which has a grading definition 'Moderate Operational and Financial Performance Capability'. To achieve rating to A^+ HESCOM need to secure score ranging between 80 to 100. For this purpose, the Company has to increase their score for improving their rating and suggested measures are as follows:

- For improving the financial performance, Company may initiate steps to reduce AT&C losses, improve cost coverage ratio by better collection efficiency. Other measures are bifurcate transmission lines catering to rural areas into those serving households and those meant for use on the farm. This would eliminate diversion of subsidized power meant for farm sector to households and also restrict duration of supply of power to farm sector and 24 hours power supply to households.

- Fixing meters to all consumers, finance the use of IT tools through computerization, not to default payments to Banks/FIs, comply with purchase of renewable energy.

- Periodically review compliance of KERC orders and timely filing of tariff petition.

- Take suitable steps to avoid getting negative scores for the parameters indicated above.

Chapter-12: Dakshin Gujarat Vij Company Ltd.

12.1 Background

Pursuant to direction from Government of Gujarat for reorganization of the power sector in the state, Gujarat Electricity Board has been unbundled into separate seven Companies with functional responsibilities for generation, transmission, distribution and trading of electricity with completeautonomous operations.

Accordingly, the distribution undertakings and functions of the Southern Distribution Zone of the erstwhile GEB stand transferred to and vest in Dakshin Gujrat Vij Company Limited. The company was incorporated as a Public Limited Company on 15th September, 2003, primarily to carry out distribution of electricity to retail and bulk consumers and has become operational effective from 1st April 2005. The Company is engaged in distribution of electricity in seven districts namely Bharuch, Narmada, Surat (except part of Surat City), Tapi, Dangs, Navsari and Valsad in South Gujarat, covering about 24.53 lakhs consumers with annual growth rate(in consumer base) of about 5.16%.The Company is a wholly owned subsidiary Company of Gujarat Urja Vikas Nigam Limited, a government Company. The Registered office of the Company is situated at Nana varachha Road, Nr. Kapodra Char Rasta, Surat-395006.

DGVCL has focused its full attention and making all endeavors to provide quality power supply to all its valued consumers by way of upgrading its infrastructure and improving the services and in that direction company has undertaken various measures such as establishment of new sub stations (in co-ordination with GETCO) adoption of HVDS system, laying underground cable with RMU, overhead ABC conductor in place of bare conductor, increasing the no. of field offices and staff, Creation of centralized customer center etc.

The Company has the vision of providing customer satisfaction through service excellence. The company is committed to achieve the goal of providing reliable and quality power at competitive cost and to reach global standards in reducing distribution losses.

12.2 Snapshot

Area in sq.Kms	23,307
No of Districts covered	7
No of Taluks covered	37
No of Towns covered	28
No of Consumers in lakhs	24.27
No. of Villages	3,518
No of Circles	4
No of Division Offices	19
No of Sub Division Offices	114
No of Sub stations	168
No of Transformer centers	71369
No of Feeders	1412
No of Employees	5561
H.T Line in kms	37,474
L.T Line in kms	45,207
LT HT line Ratio	1.206
Daily Energy Required in MUs	42
Connected Load in MW	5989.074
Revenue in Cr(Year 2012-13)	Rs. 6,971.77

12.3 Achievements

Dakshin Gujarat Vij Company Ltd. (DGVCL) has been awarded as the 'Best Performing Utility - State' at the 7th Enertia Awards 2013 – India's Awards for Sustainable Energy & Power. DGVCL was awarded with this honour at a function held in New Delhi on 22nd November 2013. DGVCL has been adjudged as the winner under the 'Category III: Utilities and

T&D Awards – Award for Best Performing Utility – State'. Company has won this prestigious award for the third time. Earlier it won it in 2008-09, 2011-12 and now in 2012-13. This award is one of the pioneering, prestigious and topmost recognition in South Asia.

The jury lauds DGVCL for being at the forefront of technological and Energy efficient solution implementation like HVDS transformers, Aerial Bunch Conductors, Amorphous Transformers adoption versus CRGO, building new substations, feeder bifurcation, replacing conventional meters with Static Meters etc. and moving progressively towards a Smart-distribution Model. In addition, the Company has received several awards in the past.

In the first ever exercise carried out by Ministry of Power, New Delhi to grade all state distribution utilities for their financial and operational performance, Dakshin Gujarat Vij Co. Ltd. (DGVCL) has attained the FIRST ranking with HIGHEST score of 91.6%, amongst 39 utilities from 20 states.

DGVCL has received Nil comment certificate on Company's Annual Account for 2011-12 from the office of C & AG, Ahmadabad. It is worth mentioning here that this is for the fourth consecutive financial year that the company has received NIL comment certificates on the Annual Accounts. DGVCL is the first company that has received consecutively NIL comment fourth time on its Annual Accounts from C & AG office Ahmadabad amongst GUVNL and its subsidiary companies.

12.4 Operational Performance

Details of operational performance during the year 2011-12 are presented below:

- Distribution loss of DGVCL is in a constantly decreasing trend since the inception of the Company. Compared to last year's losses of 12.34%, (inclusive of pooled losses) the Distribution loss for the Year 2011-12 is 10.24%. The distribution loss was reduced in all categories.

- Following new connections were released during the year 2011-12.

HT New connections/additional load	419
LT Ind. New connections	3,073
Residential connections	1,09,877
Commercial connections	7, 806
Water works connections	1,295
Street light connections	462
Agriculture	2,778

- System network added during the year

H.T. line (kms)	1,880.77
L.T. line (kms)	1,366.31
Transformer centers No.s	6,105.00

- Total 75,573 nos. of 1-Phase meters and 9516 nos. of 3-Phase meters were replaced during the year 2011-12.
- Total 225 Nos. of transformers were provided during the year.
- In the Agriculture Sector, electrification of about 7,200wells carried out under different schemes during the year.
- 49 Nos. of Petaparas were electrified in Tribal areas.
- 110 Nos. of households were electrified under SCSP Scheme.
- During year 2011-12 about 41,800 BPL households were electrified
- Electrification of 5190 nos. of Govt. aided primary schools has been completed.
- Power availability maintained during the year to the extent of 99.94%.
- Distribution transformer failure rate decreased from 13.08% to 11.40% for the year 2011-12.

12.5 System Improvement

The Company is constantly upgrading and augmenting its network to achieve multi-pronged objectives viz., to reduce technical losses, to improve reliability of the system, to provide improved service to the consumers and to supply uninterrupted quality power. Several initiatives were undertaken during the year as under:

- 2337 KMs Arial Bunch Conductors provided by replacing bare LT Conductor laid in the identified theft prone area to reduce theft of power by direct hooking. Besides, this reduces LT interruptions and accidents.
- 48.07 KMs overhead 11/22 feeder lines were made underground in Urban area.
- New 20 Nos. of 66/11 KV Sub Stations were created during 2011-12 and 65 Nos. of existing 22/11 KV feeders bifurcated during 2011-12.
- Work of 118 Nos. of Distribution Transformer Centre (DTC) review was completed for providing quality power to consumers.
- 29 Nos of 22KV feeders were converted to 11 KV (system) feeders by replacing 785 Nos. of 22KV transformers to 11KV transformers. 1760 Nos. of transformers were replaced by CRGO transformers to reduce AT & C losses in R-APDRP part-B scheme.

12.6 Energy Auditing

The Energy Audit identifies the area of leakage and wastage of energy. It helps to identify suitable measures for reduction of T&D losses. As a part of Energy Audit & Accounting, out of 61,849 Distribution Transformers, 28,258 were metered. The Company has planned to provide meters on balance transformers by end of the year.

12.7 Customer Services

The vision of the Company is to ensure customer satisfaction through Service excellence. In this direction, the following proactive measures have been taken during the year for improving customer services.

- Customer Care Centres are operational at all district places 24-hour service fault centre has been established in Surat whereby complaints are registered through toll- free numbers round the clock.24x7 fault centres are established at Sub Division level for better services to the consumer.
- Line Maintenance gangs are operative for better maintenance of HT, LT & Transformer Centre to cater stable & quality power supply through vigorous maintenance by these gangs.
- Rural Electrification (RE) gangs are in operation for quick disposal of new Agriculture applications in rural areas.
- HT consumer meet was held at Vapi, Sachin & Ankleshwar Industrial Estate during the year to resolve their grievances.
- Monthly billing with hand-held instrument in place in 11 towns under R-APDRP Part-A Scheme.
- The Company has launched the online payment facility as a part of providing better services to consumers.
- Fully computerized 39 All Time Payment Centre (ATP) have been installed to facilitate consumers to pay their energy bill at any time.
- New Circle Office, Division Offices and Sub-Division Offices are newly created to provide better service to the consumers.
- Has New Charter of Consumer fixing maximum period for providing different type of services to the consumers and presented as Annexe to the Report

- The Company's web site is regularly updated to make it more informative and customer friendly. The web-site address of the Company is www.dgvcl.com.

- With implementation of Restructured Accelerated Power Distribution Reforms Programme (R-APDRP), a consumer can lodge complaints through Portal or can see the status of a complaint through Portal or information Kiosk.

- Consumer Grievances Redressal Forum is in place as mandated by the Electricity Act, 2003 and the regulation notified therein.

12.8 Safety measures taken

- Safety awareness campaigns were organized. Wide publicity regarding electrical safety precautions was given. Street drama/Road Shows were performed by Company staff to educate the public at large regarding safety.

- Video CD of film was distributed to educate line staff and engineers about safety.

- Fencing provided to 1030 Nos. of distribution transformer centers in urban and in highly populated area for public safety and reduction of accidents to human and animals.

- Street hawkers and vehicle owners were educated against encroaching near transformers installations. Also they were served notices not to encroach the same.

- Number of hoardings were put up to spread safety awareness in thickly populated areas.

12.9 IT Initiatives

- Successfully implemented IT based applications under RAPDRP Part-A in 11 towns covering 33 Sub Divisions & 7 Lacs consumers. Under this project, various IT based applications are under implementation like GIS (Consumer and Net Work indexing), Automatic Meter Reading (AMR), Document Management System (DMS), Centralized Consumer Care Centre (CCCC) and Energy Accounting (EA). As of now nine towns (Vyara, Jambusar, Rajpipla, Navsari, Vapi, Valsad, Bilimora, Ankleshwar and Bardoli) are live in all respects and rest will be live soon.

- Supervisory Control and Data Acquisition (SCADA) / DMS implementation is under way. Major Functions/scope envisaged under the implementation are establishment of SCADA/DMS Control Centre at Surat, Data recovery Centre (DR) at Baroda, RTUs at all primary S/S & FRTUs at RMUs on HV Urban Feeder Distribution network of Surat City, SCADA/DMS system to supervise primary S/S & HV Distribution network and SCADA Information Storage & Retrieval (ISR) Functions.

- Launched GPRS based meter reading and in the first phase 300 no of Mobile HHE + Bluetooth printers are given to Sub Division Offices. In future more mobile HHE + Bluetooth printers will be added to cover entire consumer base of the Company and consumer billing data will be updated in e-Urja online.

- Company has brought out a Policy for replacement of computers and peripherals (in three phases) considering their limited functional life.

- WAN Infrastructure: The major WAN infrastructure and connectivity from BSNL to the router is under direct control of GUVNL and from router port (RJ45) to switch is under control of DGVCL as a local - WAN. It is planned that the local WAN at Division Office/Sub-Division Office/Circle Office be provided with AC rack and suitable capacity UPS.

12.10 Anti Theft Measures

- The Company is having a full-fledged vigilance department under which various teams are carrying out installation checking of consumer premises.

- In order to prevent theft of electricity, checking activities are being carried out in theft prone areas regularly and also of consumers about whom information is received from reliable sources.

- To discourage the theft of power, names of the consumers found engaging in power theft whose theft value bill exceeds Rupees one Lac are being published in leading newspapers and sometimes displayed in local TV channels as quality case detection.

- The information network is strengthened by effective implementation of "Cash Incentive Scheme" by the company. Cash rewards were also given to informers and their identities was kept confidential.

- In order to analyze and monitor the consumption pattern of various categories of consumers and to keep a watch on faulty meters, Consumption Analysis System (CAS) is introduced in the Company. By using CAS, specific consumers suspected to have indulged in theft of power are targeted so that honest and regular consumers are not harassed by way of raids.

- It is also planned to separate high consumption staggered consumers such as highway hotels into HVDS with meter on T/C so that any consumer involved in theft can be identified by comparing his consumption with T/C meter from where he was supplied."

12.11 Tariff

Gujarat Electricity Regulatory Commission (GERC) is the authority which has been entrusted with various functions inter alia, the determination of tariff for electricity for various categories of consumers.

12.12 Financial performance

The total revenue generated by the Company has increased to Rs. 6,933 crores during 2012-13 from Rs. 4,283 crores during 2008-09 registering an annual growth of 12%. The profit after taxes have increased from Rs. 3.11 crores to Rs. 95.61 crores during 2011-12 and reduced to Rs. 25.34 crores in 2012-13.

The summarized operating financial results of the Company for the year 2008-09 and 2012-13 are given below in Table-12.1.

Table-12.1: Summarized Operating Profit & Loss Statement

(Rs. in Crores)

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
Revenue from Sale of Power	4,148.22	4,384.36	5,210.31	6,111.31	6,188.00
Total Income	4,282.67	4,521.95	5,376.44	6,290.15	6,932.78
Purchase of Power	3,953.55	4,048.68	4,880.88	5,796.24	6,455.25
Total Expenditure	4,278.96	4,481.96	5,288.35	6,194.48	6,904.35
Profit Before Tax	3.71	40.91	68.09	95.67	31.85
Profit after Tax	2.99	21.58	62.75	76.32	25.34

The reserves & surplus of the Company have increased from Rs. 35 crores to during 2008-09 to Rs. 220 crores during 2012-13 and increased by over six times during the period review. The borrowings have reduced during the period of review. Non-current liabilities were Rs. 800 crores to Rs. 880 crores during 2010-11 and 2011-12 respectively. The details are presented in the Summarized Balance Sheet in Table-12.2.

Table-12.2: Summarized Balance Sheet

(Rs. in crores)

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
Liabilities					
Equity share capital	237.73	267.73	267.73	267.73	267.73
Share Application Money	30.00	-	-	-	10.94
Equity share premium	218.69	218.69	218.69	218.69	218.69
Reserve and surplus	34.86	56.44	119.18	195.50	220.85
Deferred Govt. Grants & Consumer Contribution	409.23	517.52	667.33	900.22	1,064.97
Borrowings	638.10	536.26	309.33	212.87	248.46
Other Non Current Liabilities	-	-	801.34	877.93	-
Current Liabilities	-	-	264.14	314.19	-
Total Liabilities	**1,568.61**	**1,596.64**	**2,647.74**	**2,987.13**	**1,812.94**
Assets					**-**
Gross Fixed Assets	1,725.33	1,915.14	2,119.29	2,405.02	-
Less: Accumulated Depreciation	329.21	411.74	503.71	606.49	-
Net Fixed Assets	1,396.12	1,503.40	1,615.57	1,798.53	22.10
Other Non-Current Assets		-	90.55	85.78	24.67
Current Assets (Net)	172.08	93.24	941.61	1,102.82	1,143.99
Misc. Exp. (To extent not written off)	0.41	-	-	-	-
Total Assets	**1,568.61**	**1,596.64**	**2,647.73**	**2,987.13**	**1,190.77**

The average rate of realization (ARR) per unit sold works out to Rs. 5.43 (excluding the revenue from sale of power to Gujarat Urja Vikas Nigam Limited (GUVNL) and Unscheduled Interchange (UI) charges receivable).

The T&D losses have been restricted to 14.57% and Distribution loss at 10.24% for the year under review. The collection efficiency attained at 96.74% and hence the Aggregate Technical & Commercial (AT&C) losses for the Company work out to 17.36%.

The comparative key finance figures/ ratios/ % based on the financial results of the Company for the year 2008-09 to 2012-13 are given in Table-12.3.

Table-12.3: Comparative Key Finance Figures/ Ratios

Particulars	2008-09	2009-10	2010-11	2011-12
Number of Consumers	1,935,569	2,044,219	2,207,983	2,333,476
Energy Purchased (Mus)	10,331	11,266	11,704	12,365
Energy Sold (Mus)	8,305	8,959.00	9,837	10,563
Unit Loss (MUs)			1,802	1,867
Collection efficiency (%)	98.40	101.40	99.67	96.74
T& D Losses (%)	19.61	20.48	15.95	14.57
Distribution losses (%)	14.74	15.20	12.34	10.24
AT& C Losses (%)	20.90	19.37	16.23	17.36
Average Realization Per Unit (Rs.)			5.43	4.84
Return on capital employed (%)	4.32	5.08	6.56	5.97
Return on equity (%)	0.53	8.06	23.44	28.51
Return on Net Worth (%)	0.26	2.04	4.93	4.82
Debt Equity Ratio	0.69	0.51	0.17	0.12
Earning Per Share(in Rs.)	0.40	0.83	2.24	2.85
Debt Collection Period (No. of days)	39	32	31.00	33.00
Number of Employees	4,570	4,520	4,562	4,813
Number of Consumers per Employee	424	452	484	485
Revenue from Sale of Power per Employee(Rs. in crore)	0.91	0.97	1.08	1.26

During the year 2011-12, whereas the power purchase MUs increased by 5.65 %, the units sold increased by 7.38 % and revenue from operations increased by 16.98% The ARR has increased from Rs. 4.84 per unit to Rs. 5.43 per unit.

Chapter-13: Performance of HESCOM vis-à-vis Dakshin Gujarat Vij Company Limited

13.1 Snapshot

The area of operations of HESCOM is over two times that of DGVC. Number of consumers in HESCOM is over 1.5 times that of DGVC. Length of LT line in HESCOM is over two times that of DGVC. The ratio of HT to LT line in HESCOM is 1.92 when compared to 1.20 in DGVC. The comparative statement of Snapshot is presented in Table-13.1.

Table-13.1: Comparative statement of Snapshot

Particulars	HESCOM	DGVC
Area in sq.kms	54,513	23,307
No. of Districts covered	7	7
No. of Taluks covered	49	37
No. of Towns covered	73	28
No. of Consumers in lakhs	38	24.27
No. of Villages	5040	3,518
No. of Zones / Circles	2	4
No. of Circles / Division Offices	7	19
No. of Sub Division Offices	78	114
No. of Sub-stations	172	168
No. of Transformer centers	99,038	71,369
No. of Feeders	2,140	1,412
No. of Employees	7,394	5,561
HT Line in kms	56,965	37,474
LT Line in kms	1,09541	45,207
LT HT line Ratio	1.92	1.206
Daily Energy Required in MUs	32-35	42
Connected Load in MW	6759.53	5,989.074
Revenue in (Year 2012-13) [Rs.Cr.)	4,646.80	6,971.77

13.2 Summarized Profit & Loss Statement

HESCOM has earned profit of around Rs. 40 crores during 2011-12 and 2012-13. The profit earned by DGVC during the same period has reduced from Rs. 76.36 crores to Rs. 25.34 crores. The comparative statement of operating profit & loss statement summarized in the Table-13.2.

Table-13.2: Summarized Operating Profit & Loss Statement

(Rs. in crores)

	HESCOM		DGVC	
Particulars	**2011-12**	**2012-13**	**2011-12**	**2012-13**
Revenue from Sale of Power	3,868.32	4,611.19	6,111.31	6,188.00
Total Income	3,910.55	4,646.79	6,290.15	6,932.78
Purchase of Power	3,027.83	3,733.01	5,796.24	6,455.25
Total Expenditure	3,870.80	4,606.10	6,194.48	6,904.35
Profit Before Tax	39.75	40.69	95.67	31.85
Profit after Tax	39.75	40.69	76.32	25.34

13.3 Summarized Balance Sheet

Equity share capital of HESCOM is Rs. 707.53 crores and DGVC has share capital of Rs. 267.73 crores. The share capital of HESCOM is 2.64 times of that of DGVC. The reserves & surplus of HESCOM has reduced from Rs. 695 crores to Rs. 650 crores during 2011-12 & 2012-13 and in case of DGVC it has increased from Rs. 195 crores to Rs. 221 crores. The comparative statement of summarized Balance Sheet is presented in Table-13.3.

Table-13.3: Summarized Balance Sheet

(Rs. in crores)

	HESCOM		DGVC	
Particulars	**2011-12**	**2012-13**	**2011-12**	**2012-13**
Liabilities				
Equity share capital	707.53	707.53	267.73	267.73
Share Application Money	-	124.00	-	10.94
Equity share premium	-	-	218.69	218.69
Reserve and surplus	(694.91)	(648.75)	195.50	220.85
Deferred Govt. grants & consumer contribution	-	-	900.22	1,064.97
Borrowings	991.50	753.68	212.87	248.46
Other Non Current Liabilities	470.68	489.73	877.93	-
Current Liabilities	3,303.14	3,433.15	314.19	-
Total Liabilities	**4,838.14**	**4,907.30**	**2,987.13**	**1,812.94**
Assets				**-**
Gross Fixed Assets	1,372.45	1,379.32	2,405.02	-
Less: Accumulated Depreciation	-	-	606.49	-
Net Fixed Assets	-	-	1,798.53	22.10
Other Non-Current Assets	1,895.53	2,124.24	85.78	24.67
Current Assets (Net)	2,943.41	2,783.06	1,102.82	1,143.99
Total Assets	**6,211.39**	**6,286.62**	**2,987.13**	**1,190.77**

13.4 Key Financial Figures / Ratios

The number of consumers in HESCOM is higher than that of DGVC. The energy purchased and sold by DGVC is 130% and 160% respectively that of HESCOM. The energy losses in HESCOM is higher than that in DGVC. Collection efficiency is comparable in both the organizations. Return on capital and equity and earnings per share is much higher in DGVC compared to that in HESCOM. Debt equity ratio and debt collection period is much lower in DGVC when compared to HESCOM. The

comparative statement of summarized Balance Sheet is presented in Table-13.4.

Table-13.4: Comparative Key Financial Figures/ Ratios

Particulars	HESCOM	DGVC	DGVC/ HESCOM (%)
Number of Consumers	36,87,256	2,333,476	63.28
Energy Purchased (Mus)	9,593	12,365	128.90
Energy Sold (Mus)	6,676	10,563	158.22
Unit Loss (MUs)	1,918	1,867	97.34
Collection efficiency (%)	96.20	96.74	
T& D Losses (%)	19.99*	14.57	
Distribution losses (%)		10.24	
AT& C Losses (%)	23.15	17.36	
Average Realization per Unit (Rs.)	5.09	4.84	
Return on capital employed (%)	2.59	5.97	
Return on equity (%)	5.62	28.51	
Return on networth (%)	315	4.82	
Debt Equity Ratio	1.60	0.12	
Earning Per Share (in Rs.)	0.56	2.85	508.93
Debt Collection Period (No. of days)	131	33	25.19
Number of Employees	7,394	4,813	65.09
No. of Consumers per Employee	499	485	97.19
Revenue from Sale of Power per Employee (Rs. in crore)	0.52	1.26	242.31
Rating	B+	A+	

*excluding transmission losses of about 4% of KPTCL

Chapter-14: Suggestions & Recommendations

HESCOM has customer base of about 38 lakhs of which 35% are covered under free / subsidized power supply by the Government. The supply of energy to free & subsidized power supply category account for 57% of the total. Out of total LT-1 (BJ / KJ) 84% are metered and only 34% of LT-4 (IP sets) are metered. HESCOM supplies metered energy to 45% of the total connections and balance energy supply is unmetered. HESCOM has earned profit of about s. 40 crores during last two years.

HESCOM has to comply with directions issued by the Government to implement the policies and programmes. Most of the operations of HESCOM come under the review of KERC and orders passed by KERC need to be implemented by HESCOM. Prior approval of KERC is required to take up projects having bearing on finance and tariffs of HESCOM. In view of the above, implementation of suggestions and recommendations may need prior approval of KERC.

The broad suggestions & recommendations are presented below:

(a) Short term recommendations

- HESCOM may consider publish the names of consumers involved in power theft over Rs. one lakh value having arrears over Rs. one lakh value regularly.

- HESCOM shall create awareness more in rural sector regarding safety and theft of power which leads to imprisonment apart from heavy penalty.

- HESCOM may get credit rating done for the Company for availing financial assistance from new sources. Further, the Company may engage professional agency involved in arranging debt at lower cost.

- HESCOM shall encourage customers for making payment through online payment especially for R-APDRP towns in 1st phase.

- HESCOM may consider to give wide publicity and propaganda for energy saving measures, metering of connections, prompt payment of electricity bill and safety measures by way of demand side activities.

- HESCOM may come out with New Charter of Consumer fixing maximum period for providing different type of services to the consumers, on the similar lines of DGVL.

- HESCOM may take suitable steps to improve the speed of establishment of sub-stations. For this purpose, suitable monitoring mechanisms may be put in place.

- HESCOM may take suitable steps to incentivize franchises of micro feeders achieving over 95% of revenue collection efficiency.

(b) Long Term Recommendations

- HESCOM may initiate steps to replace old electro-mechanical meters by high precision static meters. Limit the MNR meters to 1% by replacing such meters by high precision static meters. Fix the meters to IP connections or DTC metering of the DTCs feeding to IP sets as there is farmer's protest.

- HESCOM may initiate steps to meter all distribution transformers other than R-APDRP towns.

- HESCOM may take steps to implement HVDS in more areas to prevent losses in phased manner as the scheme involves heavy capital investment (one transformer per IP set). Further, re-conductoring and adopting triple A type of conductor in place of ACSR conductor shall be the innovative method and general policy to be framed out for adoption of triple A conductor in 11 KV and 33 KV network which will reduce distribution loss to a greater extent i.e., by nearly 2 to 3%.

- In order to improve distribution network for reducing distribution losses, it is desirable to have LT HT line ratio of 1 : 1. Approximate cost of conversion of LT line to HT line would be Rs. 1,590 crores at Rs. 3 lakh per km. HESCOM may initiate steps for engaging a technical consultancy organization for conducting detailed survey, for preparing Detailed Project Report (DPR) and Viability Report to assess technical and financial viability of achieving LT to HT ratio of 1 : 1.

- HESCOM may take initiatives to prepare realistic power Master Plans for their systems to develop a strategy to meet the growing electricity demands of the different sectors of the state's economy over the next 15 years (on par with electrical power survey data conducted by CEA).

- Steps may be initiated for replacement of manpower depleted due to superannuation.

(c) Recommendations requiring outside support

HESCOM has sanctioned manpower strength of 13,137 of which 7,232 are filled up and 5,905 are vacant. The percentage of vacancy is 12% in Group 'A' 52% in Group 'B' and 37% in Group 'C' and 52% in Group 'D'. The overall percentage of vacancy is 45%. HESCOM may consider the following to improve and consolidate manpower strength:

- Suitable measures may be taken to fill up existing vacant post as required (through KPTCL), for phasing out contract employment, outsourcing in core activities.

- All employees in HESCOM are on deputation from KPTCL. In view of this, HESCOM may consider to have their own Cadre for recruitment of employees at least for 'C'& 'D' Cadre of employees and limit deputation of employees in 'A' & 'B' Cadre only.

- HESCOM may outsource services for housekeeping, security, transportation and other non-core activities in the existing vacant posts under group 'C' & 'D' cadre. This would possibly reduce employees cost to the Company in these cadres.

- HESCOM may initiate suitable steps for fixing of meters to all IP connections to reduce excess drawal of power. May take suitable steps to control and monitor unauthorized connections of IP sets in rural areas or DTC metering of the DTCs feeding to IP sets as there is farmer's protest. Regularization of unauthorized IP sets which requires heavy capital investment wherein GoK support is required. This is aimed at reducing high rate of transformer failures in rural areas.

- HESCOM may take suitable steps for fixing meters to all distribution transformers other than R-APDRP towns.

***

Abbreviations

AAR	Aggregate Revenue Requirement
AMR	Automatic Meter Reading
ARR	Approval of Annual Revenue Requirement
AT & C	Aggregate Technical and Commercial
ATP	Anytime payments
C & AG	Comptroller and Auditor General of India
CAS	Consumption Analysis System
CCC	Customer Call Center
CCCC	Centralized Consumer Care Centre
CEA	Central Electricity Authority
CESCOM	Chamundeshwari Electricity Supply Company
CFL	Compact Florescent Lamps
CGRF	Consumer Grievance Redressal Forum
CGS	Central Government Station
CRGO	Cold Rolled Grain Oriented Transformer
CUG	Close User Group
DCC	Distribution Control Center
DGVC	Dakshin Gujarat ViJ Company Ltd
DMS	Document Management System
DPE	Department of Public Enterprises
DR	Data recovery Centre
DSM	Demand Side Management
DTC	Distribution Transformer Centre
DTs	Distribution Transformers
EA	Energy Accounting
ECS	Electronic Clearing Service

El	Executive Engineer
Ele	Executive Engineer
EPRI	Electric Power Research Institute
ERC	Electricity Regulatory commission
ERP	Enterprise Resource planning
FPPCA	Fuel & Power Purchase Cost Adjustment
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GESCOM	Gulbarga Electricity Supply Company
GETCO	Gujarat Energy Transmission Corporation
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
HESCOM	Hubli Electricity Supply Company Ltd.
HVDS	High Voltage Distribution System
ICL	incandescent lamps
IE SCADA	Integrated Extended Supervisory Control and Data Acquisition
IP Sets	Irrigation Pump Sets
IPPs	Independent Power Producers
KEB	Karnataka Electricity Board
KERC	Karnataka Electricity Regulatory Commission
KPTCL	Karnataka Power Transmission Corporation Limited
MBC	Metering, Billing & Collection
MESCOM	Mangalore Electricity Supply Company Limited
MFF	Micro Feeder Franchisees
MGVCL	Madhya Gujarat Vij Company Ltd.
MIS	Management Information System
MNR	Meter Not Recording

MoA	Memorandum of Association
MoP	Ministry of Power
MYT	Massive Yet Tiny
NCE	Non-Conventional Energy
NJY	Niranthara Jyoti Yojana
PCKL	Power Company of Karnataka Limited
PFC	Power Finance Corporation
PGVCL	Paschim Gujarat Vij Co. Ltd.
PLO	Paperless Office
PSEs	Public Sector Enterprises
R-APDRP	Restructured Accelerated Power Development and Reforms Programme
RE	Rural Electrification
RGGVY	Rajeev Gandhi Grameena Vidyutikarana Yojna
RMU	Ring Main Units
SCADA	Supervisory Control and Data Acquisition
SCSP Scheme	Scheduled Caste Sub Plan
T&D	Transmission and Distribution Losses
TECSOK	Technical Consultancy Services Organization of Karnataka
TOD	Time of the Tariff
UG	underground cables
UGVCL	Uttar Gujarat Vij Company Ltd.
UI	Unscheduled Interchange
VVNL	Visvesvaraya Vidyuth Nigam Ltd