

CHAPTER – 6

ANALYSIS OF ERC AND TARIFF FILING OF HESCOM

6.0 Proposal of HESCOM in the ERC for FY06 / Tariff filing

HESCOM in their ERC for FY06 have requested the Commission to approve ARR of Rs.2044.66 Crs. for FY06. The revenue at existing tariff for FY06 is Rs. 1016.56 Crs. and HESCOM proposed tariff revision to an extent of 11.38% to bridge the revenue gap of Rs. 110.28 Crs.

6.1 Compliance to Directives and Performance of HESCOM

The Commission has issued several directives to HESCOM and the compliance to these directives is enclosed at **Annexe-3**. The performance of HESCOM in the areas of Computerisation and MIS, Metering, transformer failures, accidents, collection performance, cost coverage and energy audit is discussed here under:

6.1.1 Computerisation & MIS

1. HESCOM has stated that Computerisation of billing & collection has been entrusted to 6-agencies in all the 62 sub-divisions. The same is under test and teething problems are being sorted out. Further, HESCOM has proposed to develop pay roll, project management, material management, maintenance and finance modules on pilot basis during FY06.
2. The Commission notes that progress in computerisation and MIS in HESCOM is poor.

6.1.2 Metering

1. As per the EA 2003, no installations should be supplied with electricity without providing a correct meter, after two years from the date of

coming into force of the Act (i.e. after 09.06.2005). HESCOM has already undertaken universal metering programme from 2002 itself as per the policy directive of GoK. The progress of metering in HESCOM as per the information available with the Commission is as below:

Table-6.1
Progress of metering in HESCOM

Category	No. of Installations existing as on 31.03.05	No. of Installations for which meters are fixed as on 31.03.05	Percentage of progress
IP Sets	390305	129404	33.15%
BJ/KJ Installations	279588	243283	87.01%
Street Lights	9767	9767	100%

2. **The Commission while appreciating the efforts of HESCOM in achieving good progress in BJ/KJ & Street lights** notes that HESCOM is yet to comply with the requirement of the Electricity Act to provide meters to all installations, especially to IP sets where the progress is very low.
3. Regarding DC/MNR installations under metered category, the status in HESCOM is as indicated below:

	% of DC/MNR meters
4 th quarter of 2004:	1.65
4 th quarter of 2005:	0.28%

The Commission appreciates the efforts of HESCOM in reducing the DC/MNR installations.

6.1.3 Transformer Failure Rate

As per the information available with the Commission, the distribution transformer failure rate in FY05 is 15.12% as against 14.94% in FY04. The Commission notes with concern that the failure rate of transformers has

increased indicating that more efforts are required to bring down the failure rate.

6.1.4 Accidents

1. Review of electrical accidents in HESCOM indicates that total accidents have increased from 240 in FY04 to 310 in FY05. The Commission further notes that fatal accidents (to human beings) have marginally decreased from 78 in FY04 to 72 in FY05. HESCOM has stated that it has initiated the following steps to reduce accidents:
 - o To provide intermediate poles wherever necessary.
 - o To replace deteriorated poles and conductors
 - o To educate staff and public on safety aspects.
2. The Commission notes that total number of accidents have substantially increased (by over 29%) in HESCOM and is a matter of serious concern requiring immediate action by HESCOM.

6.1.5 Revenue Collection performance

The following is the summary of collection performance of HESCOM based on the DCB furnished to the Commission:

Table-6.2

Collection Performance

in Rs. crores

Year	Revenue Demand	Collection	Collection as a percentage Current year Demand
FY02	632.03	546.38	86.45%
FY03	796.09	705.64*	88.64%
FY04	892.32	928.61**	104.07%
FY05	958.76	759.32	79.20%

*with BRP Adjustments

** Includes waiver of IP set arrears.

The Commission notes with concern that collections are poor during FY05 and requires concerted efforts to improve collections.

6.1.6 Cost Coverage

1. The cost coverage in HESCOM for the last 3-years, i.e. from the year of its formation, is as indicated below:

Table-6.3

Cost Coverage

Year	Input to HESCOM [MU]	Energy Sales [MU]	Average Power Purchase cost Rs/Unit	Average cost of supply Rs/Unit	Demand per Unit [Revenue demand/energy sales] Rs./Unit	Realisation/unit on Energy input [Collection/energy input] [Rs./unit]
FY03*	5543	3773	2.19	3.53	2.19	1.27
FY04**	5889	4173	2.17	3.71	2.10	1.58
FY05***	6215	4505	2.28	3.88	2.09	1.22

*As per ERC filing

** Annual Accounts

***Provisional

2. From the above table it may be seen that the revenue realised does not cover even the power purchase cost in all the years and there is a huge gap between average cost of supply and revenue demand in all the years.

6.1.7 Energy Audit

1. The Commission is monitoring the losses in the 16 towns/cities on a monthly basis. The losses in the 16 towns /cities is indicated as under:

Table-6.4

Loss in 16 Towns/Cities of HESCOM

Towns	Input to Town in MU	Metered Sales in MU	Metered Sales in %age	Un metered in MU	Unmetered Sales in %age	Total Sales in MU	Loss for FY 05 in %
HUBLI	217.68	176.84	81.24	11.75	5.40	188.59	13.37
DHARWAD	92.62	73.32	79.16	3.87	4.18	77.19	16.66
SIRSI	17.72	14.70	82.94	0.67	3.77	15.37	13.29

Towns	Input to Town in MU	Metered Sales in MU	Metered Sales in %age	Un metered in MU	Unmetered Sales in %age	Total Sales in MU	Loss for FY 05 in %
KARWAR	21.65	16.62	76.78	2.19	10.13	18.81	13.09
GADAG	40.06	31.81	79.42	0.00	0.00	31.81	20.58
HAVERI	13.92	11.78	84.60	0.00	0.00	11.78	15.40
RANEBENNUR	23.89	19.52	81.70	1.34	5.59	20.86	12.71
BELGAUM	216.25	183.74	84.97	0.00	0.00	183.74	15.03
GOKAK	22.64	18.62	82.24	0.84	3.72	19.46	14.04
BIJAPUR	99.67	63.97	64.19	10.72	10.75	74.69	25.06
R.KAVI-B.HATTI	17.19	13.23	76.95	0.59	3.41	13.82	19.64
BAGALKOTE	39.36	27.47	69.80	1.91	4.85	29.38	25.35
DANDELI	31.43	28.31	90.05	0.41	1.32	28.72	8.63
NIPPANI	17.99	12.23	67.98	2.42	13.46	14.65	18.55
ILKAL	25.10	21.03	83.77	0.26	1.03	21.28	15.21
JAMAKHANDI	22.36	15.49	69.27	0.68	3.06	16.18	27.66
Total	919.54	728.68	79.24	37.65	4.09	766.33	16.66

- The Commission notes that in HESCOM out of the 16 towns, the losses are more than 15% in 10 towns/cities. The Commission notes that the directive of the Commission to reduce losses in these towns/cities to 15% has not been achieved in 10 towns/cities and directs HESCOM to initiate necessary action to reduce loss level to 15% in the these towns/cities in FY06 and ensure that the losses in the remaining towns/cities where target has been achieved, are further reduced/at least maintained at FY05 level.

6.2 Objections

A summary of the objections received and the responses from HESCOM are discussed separately in **Annexe-2**.

6.3 Commission's Analysis of ERC/Tariff Filing

6.3.1 Financial Year 2004 in Retrospect

- The Commission had approved the ERC of HESCOM for FY04 in the Tariff Order dated 10.03.2003. Subsequently KPTCL/ESCOMs applied for amendment of tariff arising out of additional power purchase cost

due to change in Hydro-thermal mix. The Commission issued a Tariff Amendment Order on 15.12.2003 approving the BST from 193.57 paise per unit to 209.35 paise per unit for supply of electricity to ESCOMs /Hukkeri Society. The revised BST came into effect from 01.01.2004. Consequent to this change in BST, the Commission in the said Order revised the retail tariff for LT2b- Pvt. Professional & other Pvt. Educational Institutions, LT3- Commercial, LT5- Industries, HT2a- Industries and HT2b- Commercial categories.

2. HESCOM has furnished the audited annual accounts for FY04 and as such the Commission would consider the same for the purpose of finding out the actual revenue gap for FY04. The differences between approved ERC figures and the actuals are as indicated below:

a) Sales forecast

1. HESCOM had estimated sales of 3905 MU against which the Commission had approved sales of 4109 MU, which included additional metered sales of 108 MU due to efficiency improvements. The Actual Sales as per Audited Accounts is 4174 MU. The category wise sales approved and actuals as per audited accounts is indicated below:

Table-6.5

Approved Energy sales and actual sales for FY04

Category	(Million Units)		
	Approved as per ERC	Actuals as per audited accounts	Difference
Bhagya Jyothi	116	94	-22
Domestic Lighting	646	629	-17
Commercial	129	126	-03

Category	Approved as per ERC	Actuals as per audited accounts	Difference
IP Sets unmetered (up to 10 HP) LT-4 a, b & d	2184	2408	224
IP sets -LT-4c	10	8	-2
LT Industries	218	207	-11
Water Supply-LT	87	92	5
Street Lights	110	109	-1
Temporary	6	7	1
LT -Total	3506	3680	174
HT- Water supply	90	97	7
HT- Industries	356	328	-28
HT- Commercial	30	40	10
HT-Irrigation	9	15	6
HT- Residential	10	14	4
HT-Total	495	494	-1
Additional metered sales due to efficiency improvement	108	0	
Metered Sales including additional sales	1699	1563	-136
Unmetered Sales	2410	2611	201
Grand Total	4109	4174	65

2. It is noted that there is an overall increase in sales by 65 MU as against the approved sales. There is a decrease in metered sales by 136 MU and increase of 201 MU in unmetered sales in comparison to approved sales. The decrease in metered sales indicates that the efficiency improvements proposed by the Commission have not been fully achieved. There is a reduction in sales to BJ/KJ & domestic category and increase in sales to IP sets, HT water supply and HT Commercial.

b) Distribution loss & Energy Input

1. Commission had approved 5683 MU as input energy to HESCOM for FY04. As against this the actuals as per HESCOM's annual report is 5889

MU. The Commission notes that there is a difference of 206 MU between accounts and approved figures.

2. Regarding distribution loss for FY04, the Commission had approved 27.71% as against the proposed loss of 31% by HESCOM, in its tariff Order 2003. The actuals as per accounts is 29.13%. This indicates that the loss has actually increased by 1.42% compared to the approved level. The Commission concludes that HESCOM is not serious in achieving the targets set by the Commission for reduction of losses.
3. One of the factors that affect the distribution loss is IP set consumption. In the Tariff Order 2003, the Commission estimated the IP set consumption for FY04 as follows vis-à-vis the figures projected by HESCOM:

Table-6.6

IP Set Consumption for FY04

No. of IP sets(Mid year) as per monthly reports	Projection by HESCOM		Estimation by the Commission	
	Specific consumption	Total consumption in MU	Specific consumption	Total consumption in MU
390374	5350	2088	5594	2184

4. The above-assessed IP set consumption for FY04 had been worked out considering the quantum of restricted power supply during FY03.
5. The actual IP consumption for FY04 as per annual accounts is 2408 MU (LT 4 a & b) and the year-end number of installations is 3,85,976. The specific consumption for FY04 is 6218 units/IP set considering the FY04 mid year figure of 387259. Thus the actual specific consumption has increased by 624-units/IP set as compared to the Commission's estimates. The difference between the actual consumption and the estimates is higher by 224 MU.

6. The cumulative effect of the above has resulted in increase in actual distribution loss level as per accounts as against the approved levels. The Commission notes that the metered sales have decreased by 8% and unmetered sales have increased by 8.34% as compared to the approved sales. The actual input has increased by 3.62% over the approved input energy to HESCOM for FY04. This indicates that additional power purchase has been utilised to meet the demand from unmetered categories. Further, the Commission notes that there is decrease in metered sales resulting in the increased distribution loss in comparison to the approved figures.

c) Review of Capital Investment Program for FY04

1. In the Tariff Order 2003, the Commission had approved the Capital Investment Programme of HESCOM amounting to Rs.435.39 Crs. for FY04, which included APDRP works amounting to Rs.321.29 Crs. subject to detailed scheme-wise review and also subject to obtaining approval of the Commission for all the scheme reports of works costing more than Rs.1 crore.
2. It is noted that the actual expenditure incurred towards capital investments during FY04 is Rs.259.07 Crs. (furnished in revised ERC for FY06) against an outlay of Rs.435.39 Crs. approved by the Commission.
3. Although HESCOM has been furnishing quarterly physical progress report in respect of works costing more than Rs.1 crore, financial progress is not being furnished. In respect of APDRP works, details of actual benefits accrued by completing these works has not been furnished.

d) Annual Revenue requirement

The Commission had approved a net annual revenue requirement of Rs.1459.08 Crs. for FY04 as against the HESCOM's proposal of Rs.1591.04

Crs. The Commission notes that the actual expenditure for FY04 is Rs.1547.50 Crs. The Comparison between actuals as per audited accounts and as approved by the Commission is indicated below:

Table-6.7**ARR approved by the Commission and ARR as per actuals for FY04**

Particulars	Rs. Crs.		
	Expenses approved by KERC	Actuals as per audited accounts	Difference
Expenditure			
Power Purchase	1206.16	1275.62	69.46
Repairs & Maintenance	23.15	18.77	-4.39
Employee Costs	140.36	162.26	21.90
A & G expenses	9.66	16.85	7.19
Depreciation	42.16	54.34	12.18
Interest & Finance Charges	31.44	29.93	-1.51
LESS:			
Expenses Capitalised	- 0.01	0	0.01
Other Charges/ Debits	0	-3.89	-3.89
Net prior period credits/Debits	0	-0.06	-0.69
Provision for taxation		2.84	2.84
Add: Return on NFA	10.01	0	-10.01
Total Expenses	1462.93	1556.66	93.73
Less other income	3.85	9.16	5.31
Net ARR	1459.08	1547.50	88.42

The variations in the expenditure is discussed below:

i) Power Purchase cost

The Commission in its Tariff Order 2003 had approved Rs.1206.16 Crs. as power purchase cost [with a BST of 193.57 paise per unit and Transmission tariff of 18.67 paise per unit] for an input energy requirement of HESCOM of 5683 MU. The actuals for FY04 as per audited accounts is Rs.1275.62 Crs. for an input of 5889 MU, indicating an

increase in power purchase cost by Rs.69.46 Crs. an increase by 5.76%. The Commission notes that the increased cost in power purchase is on the following accounts:

- i. Increased quantum of power purchase by 206 MU
- ii. Revision of BST to 209.35 paise per unit effective from January 2004.

ii) Repairs & Maintenance

The approved R & M cost was Rs.23.15 Crs. The actuals as per audited accounts is Rs.18.77 Crs. resulting in a savings of Rs.4.39 Crs. mainly in R & M of Plant and Machinery and buildings.

iii) Employee cost

In Tariff Order 2003, the Commission had approved Rs.140.36 Crs. as against Rs.145.97 Crs. proposed by HESCOM. The actual employee cost as per audited accounts is Rs.162.26 Crs. an increase of Rs.21.90 Crs. After excluding bonus of Rs.1.89 Crs. as per accounts and Rs.3.66 Crs. towards free electricity supply as per Tariff Order 2003, the employee cost would be Rs.156.71 Crs. The increase is mainly due to increase in earned leave encashment (Rs.8.24 Crs.) and terminal benefits (Rs.2.96 Crs.).

iv) Administration & General expenses

The Commission had approved Rs.9.66 Crs. as A & G expenses as against HESCOM's proposal of Rs.11.59 Crs. As per audited accounts the A & G expenses for FY04 is Rs.16.85 Crs. an increase of Rs.7.19 Crs. above the approved amount. Major variations in the expenditure are in Other Expenses-Rs.2.42 Crs. increase and in respect of other professional charges- Rs. 3.50 Crs.

v) Depreciation

The Commission had approved an amount of Rs.42.16 Crs. as depreciation cost for FY04, which was based on the rates of depreciation as in GoI notification. The depreciation as per audited accounts is Rs.54.34 Crs. resulting in increase of Rs.12.18 Crs.

vi) Interest & Finance charges

HESCOM had proposed Rs.31.44 Crs. as Interest & Finance charges for FY04, which the Commission had approved. The actual Interest & Finance charge as per audited accounts is Rs.29.93 Crs. indicating savings of Rs.1.51 Crs.

vii) Expenses Capitalised

The Commission had approved Rs.0.01 Crs. as expenses capitalised as proposed by HESCOM. As per the annual accounts expenses capitalised are nil.

viii) Other debits and Net prior period charges and credits

HESCOM had not made any provision for the above expenses in FY04. However, the Commission notes that as per the audited accounts other charges/ (debits) is shown as Rs.- 3.89 Crs. and Net prior period credits is Rs. -0.06 Crs.

ix) Provision for taxation

The Commission had not made any provision for taxation, as the same was not proposed by HESCOM. However, as per annual accounts an amount of Rs.2.84 Crs. has been provided for taxation.

x) Reasonable return

The Commission had approved 3% on net fixed assets as reasonable return as proposed by HESCOM, which amounts to Rs.10.01 Crs. The

Commission notes that the actual return as per annual accounts works out to Rs.15.28 Crs. indicating an increase of Rs.5.27 Crs.

e) Gap of FY04

1. The revenue surplus/(Gap) before subsidy as per tariff order 2003 and as per actuals is as follows:

Table-6.8

Gap for FY04

Particulars	(Rs. Crs.)	
	Approved by KERC	Actuals as per audited accounts
Net ARR	1459.08	1547.50
Revenue from Sale of power	926.81*	877.25
Gap before subsidy	532.27	670.25

* Includes additional sales

2. After deducting the amounts not allowed by the Commission for pass through in the tariff i.e., a) Bonus to employees as per annual accounts: Rs.1.89 Crs. and b) Free /subsidised electricity to employees as per Tariff Order 2003: Rs.3.66 Crs. the actual ARR works out to Rs.1541.95 Crs. and the gap before subsidy would be Rs.664.70 Crs.
3. However, the Commission notes that as per audited accounts an amount of Rs.683.97 Crs. is shown as R.E. Subsidy from GoK which includes return of 3% on NFA. Hence, the total surplus for FY04 after considering the subsidy from GoK works out to Rs.19.27 Crs.

6.3.2 ERC for FY05

As discussed in Chapter-2 of this order, the Commission has not approved the ERC for FY05 of HESCOM. According to the provisional accounts of HESCOM for FY05, there is no revenue gap after considering the government subsidy of Rs.825.47 Crs.

6.3.3 ERC for FY06

1. HESCOM filed its ERC for FY06 on 31.05.2005. The Commission analysed the same and preliminary observation were communicated vide Commission's letter dated 24.06.2005 and letter dated 11.07.2005 on the following:
 - a. To furnish the actuals for FY05.
 - b. Capital investments plan.
 - c. Sales Forecast.
 - d. Details of Slab-wise consumption
 - e. Prevention of Electrical Accidents.
 - f. Distribution losses
 - g. Cost of service
 - h. Various expenses covered under ARR for FY06 and
 - i. Tariff Schedule.

2. HESCOM has furnished replies to the observation on the above issues vide its letter dated 25.07.2005. Based on the ERC and replies furnished the Commission has analysed the ERC and the same is discussed in the following paras:

6.3.3.1 Sales Forecast

HESCOM has generally adopted CAGR along with field data for projecting the number of metered installations. Energy sales for metered categories in FY06 is projected based on average specific consumption for LT categories and CAGR for HT categories. HESCOM has projected the number of installations of BJ/KJ and IP sets based on revised GoK scheme and energy on the basis of 18 units per installation per month for BJ/KJ, growth rate for IP sets. For streetlights 12 burning hours is considered where meters are not provided and in respect of metered installations sales is

estimated on metered data. The validation of number of installations and energy sales as analysed by the Commission is discussed below:

a. Metered Categories

i) LT2-a Domestic Lighting

1. HESCOM has projected 1992306 installations for FY06 assuming a growth rate of 9.03%. HESCOM has stated that this growth rate has been arrived at considering the previous year growth rate, new connections expected and removal of installations from the ledger accounts. This has been revised to 2066384 installations after validation by the Commission. The Commission notes that growth rate during the last three years has not been consistent due to conversion of BJ installations to lighting installation. In view of this the Commission accepts the projected figure of 2066384 installations for FY06.
2. For energy sales, HESCOM has projected initially a sales of 753.09 MU based on the specific consumption for FY04 and FY05. This has been revised to 714.24 MU based on actuals of FY05. The actual growth in FY05 over FY04 is 7.6% The Commission notes that the 5-year CAGR and 3 year CAGR is around 5%. Considering the conversion of BJ/KJ installations to LT2 category the growth rate of 6.35% proposed by HESCOM is reasonable. Hence based on this growth rate, the energy sale of 714.24 MU is reasonable.

ii) LT-3 Commercial Lighting

1. HESCOM has considered a growth rate of 5.68% for growth in number of installations, which is revised to 5.84% after validation by the Commission. The Commission notes that the 3-year CAGR and 5 year CAGR is in the range of 4 to 6 % and the previous year growth rate is 5.8%. Hence the growth rate of 5.84% proposed by HESCOM is

reasonable. Hence the Commission accepts 197827 numbers of installations for FY06.

2. For energy sales, HESCOM has projected initially a sales of 137.49 MU based on the specific consumption for FY04 and FY05. This has been revised to 138.48 MU based on actuals of FY05 at a growth rate of 6%. The Commission notes that the 3 year CAGR is around 5% and the 5 year CAGR is around 8.5% and the year on year growth rate is inconsistent. Hence the Commission accepts the growth rate proposed by HESCOM and the proposed sales of 138.48 MU for FY06.

iii) LT-5: LT Industries

1. There is a marginal growth in installations from FY01 to FY04. HESCOM had initially proposed an addition of 2000 new installations at a growth rate of 1.94%. This has been revised to 4.6% subsequently. The Commission notes that the 3-year CAGR is 1% and the growth rate in the previous year is 1.8%. Hence the reasonable growth rate would be 2% based on the previous years' growth rate and accordingly the number of installations for FY06 would be 52712 installations considering the actual figures for FY05 as against HESCOM projections of 54070.
2. HESCOM has projected initially a sales of 220.75 MU based on the specific consumption per installation for FY04 and FY05. The Commission notes that calculating specific consumption for this category should not be on the basis of number of installations but on the basis of connected load. The sales has been revised to 220.01 MU based on actuals of FY05 at a growth rate of 2.49%. The Commission notes that the 3-year CAGR and 5 year CAGR is around 1.5% and the previous year growth rate is 3.8%. In view of this, a sales

growth rate of 2.49% is reasonable and the proposed sales of 220.01 MU for FY06 is acceptable.

iv) LT6 Water Supply

1. HESCOM has considered a growth rate of 7.93% for number of installations initially. This has been revised to 9.36% subsequently. The 3-year CAGR is 7.6% and the year on year growth rate is showing a declining trend. Hence the original growth rate of 7.93% is reasonable. Applying this rate to the actuals of FY05, the number of installations would be 15181 installations, as against HESCOM's estimation of 15382.
2. HESCOM has projected initially a sales of 103.94 MU based on the average consumption per installation of 6981 units. The Commission notes that calculating specific consumption for this category should not be on the basis of number of installations but on the basis of connected load. The sales has been revised to 99.43 MU based on actuals of FY05 at a growth rate of 5.12%. The Commission notes that the 3-year CAGR is around 7% and the previous year growth rate is 3.2%. In view of this, a sales growth rate of 5.12% is reasonable and the proposed sales of 99.43 MU for FY06 is acceptable.

v) HT-1 HT Water Supply

1. Initially HESCOM has proposed that 11 installations would be serviced during FY06. This has been revised to 16 installations without furnishing any reason. In the absence of details, the Commission is constrained to accept addition of 16 installations and the total installations as 97 for FY06.
2. HESCOM has considered a CAGR of 6.89% for projecting the sales for FY06. The Commission notes that the 3 year CAGR and the 5 year CAGR is in the range of 7.5% to 9% and the previous year growth is

around 5%. In view of this HESCOM's projection of 109.83 MU is reasonable.

vi) HT-2a HT Industrial

1. Initially HESCOM has proposed that 18 installations would be serviced during FY06. This has been revised to 21 installations without furnishing any reason. In the absence of details, the Commission is constrained to accept addition of 21 installations and the total installations as 357 for FY06.
2. HESCOM has considered a CAGR of 4.42% for projecting the sales for FY06 initially. The growth rate has been revised to 8% subsequently. The Commission notes that the 5 year CAGR is around 9% and the previous year growth is around 8%. In view of this HESCOM's projection of 382.33 MU is reasonable.

vii) HT-2b HT Commercial

1. Initially HESCOM has proposed that 45 installations would be serviced during FY06. The additions have been revised to 69 installations without furnishing any reason. In the absence of details, the Commission is constrained to accept addition of 69 installations and the total installations as 322 for FY06.
2. HESCOM has considered a CAGR of 22.94% for projecting the sales for FY06 initially. The growth rate has been revised to 28% subsequently. The Commission notes that the 3-year CAGR is around 27% and the previous year growth is 21%. The Commission notes that the projections are slightly on the higher side. However as it is an estimate, a variation of 1 to 2 % can always be anticipated, hence HESCOM's projections of 61.79 MU is accepted.

viii) HT-3 a Irrigation/lift Irrigation

1. Initially HESCOM has proposed that 5 installations would be serviced during FY06. The additions have been revised to 10 installations without furnishing any reason. In the absence of details, the Commission is constrained to accept addition of 10 installations and the total installations as 93 for FY06.
2. HESCOM had initially projected 33.84 MU for FY06 stating that the GoK has taken initiative to renovate all installations of minor irrigation department. However the sales have been revised to 25.31 MU without assigning any reason. In the absence of details, the Commission is constrained to accept the sales of 25.31 MU.

ix) HT-4 Residential

1. HESCOM has proposed that 8 installations would be serviced during FY06 based on the expected servicing of new installations. The Commission accepts this number.
2. HESCOM has considered a CAGR of 45% for projecting the sales for FY06 initially. The growth rate has been revised to 62% subsequently. The Commission notes that the 3-year CAGR is around 62% and the previous year growth is 87%. In view of this the revised growth rate of 62% is reasonable and the Commission accepts HESCOM's projection of 41.80 MU for FY06.
3. The Commission notes that the variation in number of metered installations with respect to Commission's working is less than 0.5% and metered energy sales is as proposed by HESCOM which is negligible. Hence, the Commission adopts the figures proposed by HESCOM for metered category.

b. Un-metered Categories

i) LT-1 BJ/KJ

1. HESCOM had projected 288000 installations for FY05 and 308000 installations for FY06 in the initial filing. Subsequent to validation by the Commission HESCOM has revised these figures to 279588 based on DCB for FY05 and 341843 for FY06. While projecting the numbers for FY06, HESCOM in their original filing had considered 20,000 additions per annum in BJ/KJ. Subsequently, the same has been revised to 62255 by HESCOM, stating that the above has been revised based on target of 1.25 Lakhs as per the new scheme and probable conversion to LT- 2a category.
2. Commission notes that in FY 05 there is a reduction of 1.42 lakhs installations in comparison to the number of installations in FY04. Based on the projected figures for FY06, there would be an increase of 62255 installations, which may not be achieved keeping in view the past trends. However, the Commission accepts this number as it is a GoK policy.
3. Based on the mid-year number of installations for FY06, & 18 units per installation per month the energy sales for FY06 would be 67.11 MU as against HESCOM's estimate of 80.67 MU.

ii) LT4-a&b Irrigation pump sets

1. HESCOM has estimated the year-end figures for installations as 405305 (Revised). The sale to this category in FY06 has been estimated by HESCOM as 2755MU assuming a growth rate of 5.5% over FY05 actuals.
2. However, based on the monthly reports furnished by HESCOM for FY05, the Commission has estimated the mid year figures for installations as 388141 and specific consumption as 6722 units per

IP/Yr. Hence, the sales to this category in FY06 has been estimated by the Commission as 2674 MU.

iii) LT6 Street Lights

1. There is inconsistent growth over the last 5 years in number of installations. HESCOM has proposed an addition of 1148 installations during FY06. Therefore the total number of installations for FY06 would be 10915 considering the actual for FY05.
2. HESCOM has projected sales of 116.21 MU (both Urban & Rural). As per the Commission the sales based on 360 units/kW/month would be 114.78 MU.
3. The Commission notes that there is no variation in number of un-metered installations as worked out by the Commission and as worked out by HESCOM. However, un-metered energy sales as proposed by HESCOM and as worked out by the Commission varies by 3%. Hence, the Commission would adopt its own figures for the energy sales to un-metered Categories.
4. Based on the above discussion, the Commission approves the number of installations and energy sales for HESCOM for FY06 as indicated in the Table below. However, the Commission directs HESCOM to note the observations made by the Commission on sales forecast for future guidance.

Table-6.9
Sales Estimates for FY06

Category	Type of Installation	As Proposed (revised)		As approved	
		No. of Consumers	Energy Sales	No. of Consumers	Energy Sales
LT-1(a)	Bhagya Jyothi	341843	80.67	341843	67.11
LT- 2(a)	Domestic Lighting /AEH	2066384	714.24	2066384	714.24
LT-2(b)	Private Prof. & Edl	2691	6.57	2691	6.57

Category	Type of Installation	As Proposed (revised)		As approved	
	Institutions				
LT-3	LT Commercial	197827	138.48	197827	138.48
LT-4 (a) & (b)	Irrigation pump sets - less than 10 HP	405305	2755.39	405305	2673.99
LT-4 (c)	IP sets more than 10 HP	650	7.34	650	7.34
LT-4(d)	Private Horticulture nurseries, Coffee & Tea plantations	42	0.11	42	0.11
LT-5	LT Industries	54070	220.01	54070	220.01
LT-6 (a) & (b)	Water Supply	15382	99.43	15382	99.43
LT-6 (a) & (b)	Street Lights	10915	116.21	10915	114.78
LT-7	Temporary Power Supply	6377	8.50	6377	8.50
	LT Total	3101486	4146.95	3101486	4050.56
HT-1	HT Water Supply	97	109.83	97	109.83
HT-2(a)	HT Industries	357	382.33	357	382.33
HT-2(b)	HT Commercial	322	61.79	322	61.79
HT-3 (a) & (b)	HT Irrigation & LI Societies	93	25.31	93	25.31
HT-4	HT Residential	56	41.80	56	41.80
	HT Total	925	621.06	925	621.06
	Metered Category	2344348	1815.74	2344348	1815.74
	Unmetered Category	758063	2952.27	758063	2855.88
	Total	3102411	4768.01	3102411	4671.62

6.3.3.2 Distribution Loss & Energy Input

1. Assessment of IP Set Consumption

Estimation of IP set consumption is a key factor, which determines the distribution loss levels. Hence, it is worthwhile to discuss the approach taken by the Commission in determining the IP set Consumption in the previous Order before arriving at the Consumption for FY06. IP set consumption for FY04 has already been discussed earlier. IP set consumption for FY05 is discussed below.

a) IP set consumption for FY 05

1. HESCOM in the current ERC has proposed 390331 installations for FY 05. This has been revised to 390305 based on actuals as directed by

the Commission. The energy sales for FY05 for this category are estimated as 2611.62 MU .

2. As per the monthly reports furnished by HESCOM, mid-year figure of installations would be 388141 and the energy consumption is 2609 MU. Hence, the specific consumption in FY05 would be 6722 units per IP/Year.
3. The Commission vide its letter no. T/01/2003/1839 dated 4th November 2003 has informed ESCOMs that the monthly figures furnished in respect of IP sets would form the basis for estimating the IP set consumption. Hence, Commission adopts 6722 units/IP/Yr. as the specific consumption for estimating IP set Consumption in FY06.

b) IP set consumption for FY 06

1. Initially, HESCOM has projected a year-end figure of 4117911 installations in the ERC for FY06 based on 5% growth rate over FY05 figures. HESCOM has not linked the additions to GoK policy, which specifies the additions in ESCOMs in each year. Further the number of IP sets that would be regularised is also not indicated. Subsequent to validation by the Commission, HESCOM has revised the number of installations to 405305, stating that in the revised capital works program, energisation of IP sets is restricted to 15000 in FY06.
2. HESCOM had initially projected the sales based on average consumption of 6632 units. Based on this growth rate was 4.67%. Subsequently HESCOM revised the growth rate to 5.5%. HESCOM has estimated sales for FY06 as 2755 MU.
3. The Commission notes that as per the gist of the discussions in the meeting with the Hon'ble Minister for Power on 20.04.2005, issued

by the MD, KPTCL vide note dated 23.04.2005, the target for new IP installations for HESCOM is 15000. HESCOM has not proposed any regularisation of unauthorised IP sets Hence, the total additions during FY06 would be 15000. The Year-end figure of IP sets for FY06 works out to 405305 and the mid-year figure for FY06 would be 397805.

4. For the reasons stated earlier, the Commission would adopt the specific consumption of 6722 units/IP/year of FY05 to arrive at the IP- consumption for FY06. Hence, the energy sales to IP-sets for FY 06 would be 2674 MU.

2. Distribution Loss

The loss level for FY 04 has already been discussed earlier. The loss for FY05 & FY06 is discussed in the foregoing paragraphs.

a) Loss for FY 05

As per the ERC filing the input energy to the HESCOM inclusive of EHT sales is 6255 MU. This has been revised to 6214.36 MU by KPTCL vide their letter dated 27.08.2005. The total revised sales for FY05 as per the filing are 4505.84 MU. The distribution loss works out to 27.49% for FY05 considering input energy as furnished by KPTCL.

b) Loss for FY 06

1. In the ERC filing for FY06 HESCOM has projected the revised energy input including EHT sales at 6476.00 MU and revised total sales of 4768.01MU. The distribution loss works out to 26.37%.
2. The Commission in its Tariff Order 2003 had fixed 27.71% as the allowable distribution loss for FY04. The Commission notes that the actual loss in FY04 was 29.13% as per annual accounts and in FY05 it

was 27.49% [revised] as per ERC filing. The Commission notes that the loss level has increased by 1.42% in FY04 above the approved figure. The Commission notes that HESCOM has not made necessary efforts to bring down the losses to the targeted level in FY04.

3. The allowable loss level for HESCOM cannot be more than 27.71% already approved for FY04. It is worthwhile here to mention about the losses in 16 towns/cities being monitored by the Commission.
4. The losses excluding 16 cities/town in FY05 are as indicated below:

Table-6.10
Loss excluding 16 Cities/Towns

Particulars	16 Towns	HESCOM excluding 16 Towns	HESCOM- Total
Input energy-MU	919.54	5294.82	6214.36
Loss- MU	153.21	1555.31	1708.52
% Loss to Input	16.66	29.37	27.49

5. It is noted that the loss level in HESCOM excluding the 16 towns is very high indicating that there is lot of commercial loss, which can be reduced substantially by better management. Hence, HESCOM through better management, apart from the Capex proposed for FY06, can bring down the loss to 26.37% in FY06.
6. In view of the above, the Commission hereby allows 26.37% as the loss for HESCOM.
7. In the Tariff Order 2003, the Commission has stated that the true indicator of distribution loss is to reckon the same as a percentage of the input energy without including the EHT sales. The allowable

distribution loss levels however have been expressed as a percentage of input energy sales inclusive of EHT sales. The distribution loss expressed as percentage of Input inclusive and exclusive of EHT sales for FY04 & FY05 are indicated hereunder:

Table-6.11
Distribution loss levels

Year	Input energy inclusive of EHT sales in MU	EHT sales in MU	Input energy excluding the EHT sales in MU	Total sales including EHT sales in MU	Total sales excluding EHT sales in MU	Distribution loss as a percentage of input energy inclusive of EHT sales in %	Distribution loss as a percentage of input energy exclusive of EHT sales in %
FY 04 as per annual accounts	5888.86	58.5*	5830.36	4173.15	4114.65	29.13	29.43
FY 05 as per ERC filing	6214.36	79.0*	6135.36	4505.84	4426.84	27.49	27.85
FY 06 as per KERC	6522	77.5*	6444.50	4802.15**	4724.65	26.37	26.69

* EHT sales as per ERC filing

** Includes additional sales

3. Energy Input for FY 06

HESCOM has estimated an energy input of 6476 MU. The Commission has approved 6522 MU as input energy to HESCOM. Based on the approved energy input and allowable loss level of 26.37%, the sales to be achieved by HESCOM would be 4802 MU. Hence, Commission directs HESCOM to achieve additional sales of 131 MU in FY06 over & above the approved sales of 4672 MU through efficiency measures.

6.3.3.3 Capital Investment programme for FY06

1. It is noted that HESCOM has proposed a capital Investment programme of Rs.335.62 Crs. including Rs.100 Crs. towards APDRP

works during FY06. Based on the actual expenditure incurred towards the capital investment during the last two years the out-lay proposed appeared to be realistic. During the analysis of Capital Investment programme, the Commission observed several discrepancies and the same were communicated to HESCOM.

2. HESCOM subsequently revised the proposed Out-lay towards the Capital Investment programme to Rs.341.78 Crs. from the original Rs. 335.62 Crs. The scheme-wise outlay is as indicated in the following Table:

Table-6.12

Scheme-wise allocation of Capital Investment programme for FY06

Sl. No.	Scheme	Rs. crores
1.	SYSTEM AUGMENTATION & STRENGTHENING	
A.	Extension & Improvement	12.00
B.	Accelerated Power Development & Reform Programme	100.00
C.	ATL	8.00
	Service Connection	9.00
D.	Preventive Measures to reduce Accidents	1.00
	Sub-Total	130.0
2.	RURAL ELECTRIFICATION (GENERAL)	
A.	Electrification of Hamlets	4.53
B.	Energisation of IP sets	30.75
C.	Electrification of HB/JC/AC colonies under RGGVY Scheme	52.00
D.	Kutir Jyothi	15.00
	Sub-Total	102.28
3.	TRIBAL SUB-PLAN	
A.	Energisation of IP sets	1.13
B.	Kutir Jyothi	0.56
C.	Electrification of Tribal Colonies	0.75
	Sub-Total	2.44
4.	SPECIAL COMPONENT PLAN	
A.	Electrification of HB/JC/Tandas	6.79
B.	Energisation of IP sets	5.62
C.	Kutir Jyothi	2.81

Sl. No.	Scheme	Rs. crores
	Sub-Total	15.22
5.	24 Hours power supply to rural non-IP consumers under Grama Jyothi Scheme including RLMS	30.0
6.	METERING PROGRAMME	
A	Metering of IP set installations	7.42
B.	Metering of BJ/KJ Installations	3.02
C	DTC Metering	
i.	Urban	0.40
ii.	Rural	3.00
	Sub-Total	43.84
7.	Replacement of faulty Power & Distribution ones)	10.00
8.	T&P and computerization	4.00
9.	Civil Engineering Works	6.00
10.	Construction Of New 33 KV Sub-Stations & Lines and augmentation of 33 KV stations and maintenance of 33 KV stations and lines	28.00
	Sub-Total	48.00
	GRAND TOTAL	341.78

3. The Commission approves the capital investment programme of Rs.341.78 Crs. for FY06 subject to detailed scheme-wise review. HESCOM shall furnish the scheme reports of all works including APDRP works costing more than Rs.1 crore for the approval of the Commission as per the paratactic directions issued by the Commission.

6.3.3.4 Power Purchase & Transmission Cost

1. HESCOM has projected power purchase cost (including transmission charges) of Rs.1688.20 Crs. for an energy input at interface points of 6476 MU. The per unit power purchase cost works out to 260.68 paise.
2. In terms of Section 39 (1) of EA 2003, KPTCL is barred from trading electricity with effect from 10.06.2005. Accordingly GoK vide order No. EN 131 PSR 2003 dated 10.05.2005 has accorded approval to ESCOMs to purchase power from various generating Companies. Allocation of

power supplied by KPCL, VVNL, CGS and Conventional IPPs is on the basis of total energy consumption during the year FY05. NCE projects have been allocated to ESCOMs based on geographical location of the project.

3. The Commission had directed KPTCL to work out the ESCOM wise requirement of power purchases for FY06 based on the above GO. Accordingly, KPTCL has worked out ESCOM wise energy input for FY06.
4. Based on KPTCL working the input energy to HESCOM would be 6476 MU.
5. The Commission has worked out the input energy to HESCOM as 6522 MU at an approved power purchase cost of Rs.1313.10 Crs. as discussed in Chapter – 3.
6. The approved transmission cost for transmitting 6522 MU at 19.42 paise per unit is Rs.126.65 Crs.

6.3.3.5 Repairs and Maintenance expenses

1. HESCOM has proposed Rs.23.05 Crs. [revised] as R & M expenses for FY06. The expenditure for FY05 as per provisional actuals is Rs.17.39 Crs. indicating an increase of R & M expenses by 32.55%. The previous growth rate over FY04 was 7.3%. HESCOM has not justified the increase.
2. In the previous tariff order the Commission had approved an increase of 10% over FY03 expenses. Keeping this in view and also knowing that prudent R & M expenses would result in reduced number of interruptions and reduced failure rates of transformers, the Commission approves Rs.23.05 Crs. as the allowable R & M expenses for FY06.

6.3.3.6 Employee Cost

1. Employee cost of Rs.159.06 Crs. [revised] is proposed for FY06 by HESCOM. This indicates a increase of 4.94% over FY05 employee cost of Rs.151.57 Crs. as per provisional accounts.
2. The number of employees working in FY06 is estimated by HESCOM as 6790 as against 7040 in FY05 indicating a decrease of 250 employees in HESCOM. Consequent to this HESCOM has made 2.38% reduction in salaries over FY05 provisional actuals.
3. HESCOM has computed DA as 65 % of basic salaries. HESCOM has estimated Rs. 23.74 Crs. as terminal benefit based on 19.90% of Basic & DA.
4. Further, HESCOM has requested the Commission to allow any increase in pay scales as and when the new pay scales become effective.
5. As decided in the earlier Tariff Orders, the Commission will disallow bonus of Rs.1.72 Crs. and cost of free/subsidised electricity to employees of Rs.3.66 Crs. [as per tariff order 2003] for FY06 also. After disallowing the above expenses, the allowable employee cost would be Rs. 153.68 Crs.

6.3.3.7 A & G expenses

HESCOM has proposed Rs.30.49 Crs. as A & G expenses, which is 9.13 % higher than FY05 provisional actuals. The Commission considers this increase over FY05 actuals as reasonable. Hence, the Commission approves A & G expenses for FY06 of Rs.30.49 Crs.

6.3.3.8 Depreciation

Rs.98.10 Crs. has been provided as depreciation for FY06 by HESCOM on the basis of rate prescribed by Gol notification of 1994. The Commission approves provision of Rs.98.10 Crs. towards depreciation.

6.3.3.9 Interest & Finance Charges

HESCOM had proposed Rs. 40.51 Crs. initially and subsequently revised the provision to Rs.63.14 Crs. It is noted that HESCOM had initially made a provision of Rs.4.59 Crs. towards interest payable to REC, but subsequently revised it as Rs.24.85 Crs. although the amount of outstanding loan is indicated as Rs.43.22 Crs. in the revised payment instead of Rs.47.74 Crs. in the earlier filing. The increase in interest payable to REC of Rs.20.26 Crs. is not justified by HESCOM. The Commission therefore approves Rs.42.88 Crs. only as Interest and Finance Charges for FY06.

6.3.3.10 Other Charges/Debits

A sum of Rs.19.67 Crs. (Revised ERC) has been proposed under this head. Major expenses included under this head pertain to interest on consumers' security deposits (Rs.13.59 Crs.) and losses on sale of fixed assets and scrap. Although HESCOM has to incur expenditure towards interest on security deposits, the reason for losses towards sale of fixed assets/scrap (Rs.2.90 Crs.) have not been explained and as such the Commission will not allow this expenditure as a pass through. The Commission therefore approves a sum of Rs.16.77 Crs. as expenses towards other debits.

6.3.3.11 Expenses Capitalised

HESCOM has not proposed any amount under this head.

6.3.3.12 Net Prior period charges & Credits

HESCOM has not proposed any amount under this head.

6.3.3.13 Provision for tax

HESCOM has made a provision of Rs.1.25 crores towards tax in its filing. The Commission accepts this provision.

6.3.3.14 Reasonable return

1. The Commission had allowed RoR at 3% on NFA to the ESCOMs in the earlier years, since section 27 of KER Act 1999 stipulated that the provisions of Electricity (Supply) Act 1948 applies in the case of Board or its successor entities for determination of revenue of the licensees and further that GoK had stipulated 3% RoR in respect of erstwhile KEB.
2. With the enactment of Electricity Act 2003, the Electricity (Supply) Act 1948 has been repealed, save otherwise provided in EA 2003. As per section 61 of the Electricity Act 2003, the Commission shall specify the terms and conditions of tariff and in doing so the Commission shall be guided by, amongst others, the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees.
3. Further as per the draft Tariff Policy dated 16.03.2005 issued by the Ministry of Power, Gol, the rate of return on equity for generation and transmission projects as notified by the Central Commission would be adopted by the SERCs for distribution. The Commission has allowed 12% Return on Equity (RoE) to KPTCL, as discussed in Chapter – 3 of this Order. On the same lines the Commission decides to allow 12% Return on Equity (including reserves) amounting to Rs.33.81 Crs. as against HESCOM proposal 3% ROR of Rs.21.16 Crs.

6.3.3.15 Other Income

HESCOM has indicated Rs.8.13 Crs. as Other Income from trading, soft loans to employees and miscellaneous receipt. The Commission approves the estimate of HESCOM.

6.3.3.16 Annual Revenue Requirement

Based on the above discussions a summary of the ARR proposed by HESCOM and approved by the Commission is as under:

Table-6.13

ARR proposed by HESCOM & as approved by KERC for FY06

Particulars	Proposed by HESCOM	Approved by KERC
Expenditure		
Power Purchase	1688.20	1313.10
Transmission Charge		126.65
Repairs & Maintenance	23.05	23.05
Employee Costs	159.06	153.68
A & G expenses	30.49	30.49
Depreciation	98.10	98.10
Interest & Finance Charges	63.14	42.88
LESS: Expenses Capitalised	0	0
Other Charges/ (Debits)	19.67	16.77
Net prior period credits/(Debits)	0	0
Add: Provision for taxation	1.25	1.25
Add: Return equity @ 12%	21.16	33.81
Total Expenses	2104.12	1839.78
Less: other income	8.13	8.13
Net ARR	2095.99	1831.65

6.3.3.17 Average Cost of Supply

Considering the proposed ARR of Rs. 2095.99 Crs. HESCOM has worked out the average cost of supply for FY06 as 439.60 paise per unit. However, after considering the ARR and sales as allowed by the Commission, the average cost of supply would be 392.05 as indicated below:

Table-6.14
Average Cost of Supply

Particulars	Proposed by HESCOM	Approved by KERC
Net ARR (Rs crores)	2095.99	1831.65
Sales –MU	4768	4672
Average cost of Supply Paise per unit (Paise per unit)	439.60	392.05

6.3.3.18 Revenue from Existing Tariff

1. The Commission has pointed out the discrepancies in the revenue estimates made by HESCOM during validation. In the absence of any further credible information, the Commission accepts the revised revenue estimates of HESCOM at existing tariff of Rs.1012.05 Crs.
2. The Commission notes that revenue estimation is an important exercise in the whole ERC estimation. In the earlier Tariff Orders the Commission has mentioned about the necessity for developing a systematic approach towards revenue estimation by adopting a robust sampling procedure. The Commission once again reiterates that a systematic approach needs to be adopted by HESCOM for realistically forecasting the revenue in next filings.

6.3.3.19 Revenue Gap for FY06

1. The revenue gap for HESCOM with existing tariff is given below;

Table-6.15
Revenue Gap at existing tariff in HESCOM for FY06

(Rs crores)

Particulars	As per ERC filing of HESCOM	As approved by KERC
Total expenditure including return	2104.12	1839.78
LESS : Other income	8.13	8.13
Net revenue requirement	2095.99	1831.65
Revenue from sale of power (net of rural rebate)	1012.05	1012.05
Surplus/(Deficit) before subsidy	-1083.94	-819.60

2. The revenue gap of HESCOM in FY06 at the existing tariff, before Government subsidy is estimated to be Rs.819.60 Crs. However, considering an additional sale of 131 MU, there will be additional revenue of Rs.46.68 Crs.