

HUBLI ELECTRICITY SUPPLY COMPANY LIMITED

(Wholly owned Government of Karnataka undertaking)

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Corporate Office,
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No: HESCOM/GM(T)/EE-4/AE/12-13/

Date :

To,
Sri. A.K. Rajput,
Central Electricity Authority
Distribution Planning &
Development Division,
New Delhi-110 066.

Sir,

Sub: Uploading of best practices on e-platform of CEA.
Ref: Your Letter No.-CEA/Best Practices/DPD/2012/1156-1259
Dtd:16-04-2012.

I wish to furnish the information required as per your letter under reference as noted below:

1. Reducing in losses both system and revenue losses :-

HESCOM has taken up the following measures for reduction of losses:

Implementation of HVDS:-

The high levels of technical and commercial losses in distribution can be reduced by implementing High Voltage Distribution System (HVDS) to replace a major part of the present LT distribution network. The present LT network used in most parts of the State is capable of being upgraded to 11 KV network. Upgrading the network into 11 KV HVDS by installing appropriate rated transformers will reduce the network losses substantially from the present level. The quality of power supplied to consumers will also see a substantial improvement. Further, commercial losses in the distribution network will also be reduced by bringing down theft of power as the HVDS is difficult to tamper with. Introduction of HVDS will reduce the distribution losses by over 8-10 %.

HESCOM has selected the Gadag Division of the Company for the implementation of HVDS as pilot project.

(i) Agricultural Demand Side Management (Ag-DSM):-

Implementation of Ag-DSM pilot project in HESCOM at Nippani of Chikkodi Division & Byadgi of Ranebennur Division has already been taken up. General survey of about 11,013 pump sets is completed. These pump sets will be replaced by Energy Efficient Irrigation Pump sets. The project is under taken in co-ordination of Energy Efficiency Service Limited under Bureau of Energy Efficiency. 5 nos. of IP sets in Nippani & Byadgi are being replaced for calculation of energy savings.

(ii) Nirantara Jyothi - Feeder Separation.

In HESCOM totally there are 48 Talukas, out of which 11 Talukas in Uttara Kannada District are already being fed with 24 Hrs power supply and hence they are excluded from Nirantara Jyothi scheme. Pilot Project has been implemented in three Talukas namely Bailhongal in Belgaum District, Shiggaon & Savanur Talukas in Haveri District.

In the remaining 34 Talukas, NJY works are proposed in 2 phases.

Nirantara Jyoti Yojana Phase-1

Number of Talukas	20 Nos.
Total Number of 11KV NJY feeders proposed	252 Nos

Name of the Talukas: 1) Bilagi 2) Muddebihal 3) B.Bagewadi 4) Indi 5) Sindagi 6) Hunugund 7) Badami 8) Athani 9) Gokak 10) Soundatti 11) Kalaghatagi 12) Navalgunda 13) Mundargi 14) Shirahatti 15) Naragunda 16) Hirekerur 17) Ranebennur 18) Byadagi 19) Jamakhandi & 20) Ramdurga.

Nirantara Jyoti Yojana Phase-2

Number of Talukas	14 Nos
Total Number of 11KV NJY feeders proposed	210 Nos

Name of the Talukas: 1) Mudhol 2) Bagalkot 3) Bijapur 4) Raibag 5) Chikkodi 6) Dharwad 7) Ron 8) Gadag 9) Hubli 10) Kundagol 11) Haveri 12) Hangal 13) Belgaum & 14) Khanapur.

(iii) Optimisation of transformers:

HESCOM is undertaking a systematic audit of transformer loads in a sub-division on pilot basis on a quarterly basis and ensure that transformers installed are of optimum capacity, keeping in view the load to be serviced.

Quotations are being called from the Govt. organisations like CPRI, NPTI etc.

(iv) Also HESCOM has taken following action to reduce the losses:-

- i. Replacement of age old Electro Mechanical Meters by high precision meters.
- ii. Sealing of covers of energy meters of all installations.
- iii. Mass rating of Single Phase and three phase installations.
- iv. Replacement of MNR meters.
- v. Shifting of consumer meters to accessible places i.e. outside the Domestic/Industrial installations with tamper proof meter boxes.
- vi. Booking of theft cases.

2. Ensuring long term financial viability and sustainability-effective revenue management practices.

- (i) It is of the view that the realization of the arrears is crucial to the financial viability of the HESCOM. Therefore HESCOM is taking the following action for the recovery of the arrears with Government's assistance.

Interest waiver scheme is introduced in HESCOM to collect the heavy arrears accumulated in BJ/KJ installations of those consumers who have used the energy more than 18 units per month.

b. Interest waiver scheme is implemented.

The conditions of scheme are,

1. The BJ/KJ consumers who have paid the complete principle amount held as on 31.03.2009, within 31.12.2011 the interest amount as on 31.03.2009 will be waived off.
2. The BJ/KJ consumers who have paid the complete principle amount held as on 31.03.2010 within 31.03.2012 the interest amount held as on 03.03.2010 will be waived off.
3. For payment of the principle amount, instalment facility also extended to BJ/KJ consumers to clear the principle amount and to avail interest benefit.
4. Divisional, Sub divisional Officers are instructed to make complete efforts in collecting the arrears from BJ/KJ Consumers of above 18 units by giving advertisement in newspapers, by disbursing of pamphlets and through GVPs/MFF LT-2 and Others:-

1. All Divisional Officers are instructed to take action for collecting the arrears of long disconnected installations by giving the termination of

agreement notices A, B forms and also finally C forms to Divisional Commissioner and to pursue the recovery position with Revenue Department.

2. All Divisional Officers are also instructed to identify the alternate live installations of long disconnected installations of the consumer and to recover the long disconnection installations arrears by dis connecting the live installation.

- (v) The present organizational set up of HESCOM at the field level appears to be mainly oriented to maintenance of power supply without a corresponding emphasis on realization of revenue. This has resulted in a serious mismatch between the power supplied, expenditure incurred and revenue realised in many cases. The continued viability of the ESCOMs urgently calls for a change of approach in this regard, so that the field level functionaries are made accountable for ensuring realization of revenues corresponding to the energy supplied in their jurisdiction. This will ensure that at each sub-division and feeder level, the concerned officials closely monitor the energy supplied, billing achieved and collections realised with due regard for minimizing technical and commercial losses.

Therefore, HESCOM is introducing the system of Cost-Revenue Centre Oriented Sub-Divisions in Indi & Haveri Divisions.

3. Improved Consumer Satisfaction.

It has been felt that the quality of service provided by the HESCOM is in need of urgent improvement to meet the expectations and needs of the consumers. A large number of vacancies in the field staff of the HESCOM and non-availability of materials on a timely basis are two important factors constraining the HESCOM in providing quality service by undertaking maintenance of the distribution network and attending to the complaints of the consumers. Hence HESCOM is undertaking the following measures expeditiously:

(i) Recruitment of Field Staff:-

HESCOM has called for applications for filling 567 nos. of Asst Linemen.

The Additional Chief Secretary, Energy Department, GOK, Bangalore, has been requested for recruitment of Asst. Engineers, Junior Engineers, Linemen & Asst. Linemen.

(ii) Service Centres for Improved Responsiveness:-

It is also of the view that in order to improve their service to consumers, HESCOM must suitably reorganize their field operations, besides filling up vacancies in the field posts. The system of stand-alone Linemen / Assistant Linemen attending to complaints of consumers and maintenance work does not seem to be adequate in the context of the increasing number of consumers and expanding operational areas. Hence, HESCOM is introducing a system of 'Service Centres' manned by a group of 4-5 maintenance workers with appropriate transport facility to enable them to move to the affected area quickly with necessary materials and equipment. The operational area and the level of maintenance work and complaints that can be attended by the 'Service Centres' will also be appropriately defined. In view of the improved communication network in the rural areas, such Centres can function even in the rural areas very effectively. The maintenance crew in the Service Centres will also be utilized to keep a vigil over cases of unauthorized use of electricity and prevent theft of power by obtaining assistance from the local revenue or police authorities wherever necessary.

(iii) Customer-Oriented Approach in Service:-

Improvement in the quality of service provided to the consumers also requires a certain change in the attitudes on the part of HESCOM personnel. The staffs of the HESCOM need to adopt a 'Customer Orientation' in their work. This calls for considerable change in the work culture, which can be brought about through suitably designed orientation training for the staff. It is noted that the HESCOM needs to give greater attention to the attitudinal change and skill up gradation of their staff, both operational and administrative. Therefore, HESCOM is preparing a detailed training schedule for its operational and administrative staff, so that each field level functionary undergoes training at least once in a period of two years.

HESCOM has an HRD Cell looking after the resource activities like training etc., for C and D employees and Distribution Franchisees of HESCOM.

4. Technological innovation & adoption thereof.

HESCOM has implemented the following latest IT initiatives.

a. ERP package:-

HESCOM has proposed to implement the following customer friendly IT initiatives for enabling the consumer to access the billing details online.

ERP package includes Finance and Accounts, HRMS, store inventory and material management, project monitoring and legal activity monitoring, tender monitoring and transformer failure and replacement monitoring. Under this project, these modules are covered. Some features of this solution can also be accessible through mobile.

a) Paperless Office:-

Paperless office is implemented in HESCOM to reduce usage of paper and quick tracking of the letters and files without wasting time.

b) Computerization of substations:-

Providing of Computers to all 33KV stations and development of software is under process. This will help in monitoring load shedding on 11KV feeders. This will help HESCOM to give direction to sub-stations on which feeder load shedding should take place on reduction of allocation of energy.

c) Speedy response to customer's complaints: - HESCOM has provided mobile phones and has introduced Close User Group for the Company till the level of Linemen from 01.02.2012. This has been introduced so as to improve the level of communication within the Company, to cater to public complaints more effectively and to systematically attend to consumer grievances through SMS based system. The landline and mobile phone numbers have been published in Newspapers and affixed on each of consumer meter boards and are also available on our website hescom.co.in.

d) 24 hours Customer care Centers are functioning to address the consumer grievances at following places :

Dharwad, Hubli, Gadag, Haveri, Sirsi, Belgaum, Bailhongal, Bijapur & Bagalkot.

e) Also a 24X7 centralized consumer helpline centre is put into operation in HESCOM Corporate Office from 04.07.2009. In this centre the helpline executives are working round the clock to address the consumer grievances. The Helpline Number is 0836-2222122.

f) Another Centralized Customer Care (CCC) is established under RAPDRP Part-A programme to address technical and bill grievance of the 31 Towns Urban consumers.

g) 22 Nos. of Any Time Payment (ATP) counters are working in HESCOM at following divisions enabling consumers to pay their bills 24 x 7 days :

Hubli-1, Nippani-1, Gadag-2, Dharwad-1, Belgaum-5, Haveri-1, Bagalkot-1, Karwar-2, Bijapur-1, Sirsi-2, Ghataprabha-1, Honnavar-1, Jamakhandi-1, Ranebennur-1 and Athani-1.

- h) Electronic Clearing System (ECS)** is being implemented on pilot basis in Hubli Division. Under ECS, the consumer can make their bill payments through their bank account by giving a mandate to do so. It is decided to implement the ECS facility in other Divisions of HESCOM. The same is mandatory for all officers/employees of HESCOM.
- i) E- Procurement:** - Government of Karnataka through its implementing agency Centre for e-Governance has implemented single, unified, end-to-end, e-Procurement platform in Karnataka. The e-procurement system has been implemented in HESCOM on 19.07.2010 to procure works, goods and services through the e-procurement platform.
- j) Website:-** HESCOM website at hescom.co.in is running successfully from July 2007. Website is up dated. E-mail facility is made available in website and e-mail ID and password of each Officer is provided. Instructions have been issued to all Officers to carry out correspondences through E-mail system provided in HESCOM website. HESCOM website provides all the information regarding the Company profile and activities.
- k) Billing activities** in all 75 sub-divisions and 47 Accounting Sections has been computerized through outsourcing to 6 different Agencies. Spot billing is done through handheld machines & computerized receipts are being issued. In order to implement an uniform software in all Sub-divisions and to implement centralized billing, Web Based software is being introduced in HESCOM under R-APDRP project for 31 towns and work is awarded to M/s Infosys Technologies.
- l) Hubli-Dharwad-I and Belgaum-I project:** HD1 & Belgaum one Project executed & maintained by “**Directorate of EDCS, GoK** “. Acceptance of electricity bills through HD-1 & Belgaum one services have been commissioned.
- m) Video conferencing facility in HESCOM:** Video conferencing facility to HESCOM is provided by M/s Webex Communications Pvt. Ltd. All Officials will have video conferencing meeting with Managing Director, HESCOM on every fortnight.
- o) ERP package includes Finance and Accounts, HRMS, store inventory and material management, project monitoring and legal activity monitoring, tender monitoring and transformer failure and replacement monitoring.** Under this project, these

modules are covered. Some features of this solution can also be accessible through mobile.

- p) **Load Management System:-** Under this project, for Customization/Development and Deployment of Feeder Load Management, Interruptions Management, ICCP Integration with KPTCL SCADA, Automatic Outage Notification to Consumers and Feeder wise visualization of Power Supply on the Map of HESCOM and Supply of Hardware for hosting these solutions in data center.

- q) **R-APDRP Scheme:-**

Objectives:-

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

Projects under Part-A includes Establishment of Data Center at Bangalore city and Establishment of Disaster Recovery Center at Hubli. The IT application includes the following modules.

- 1) Meter Data Acquisition , 2) Energy Audit , 3) New Connection, 4) Disconnection & Dismantling, 5) Development of Commercial Database of Consumers, 6) Metering, 7) Billing, 8) Collections, 9) Centralized Customer Care Services, 10) Web Self Service, 11) Asset Management 12) Asset Maintenance, 13) GIS based customer Indexing and asset mapping, 13) GIS based integrated network analysis module, 14) Management Information System(MIS) 15) System Security Requirement, 16) Identity and Access Management System 17) DGPS based GIS survey in the identified towns, AMR implementation and Establishment of LAN, MPLS VPN and other Networking in the identified towns.

5. Securing the interest of Consumers Satisfaction.

The Officers of HESCOM are instructed to conduct the interaction meetings to secure the interest of the consumers. The meetings are also being conducted and grievance of the consumers are heard and solved. HESCOM has insisted on the Officers to publish the schedule of meetings in the daily newspaper which shall be prefixed for longer period and the consumer can be certain about the date and place of the meeting and enable them to attend the meeting.

6. Skill Development measures of employees.

- a. Training to C & D group employees are arranged regularly at & HR center at HESCOM.
- b. New training center has been opened at Belgaum with well-equipped computer facility.

- c. Letter is addressed to CPRI, REC and NTPC to chalk out detailed training programme for our Officials.

7. Imparting Consumer education.

- a. Grahakara Kaipidi was released on 24th Dec-11 on International Consumer Day, which is very useful for consumers.
- b. Arrangements have been made for printing of Hombelaku Bi-monthly magazine of HESCOM which will cover about consumer education & relation.
- c. Tenders have been called for hoardings & posters to install at public places through which efforts are made to know about saving & use of nonconventional energy.
- d. M/s HKCAL & WS Gulbarga an NGO's will educate the people about energy conservation & use of nonconventional energy through street plays, essay, drawing competition, Quiz & Group discussions at schools & Colleges etc., conducting mass campaign, Human chains & Jathas. It will conduct 20 programmes in selected towns/major villages in the seven districts of HESCOM area.
- e. Steps are taken up for painting of messages depicting energy conservation at the walls of schools and painting slogans on walls of HESCOM offices, consumers service center, Navanagar, Hubli.
- f. Consumer grievance meeting are being held at every Sub-division of HESCOM attended by Superintending Engineer & Executive Engineer so as to solve the grievances of the consumers. A permanent schedule for each Sub-division has been published in the newspapers to the consumer to attend the meeting & solve their problems.

8. Optimization of resources for betterment of power sector :-

- a. Reduction of distribution losses : as explained in paragraph No.1
- b. BELAKU YOJANA (Bachat Lamp Yojana) in HESCOM
 1. The Cost of the Project is Rs. 1157 Lakhs.

The cost involved in execution of the project will be borne by the investors and the same will reimbursed by UNFCCC (the United Nations

Framework Convention on Climate Change) after successful completion of the project as per guidelines.

2. In this scheme it is proposed to replace 77, 11,023 nos of ICL bulbs by CFL bulbs. By executing this scheme, the assessed Peak load reduction will be 362 MW approximately.

3. Non-Conventional Energy Sources :-

HESCOM is utilizing nearly about 8.85% of its power requirement from Non-Conventional Energy Sources like Wind mill, Co- generation, Mini hydel & Bio-mass projects.

9. Improvement in planning, design, construction and O & M activities and institutional measures adopted to achieve the objective of a well-established, efficient, safe and secure power system.

HESCOM is executing following works during 2012-13.

Sl. No.	Scheme	Unit	Physical	Financial (Rs. In Crores)
1				
a	Gangakalyan IP sets	Nos.	4000	35
b	Electification of Hamlets(Not covered under RGGVY)			1
c	Electification of HB/DB/JC/ AC (Habitations) under SCP (Not covered under RGGVY)			2.5
d	Electification of TC(Habitations) under TSP (Not covered under RGGVY)			1
e	Electification of BPL Households (Not covered under RGGVY)			0.5
f	Water works	Nos.	1000	6
g	RGGVY	Nos.	23800	85
h	Rehabilitation of flood affected villages(special programme).	Nos of Villages	20	10
	Sub - total			141
2	Expansion of network and system improvement works.			
a	E & I works.			25
b	Energisation of IP sets under general.	Nos.	8500	20.5
c	Service connections other than IP/BJ/KJ/Water works.	Nos.	95000	15
d	Construction of new 33 KV stations and lines.	Nos.	10	35
e	Augmentation of 33 KV stations.	Nos.	5	5
f	Construction of 11 KV lines for 33 KV / 110 KV sub-stations.	Kms	1115	30
g	Nirantar Jyoti Yojana.	Nos.	231	231.76
h	R- APDRP.	Nos of Towns	31	100
ii	Sub - total			462.26
3	Reduction of T & D and ATC loss			
a	Providing meters to un-metered IP sets.	Nos.	10000	5
b	Providing meters to un-metered BJ/KJ installations.	Nos.	100000	17

c	Replacement of faulty / MNR energy meters by static meters.	Nos.	67000	8.10
d	Replacement of more than 10 year old electromechanical energy meters by static meters.	Nos.	100000	12
e	DTC's metering (Other than APDRP)	Nos.	1500	7.5
f	Replacement of 33 KV lines Rabbit conductor by Coyote conductor.	Kms	330	20
g	Replacement of 11 KV lines Weasel conductor by Rabbit conductor.	Kms	500	8
h	Replacement of age old LT conductor by Rabbit conductor.	Kms	1000	15
iii	Sub - total			92.60
4	New initiatives works			
a	IT initiatives, automation and call centre			14
b	Installation of energy efficient motors			0.4
c	Smart grid/sprinklar/drip irrigation system			2
d	Establishing ALDC & SCADA.			1
iv	Sub - total			17.4
5	Replacement and other miscellaneous works			
a	Replacement of failed distribution transformers.	Nos.	12000	82
b	Replacement of Power Transformers.			4
c	Replacement of old and failed equipments and other works of existing 33 KV stations and lines.			8
d	Preventive measures to reduce the accidents. (Providing intermediate poles replacement of deteriorated conductor, DTC earthing etc.)			9
e	T&P materials.			3
f	RLMS			18.96
g	Creating infrastructure to UAIP Sets	Nos.	53072	336
h	Civil Engineering works.	Nos.		15
v	Sub - total			475.96
Total (i+ii+iii+iv+v)				1189.22

Additional 5 MVA Power Transformer to be commissioned

Sl. No.	Name	District	Taluk Name	Capacity
1	Hallur	Haveri	Hirekerur	1X5MVA
2	Kakti	Belgaum	Belgaum	1X5MVA
3	Balekundari	Belgaum	Belgaum	1X5MVA
4	Yalparatti	Belgaum	Raibag	1X5MVA
5	Chinchali	Belgaum	Raibag	1X5MVA
6	Tidagundi	Bijapur	Bijapur	1X5MVA
7	Jagdal-Navalgi	Bagalkot	Jamkhandi	1X5MVA

10. Load & demand management measures.

HESCOM has set up area load dispatch centers to implement intrastate ABT for load & demand management at corporate office, Hubli.

Field progress: - In HESCOM 136 numbers of 33/11kV substations are included in IE SCADA project out of which 135 substations have been validated as on December 2011, among which data is not available for around 45 numbers of substations and that of 40 stations are partially updating. Action is being taken for early completion of the validation of the balance 1 substation.

Second Phase: - 32 nos. of 33/11kV sub-stations are recognized for 2nd Phase SCADA, which will be awarded on rate contract for which letter has been addressed to M/s ABB Ltd.

11. Energy accounting practices, results achieved etc.

ENERGY AUDIT

ENERGY BALANCE SHEET OF HESCOM

In HESCOM for energy audit, energy accounting is done at the divisional & circle level by taking the net input, sales & Losses are arrived separately for including & excluding EHV sales.

Details of Interface Points:

With KPTCL					IPP		With other ESCOMs	
220KV	110KV	66KV	33KV	11KV	33KV	11KV	Import	Export
4	13	1	123	315	27	3	3	15

Whenever meters are found faulty at IF points, it is replaced on top priority within shortest period in pursuance with KPTCL & other ESCOMs authorities. Till rectification, energy transaction at such locations is estimated through technical method of computing.

Average IP-set consumption is arrived on the basis of pilot readings of meters fixed to Distribution Transformer Centers feeding to pre-dominantly IP installation duly deducting 8% LT-loss.

The energy audit of 16 towns which have population of more than 50000 is being carried out in HESCOM. The below matrix shows the average energy losses recorded from April-12 upto Jan-12

Losses of the selected 11KV feeders:

Year	No. of towns Monitoring	No. of town/Cities loss under				
		<10%	>10,<=15	>15,<=20	>20,<=25	>25
FY-12(upto Jan-12)	16	5	6	5	0	0

VIGILANCE ACTIVITIES.

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

The various improvement works have been taken up such as, providing additional DTCs, bifurcation of overloaded feeders, reducing LT to HT Ratio, replacement of existing old EM meters of high revenue yielding installations by high precision meters and 100% inspection of LT-2/LT-3/LT-5 and HT- installations under Level-1 to Level-4 special inspection teams under supervision of IGP, Vigilance & Enforcement.

12. Energy efficiency and demand side management.**HESCOM has taken following measures.**

a. TIME OF DAY TARIFF : All the HT & LT industrial consumers and CMC/TMC/Company authorities have been requested individually to avail the Time of Day tariff to their installations explaining the advantages offered in the tariff. In response to this 30 Nos. of industrial consumers are already availing this facility & another few big industrial consumers have given their willingness to adopt Time of Day tariff. From 01.09.2012 TOD Tariff is mandatory for HT-2 installations having contract Demand of 500 KVA & above.

b. Installing electronic time switches for street lights for switching On & Off at the required timings:-

Installing electronic time switches to streetlights is being pursued with concerned authorities of VPs/TMCs/CMCs/ Corporations duly explaining the reduction in their energy bills. In this connection all AEEs/EEEs/SEEs/ CEEs of HESCOM are instructed to take up this matter with Municipal Authorities covered under their jurisdiction. HESCOM is also contemplating to make the installing electronic time switches for streetlights compulsory for new street light connections in future.

c. Bifurcation of agricultural loads from the existing 11 KV feeders:- In HESCOM, the bifurcation of agricultural loads from the existing 11 KV feeders is being implemented under Nirantara Jyothi scheme. This has already been explained.

d. **Bachat Lamp Yojana:-**

BELAKU YOJANA (Bachat Lamp Yojana) in HESCOM:-Replacement of incandescent bulbs by CFL bulbs.

1. The Cost of the Project is Rs. 1157 Lakhs. There is no financial assistance from HESCOM. The cost involved in execution of the project will be borne by the investors and the same will reimbursed by UNFCCC (the United Nations Framework Convention on Climate Change) after successful completion of the project as per guideline
2. In this scheme it is proposed to replace 77, 11,023 nos of ICL bulbs by CFL bulbs. By executing this scheme Peak load will be reduced by 362 MW approximately.

Yours faithfully,

General Manager
(Technical)