CHAPTER – 5

REVISED ANNUAL REVENUE REQUIREMENT FOR FY18

5.0 Revised Annual Revenue Requirement (ARR) for FY18

HESCOM's Application:

HESCOM in its application dated 30th November, 2016, has sought approval of the Commission for the revised ARR for FY18. The summary of the proposed revised ARR for FY18 is as follows:

TABLE – 5.1

Revised ARR for FY18-HESCOM's Submission

Amount in Rs. Crores

Sl. No.	Particulars	FY18
1	Energy at Gen Bus in MU (With HRECS & AEQUS)	12999.68
2	Transmission Losses in %	3.37%
3	Energy at Interface in MU	12561.59
4	Distribution Losses in %	15.50%
	Sales in MU	
5	Sales to other than IP & BJ/KJ	4322.62
6	Sales to BJ/KJ	89.13
7	Sales to IP sets	5937.38
	Total Sales in MU	**10349.13**
	Revenue at existing tariff, in Rs. Corers	
8	Revenue from Tariff and Misc. Charges	2717.81
9	Tariff Subsidy from BJ/KJ	53.30
10	Tariff Subsidy from IP Sets	3321.76
	Total Existing Revenue	**6092.87**
	Expenditure in Rs. Crores	
11	Power Purchase Cost	4780.41
12	Transmission charges of KPTCL	589.72
13	SLDC Charges	4.80
	Power Purchase Cost including cost of transmission	**5374.93**
14	Employee Cost	637.68
15	Repairs & Maintenance	67.37
16	Admin & General Expenses	92.36
	Total O&M Expenses	**797.41**
17	Depreciation	152.91
	Interest & Finance charges	

18	Interest on Capital Loans	306.31
19	Interest on Working capital Loans	134.73
20	Interest on belated payment on PP Cost	0.00
21	Interest on consumer security deposits	55.91
22	Other Interest & Finance charges	0.00
23	Less interest & other expenses capitalised	0.00
	Total Interest & Finance charges	**496.95**
24	Other Debits	13.09
25	Extraordinary Item (Adjustment of excess subsidy amount as per KERC Order)	102.90
26	Return on Equity	0.00
27	Funds towards Consumer Relations/Consumer Education	0.50
28	Provision for contribution to P&G Trust (GoK Liability)	448.27
29	Other Income	154.37
	ARR	**7232.58**
30	Deficit for FY16 carried forward	(372.73)
31	Distribution Loss reduction incentive	24.31
	Net ARR	**7629.63**

The HESCOM has requested the Commission to approve the revised Annual Revenue Requirement of Rs.7629.63 Crores for FY18. Considering the estimated revenue of Rs.6092.87 Crores based on the existing retail supply tariff, HESCOM has projected a revenue gap of Rs.1536.76 Crores inclusive of the carried forward gap of revenue of Rs.372.73 Crores of FY16. In order to bridge this gap in revenue, HESCOM, in its application has proposed an increase in retail supply tariff by 148 paise per unit in respect of all the categories of consumers including BJ/KJ and IP set consumers for FY18.

5.1 Annual Performance Review for FY16:

As discussed in the preceding chapter of this Order, the Commission has carried out the Annual Performance Review for FY16 based on the audited accounts furnished by HESCOM. Accordingly, a deficit of Rs.223.23 Crores of FY16 is carried forward into the ARR of FY18.

5.2 Revised Annual Revenue Requirement for FY18:

The item wise expenditure proposed by HESCOM and approved by the Commission for FY18 is discussed in this Chapter as follows:

5.2.1 Capital Investments for FY18:

HESCOM has indicated a capital expenditure program of Rs.748.55 Crores for FY16 against the Commission approved capex of Rs.743.55 Crores for FY18. The detailed capex statement submitted by HESCOM for FY18 is shown below:

Table -5.2

Proposed capex by HESCOM for FY18:

Amount in Rs. Crores

Sl. No	Scheme	Capital Budget FY18	Revised Capex for FY18
1	Mandatory works, Social obligation and other works		
a	Gangakalyan IP sets	25	25
b	Special Development Plan for backward talukas under Nanjundappa scheme(SDP)	20	20
c	Electrification of Hamlets(Not covered under RGGVY)	1	1
d	Electrification of HB/DB/JC/AC (Habitations) under SCP (Not covered under RGGVY)	0.5	0.5
e	Electrification of TC(Habitations) under TSP (Not covered under RGGVY)	0.5	0.5
f	Electrification of BPL Households (Not covered under RGGVY)	1	1
g	Water works	5	5
h	RGGVY	3	3
i	DDUGJY	100	100
j	DDG (Phase-1 & Phase-2)		
k	Rehabilitation of flood affected villages (special programme).	-	-
2	Expansion of network and system improvement works.	-	-
A	E & I works.	25	25
b	Energization of IP sets under general.		
	Energization of IP sets as per GOK	125	125
c	Service connections other than IP/BJ/KJ/Water works.	30	30
d	Construction of new 33 KV stations and lines.	4	4
e	Augmentation of 33 KV stations.	3	3
f	Construction of 11 KV lines for 33 KV / 110 KV sub-stations.	5	5
g	Niranthara Jyoti Yojana.	80	80
h	R- APDRP.	20	20

i	R-APDRP exclusively for Modem and meters	1	1
	IPDS	50	50
3	Reduction of T & D and ATC loss	-	-
a	Providing meters to un-metered IP sets.	0.05	0.05
b	Providing meters to un-metered BJ/KJ installations.	-	-
c	Replacement of faulty / MNR energy meters by static meters.	5	5
d	Replacement of more than 10 year old electromechanical energy meters by static meters.	50	50
e	DTC's metering (Other than APDRP)	25	25
f	Replacement of 33 KV lines Rabbit conductor by Coyote conductor	5	5
g	Replacement of 11 KV lines Weasel conductor by Rabbit conductor.	10	10
h	Replacement of age old LT conductor by Rabbit conductor.	6	6
i	HVDS (Pilot project for 1 district/year)	1	1
j	NEF (REC) for replacing 11 KV OH feeders by UG Cables in Hubblli and Belgaum cities.	100	100
4	New initiatives works	-	-
a	IT initiatives, automation and call centre	1	1
b	Installation of energy efficient motors		
c	Smart grid/sprinkler/drip irrigation system	0.5	0.5
d	Providing solar roof tops to HESCOM office buildings	3	3
e	Establishing ALDC & SCADA.	1	1
f	Thermal Imaging and GIS Mapping of DTCs	5	5
g	Special pilot project for Strategic Business Centre at Shiggaon sub-Division	1	1
5	Replacement and other miscellaneous works		
a	**Replacement of failed distribution transformers.**	**5**	**10**
b	Replacement of Power Transformers.	2	2
c	Replacement of old and failed equipment and other works of existing 33 KV stations and lines.	3	3
d	Preventive measures to reduce the accidents. (Providing intermediate poles replacement of deteriorated conductor, DTC earthing etc.)	5	5
e	T&P materials.	1	1
f	Creating infrastructure to UAIP Sets	10	10
g	Civil Engineering works.	5	5
	Total	**743.55**	**748.55**

Commission's analysis and decision:

The Commission in its MYT Order dated 30th March, 2016 had approved capex of Rs.743.55 Crores for FY18. In the present application, HESCOM has increased the capex to Rs.748.55 Crores. It is observed that, while all other categories have been retained as approved in the MYT Order, HESCOM has increased the capex **"for Replacement of failed transformers",** from Rs.5 Crores to Rs.10 Crores for FY18.

In respect of creation of Infrastructure to Un-authorized IP sets, HESCOM having achieved an excess capex of Rs.55.14 Crores during FY16 over the approved capex of Rs.45 Crores is now proposing only Rs.10 Crores of capex for FY18. In respect of "**Thermal Imaging and GIS Mapping of DTCs**," HESCOM has indicated a capex of Rs.5 Crores for FY18. HESCOM had earlier planned to carry out this work through third party, inviting division-wise tenders. However, HESCOM has not submitted the details of the capex already spent on such scheme to the Commission despite specific directions in the matter.

HESCOM has stated that, capex provision is made for commissioned works, on-going works and new works of HESCOM and has mentioned the long term projects and priorities of taking works during FY18. But, HESCOM has not indicated whether, it has followed the "**Capital Expenditure Guidelines for ESCOMs"** issued by the Commission. If so, HESCOM needs to project its capex commensurate with:

a) The network strengthening and expansion requirement,
b) Improvement of power supply reliability
c) The target date for each of the project
d) loss reduction trajectory

HESCOM should strictly follow the **"Capital Expenditure Guidelines for ESCOMs"** in which the capital investment planning process, prioritization and post-commissioning analysis to be adopted by the ESCOMs are elaborated. HESCOM shall furnish details as to whether it has carried out the works according to the above guidelines issued by the Commission.

The Commission has been directing all the ESCOMs to conduct energy audit and list out high loss making 11kV feeders and take up strengthening works to reduce losses. Prioritizing of such projects for execution are to be based on payback period and benefit to cost ratio. The HESCOM should move in this directions, list the high loss making feeders based on the input energy to the feeders and sale of energy in that particular feeder and take remedial measures to bring down the distribution losses.

While nothing that, the capital investment programme of HESCOM for FY18 at Rs.748.55 Crores, is Rs.5 Crores in excess of the Commission's MYT approved capex of Rs.743.55 Crores, the Commission decides to consider the MYT approved capex of Rs.743.55 Crores only, **subject to prudence check** and directs that, **HESCOM should meet any additional capex required during FY18, only through re-appropriation of approved amounts within the overall capex and not to seek the approval of the Commission in the middle of the year for additional/higher capex.**

5.2.2 Sales Forecast for FY18:

a) Sales other than IP sets:

HESCOM in its Tariff application has stated that the number of installations for FY18 is estimated considering CAGR for the period FY13 to FY17 except in the case of LT-4c, HT-2c, HT-3a for which four-year CAGR is considered. In respect of HT-4 and HT-3b, it is stated that HESCOM has adopted the current trend. Further, it is stated that the number of installations for FY17 has been estimated considering the growth during September, 2015 to March, 2016 over September, 2015 data.

Regarding energy sales estimate, it is stated that five-year CAGR is considered for LT –categories and HT categories, excluding HT-2c and HT-3a categories. For HT-2c and HT-3a categories, HESCOM has stated that it has adopted four-year CAGR and for HT-3b three-year CAGR.

i. The preliminary observations of the Commission on sales forecast for FY18 and the replies furnished by HESCOM are discussed below:

The Commission had observed that, for working of the CAGR formula for projecting sales for FY18, the HESCOM has considered FY17 data (which is an estimated figure), which is not correct. Therefore, the Commission had suggested HESCOM to consider only actual data available up to FY16 for estimating the CAGR. The observations of the Commission and the replies from HESCOM are discussed below:

i. LT (1) – BJ/KJ category:

a. HESCOM had estimated the sales for installations consuming below 18 units and for installations consuming above 18 units, based on the CAGR for the period FY13 to FY17. However, for computing the energy sales for BJ/KJ, the Commission had directed HESCOM to work out the same based on specific consumption of FY16.

   HESCOM has replied that it has estimated the energy sales considering CAGR, as the number of installations consuming less than 18 units is constantly decreasing and the number of installations consuming more than 18 units/month is increasing.

   The Commission notes that, HESCOM has not furnished any justifiable reasons for not considering the specific consumption to compute sales to BJ/KJ installations, and considers that as the specific consumption depends upon usage pattern, any increase or decrease in number of installations may not affect the same significantly.

b. The number of BJ/KJ installations (consuming upto 18 units) of 605946 indicated as mid-year figure for FY18 as per Format D-21 is higher than the number of year end installations-560959, indicated in Format D-2. HESCOM shall reconcile the data. Similarly, sales figures for LT-2b, LT-3 & LT-4b shall be reconciled between Formats D-2 & D-21

   HESCOM in its replies to the preliminary observations has stated that due to decreasing trend in number of installations consuming less than 18 units, the mid-year number would be higher. Further, HESCOM in its replies to the Commission's rejoinder has submitted revised D-2 Format.

The Commission has noted the replies furnished by HESCOM and has considered the revised data furnished for analyzing the estimated number of installations and sales.

ii. Other Installations:

Regarding the number of installations estimated for FY18, the Commission had observed that:

a. The growth rate considered for LT-6 is slightly higher compared to the normal growth rate indicated above.

HESCOM has stated that the growth projected as per CAGR is slightly higher and seems to be correct.

The Commission notes that the HESCOM has reckoned FY17 data, which is an estimated figure, which is not correct. For working of the CAGR formula, the actual figures have to be considered.

b. The growth rate considered for HT-2a and HT-2b is slightly lower when compared to the normal growth rate indicated.

HESCOM has stated that the growth projected as per CAGR is slightly lower and seems to be correct.

The Commission has noted the above replies furnished and, the approach of the Commission in estimating the Number of installations is discussed in subsequent paragraphs of this chapter.

iii. Regarding the number of installations estimated for FY18, the Commission had observed that:

a. The growth rate considered for LT- 2(b), LT-5, LT-6 Water supply & Street Lighting and HT-4 categories is higher, when compared to the past year growth and the CAGR during the period 2010-11 to 2015-16.

HESCOM has stated that it has considered the revised data for FY17 and has worked out CAGR and therefore the estimates seem to be correct.

The Commission notes that the HESCOM has reckoned FY17 data, which is an estimated figure, which is not correct. For working of the CAGR formula, the actual figures have to be considered.

b. The growth rate considered for LT-3, LT-7, HT-1, HT-2a, HT-3 is lower when previous year growth rate and the CAGR are considered.

HESCOM has stated that it has considered the revised data for FY17 and has worked out CAGR and therefore the estimates seem to be correct.

The Commission notes that the HESCOM has reckoned FY-17 data, which is an estimated figure, for working of the CAGR which is not correct.

c. In the case of HT-2a and HT-3(a)(i), though the HESCOM has proposed increase in the number of installations, negative growth in sales is considered. Similarly, in the case of HT-3a(iii), although the number of installations is retained at FY17 level, sales are reduced. HESCOM shall explain the reasons for the same.

HESCOM in its replies has stated that in the case of HT-2a reduced sales may be due to consumers seeking open access and in the case of HT-3, the consumption depends on rainfall, hours of supply and availability of water.

The Commission notes that HESCOM has not justified the above statements in terms any quantitative analysis.

d. To validate the sales, the Commission had requested category-wise information in a specified format for both the number of installations and sales. HESCOM has since furnished the above data.

The Commission's approach for estimating the number of installations and energy sales for the Year FY18 is discussed below:

i. No. of Installations:

While estimating the number of installations (excluding BJ/KJ and IP), the following approach is adopted:

a. The base year number of installations for FY17 is modified duly validating the revised estimate furnished by HESCOM in the current filing and the data available as on 30.11.2016. The Commission has validated both the number of installations and the sales to various categories considering the actuals as on as on 30.11.2016 and has estimated the number of installations and the sales for the remaining period reasonably, keeping in view the number of installations and sales as on 31.03.2016 also. Accordingly, the base year estimation has been revised which has an impact on the estimated number of installations and sales for the year FY18.

b. If the number of installations estimated by HESCOM for the FY18 is within the range of the estimates based on the CAGRs for the period FY11to FY16 and for the period FY13 to FY16, the estimates of HESCOM are retained.

c. If the number of installations estimated by HESCOM for the FY18 is lower than the estimates based on the CAGRs for the period FY11 to FY16 and for the period FY13 to FY16, the estimates based on the lower of the CAGRs has been considered.

d. If the number of installations estimated by HESCOM for the FY18 is higher than the estimates based on the CAGRs for the period FY11 to FY16 and for the period FY13 to FY16, the estimates based on the higher of the CAGRs are considered.

e. For LT4(b), LT4(c), LT-7, HT-2(c) and HT-5 categories, the estimates of HESCOM are retained, as the growth rate for these categories is not consistent.

Based on the above approach, the total number of installations (excluding BJ/KJ and IP) estimated by the Commission for FY18 is 3109655 as against 3109732 proposed by HESCOM.

ii. Energy Sales:

For the categories other than BJ/KJ and IP sets, generally the sales are estimated considering the following approach:

a. The base year sales for FY17 as estimated by HESCOM are validated duly considering the actual sales up to November, 2016 and modified suitably as stated earlier.

b. If the sales estimated by HESCOM for the FY18 is within the range of the estimates based on the CAGRs for the period FY11 – FY16 and for the period FY13 - FY16, the estimates of HESCOM are retained.

c. If the sales estimated by HESCOM for the FY18 is lower than the estimates based on the CAGRs for the period FY11 – FY16 and for the period FY13- FY16, the estimates based on the lower of the CAGRs are considered.

d. If sales estimated by HESCOM for FY18 is higher than the estimates based on the CAGRs for the period FY11 – FY16 and for the period FY13 - FY16, the estimates based on the higher of the CAGRs are considered.

e. For LT4(b), the sales are worked out based on the specific consumption of FY-16.

f. For LT4(c), LT-7, HT-2(c) and HT-5 categories, the estimates of HESCOM are retained, as the growth rate for these categories is not consistent.

g. For HT2(a) category, the sales estimate based on the analysis of open access impact is considered. It may be noted that based on the methodology specified at paras b, c and d above, the sales growth would be negative, in spite of positive growth in the number of installations. Hence, the sales estimate based on the analysis of open access impact is considered as reasonable for FY18.

h. In respect of HT2(b) category, the sales estimate based on the methodology specified at paras b, c and d above, is adopted, as the estimate based on the OA transaction impact analysis would be higher.

Based on the above approach, the Commission approves the sales of 4398.07 MU as against 4185.26 MU proposed by HESCOM. (excluding BJ/KJ and IP).

III. Sales to BJ/KJ:

The electricity consumption to this category upto 18 units per installation per month hitherto was being subsidized by the Government of Karnataka and any installation under this category consuming more than 18 units per month was billed under relevant LT 2(a) category. However, the Government of Karnataka in its

Budget for 2017-18 has announced that it would extend the subsidy to BJ/KJ installations consuming upto 40 units per installation per month. Therefore, the Commission has reckoned the above and has worked out the subsidy accordingly.

Considering the specific consumption and the number of installations, for FY16, for installations consuming upto 18 units and above 18 units as per the actual data furnished by HESCOM, the total sales estimated for this category for FY18 works out to 197.11 MU. Considering the total number of BJ/KJ installations of 777402 for FY18 as proposed by HESCOM, the specific consumption works out to 21.13 units per installation per month which is less than 40 units per installation per month announced by the Government for the purpose of subsidy. Thus, the entire consumption of 197.11 MU is considered for the purpose of estimating the subsidy for this category. However, the HESCOM while claiming the subsidy shall consider only such installations which consume upto 40 units per installation per month and any installation under this category consuming more than 40 units shall be billed under the relevant LT 2(a) category.

b) IP set sales projections for ARR for FY18

The Commission, in its Tariff Order dated 30th March, 2016, had approved a specific consumption of IP-sets as 8,244 units / installation / annum for the control period FY17 to FY19. The IP-set sales reported as per the format D2 of it Tariff filing by the HESCOM was 5,927.78 MU as against the approved sales quantity of 4,941.99 MU, for FY16. However, the HESCOM in its subsequent communication dated 30th January, 2017, to the Commission, has submitted the revised sales of IP-sets, based on the meter readings of segregated agricultural feeders as 5,918.10 MU for FY16 instead of 5,927.78 MU as claimed in the format D2 of its Tariff filing. However, on verification of the month-wise IP-set consumption based on the segregated agricultural feeders' meter readings reported by the HESCOM, it is found that the overall IP-consumption is 5,439.15 MU and not 5,918.10 MU as reported by it. The Commission observes that this indicates a decrease in sales to an extent of 478.95 MU. Also, it is noted that the HESCOM has already segregated substantial number of feeders under NJY as exclusive agricultural feeders & rural feeders, which means that regulated power supply to IP-sets has contributed to reduction in the agricultural consumption during the FY16.

Further, it is noted that during FY15, the HESCOM's specific consumption of IP-sets was 8,244 units / installation / annum and the specific consumption worked out on the basis of the revised consumption of 5,439.15 MU for FY16 as reported by the HESCOM is 8,774 units/installation/annum. It is noted that the specific consumption arrived at by considering the revised consumption of 5,439.15 MU, based on the segregated agricultural feeders for FY16, is higher than the approved specific consumption of 8,244 units / installation /annum, by 530 units /installation/annum. This is perhaps due to presence of number of dried-up/defunct/not-in-use installations, which are yet to be identified in the field and deleted from its account by the HESCOM. Therefore, till the GPS survey is completed to identify such installations, it is reasonable to consider the specific consumption of 8,244 units/installation/annum as proposed by the HESCOM for FY18. In view of this, the Commission decides to approve the specific consumption of 8244 units / installation / annum for the ARR of FY18.

Further, it is noted that the HESCOM has estimated the number of IP-set installations as 7,34,778 for the FY18 in the current Tariff filing. In view of this, the Commission has considered the number of IP-sets as reported by the HESCOM for the ARR of FY18 without any modifications. Hence, based on the estimated number of installations for the FY17 and the FY18 as reported by the HESCOM, the mid-year number of installations is determined and the proposed and approved sales to IP set consumers are indicated as below:

TABLE-5.3

Computation of IP sets Consumption

Particulars	As filed by HESCOM		As approved by the Commission
	FY17	FY18	FY18
No of installations	7,14,611	7,34,778	7,34,778
Mid-Year no. of installations		7,24,695	7,24,695
Specific consumption in units/installation/annum		8,244	8,244
Sales in MU		**5,974.38**	**5974.38**

Accordingly, the Commission approves 5974.38 MU as energy sales to IP-sets as estimated by the HESCOM for the FY18. The number of installations approved for FY18 is 7,34,778. This approved IP-set consumption for FY18 is with the assumption that the Government of Karnataka would release full subsidy to cover the approved quantum of IP-sales. However, if there is any reduction in the subsidy allocation by the GoK, the quantum of sales to IP-sets of 10 HP and below shall be proportionately regulated.

During the course of Public hearing held by the Commission, the representatives of certain Farmers' Association have suggested that the Government may consider paying the subsidy directly to the farmers against their IP Set consumption. They have also expressed that meters could be installed to their IP Sets, by the ESCOMs to whom energy charges would be paid by the farmers.

The Commission is of the view that implementing the suggestion of direct remittance of subsidy to the farmers would encourage metering of the IP Sets enabling proper accounting of energy and also facilitate accurate computation of losses in the distribution system. The Commission notes that the Government of Karnataka would have to formulate suitable policy in the matter.

Further, the HESCOM was directed to take up GPS survey of IP-sets in order to identify the defunct/dried up/not-in-use installations in the field and to take necessary action to arrive at correct number of IP-sets by deducting

such IP-sets from its account, on the basis of GPS survey report. The HESCOM has reported that it has completed GPS survey of 49 feeders in its Bailahongal division and has identified 422 as not-in-use installations and 4,708 as unauthorized installations. It has sought time up to June, 2017 to complete the survey of remaining IP set installations to enable it to arrive at correct number of dried up/defunct/not-in-use wells, so as to take further action to deduct such IP-set installations from its accounts.

In this regard, the HESCOM is directed to complete the GPS survey of IP-sets within the targeted time as agreed by it and compliance thereon shall be submitted to the Commission. In view of the pendency of GPS survey of IP-sets, the number of installations estimated for FY17 as well as for FY18 are subject to change based on the GPS survey. Hence, on completion of the GPS survey, the HESCOM shall arrive at the correct number of IP-sets in the field duly deducting from its account the number of dried up/defunct/not-in-use wells based on the GPS survey results. Thereafter, any variation in sales due to change in the number of installations would be trued up during the Annual Performance Review for the FY18.

Further, it is noted that the HESCOM has already segregated 439 agriculture feeders from rural loads under NJY phase1,2 &3 and implementation of the balance feeders' works is in progress. In respect of segregated feeder's energy consumed by the IP sets could be more accurately measured at the 11 kV feeder level at the sub-stations after allowing for distribution system losses in 11 kV line, distribution transformers and LT lines.

Hence, the Commission reiterates that the HESCOM shall report the total IP-set consumption on the basis of data from energy meters in respect of agriculture feeders segregated under NJY only, to the Commission, every month regularly, as per the following format:

TABLE-5.4
Format for furnishing Feeder-wise Data

Month	Name of Sub-division	No. of Segregated Agricultural Feeders in the subdivision	Monthly Consumption in MU as recorded in all the agricultural feeders at the substations pertaining to the sub-division	Distribution loss(11kV line, DTCs,& LT line) Plus sales to other consumers if any, in MU (losses in all the agricultural feeders only to be considered)	Net consumption duly deducting the Distribution loss (11kV line, DTCs &LT line) & any other loads if any	No. of IP sets (total-dried up) connected to the agricultural feeders in the subdivision			Average consumption of IP sets/ month (specific cons in units /IP/month)	Total no of IP sets(total-dried up) in the subdivision (as per DCB)			Total sales of IP sets in MU
						Beginning of the Month	Serviced during Month	Mid-Month		Beginning of the Month	Serviced during Month	Mid-Month	
1	2	3	4	5	6=(4-5)	7 a	7 b	7c = (7a+7 b)/2	8=6/7c	9 a	9 b	9c = (9a+9 b)/2	10= 8*9 c
April to March	Subdivision-1 Subdivision-2 Subdivision....												

Note:

(1) If the agricultural feeders are not yet segregated under NJY in any sub-division, then the specific consumption of the division / circle / zone / company (where NJY is taken up) shall be considered to compute the IP consumption of such sub-division.

(2) No. of dried up IP-set installations shall be deducted from the accounts, while arriving at the month-wise and subdivision-wise specific consumption and total sales.

Based on the above discussions, the category-wise approved number of installations and sales for the year FY 18 vis-à-vis the estimates made by HESCOM is indicated below:

TABLE-5.5
Approved Sales for FY18

Category	FY-18 Number of Installations		FY18 Sales	
	HESCOM's estimate	Approved in ARR	HESCOM's estimate - MU	Approved as APR-MU
LT-2a	2520585	2519639	1531.53	1531.53
LT-2b	6683	6785	21.84	20.96
LT-3	351339	351966	463.51	470.90
LT-4 (b)	848	848	15.59	16.79
LT-4 (c)	373	373	0.98	0.98
LT-5	113341	113341	327.57	322.30
LT-6-WS	40383	40383	299.64	280.24
LT-6-PL	21934	22039	149.86	141.40
LT-7	51236	51236	26.37	26.37
HT-1	292	296	213.84	224.66
HT-2 (a)	1484	1516	764.17	913.15

HT-2 (b)	525	526	130.59	130.59
HT2C	331	331	88.59	88.59
HT-3(a)& (b)	267	268	101.74	181.27
HT-4	31	28	14.64	13.55
HT-5	80	80	34.8	34.8
Sub-Total other than BJ.KJ & IP	**3109732**	**3109655**	**4185.26**	**4398.07**
BJ/KJ	777402	777402	189.48	197.11
IP sets	734778	734778	5974.38	5974.38
Sub Total BJ/KJ & IP sets	**1512180**	**1512180**	**6163.86**	**6171.49**
Total	**4621912**	**4621835**	**10349.12**	**10569.56**

Thus, the Commission approves total sales of 10569.56 MU for FY18 excluding the energy sold to HRECS and SEZ.

5.2.3 Distribution Losses for FY18:

HESCOM's Submission:

As per the audited accounts for FY16, the HESCOM has reported distribution losses of 16.89% as against an approved loss level of 17.50%. The Commission in its Tariff Order dated 30th March, 2016 had fixed the target level of losses for FY18 at 15.50%. HESCOM in its application has proposed to retain loss levels of 15.50% for FY18.

Commission's Analysis and Decisions:

The performance of HESCOM in achieving the loss targets set by the Commission in the past six years is as follows:

TABLE – 5.6

Approved & Actual Distribution Losses-FY11 to FY16

Figures in % Losses

Particulars	FY11	FY12	FY13	FY14	FY15	FY16
Approved Distribution losses	20.00	19.35	18.00	19.00	19.00	17.50
Actual distribution losses	20.54	19.99	19.88	18.05	16.74	16.89*

****Actual losses for FY16 are reported as 16.89%. As per APR, the losses for FY16 are 20.92% after validation of sales.***

As discussed in the previous chapter of this Order, based on the revised consumption of IP Sets, the distribution losses for FY16 is reassessed at 20.92%, which is much higher than the actual loss of 16.89% as reported by HESCOM.

The Commission has allowed the capex as proposed by HESCOM and substantial capital expenditure is consistently being incurred by the HESCOM. Investments in improvements of the existing distribution system would enable the HESCOM to reduce the distribution losses besides increasing the reliability and quality of power supply to end consumers.

Hence, the Commission, in its preliminary observations had stressed on the need of further reduction in the distribution loss levels proposed by the HESCOM, for FY18, duly considering the past and the present capex. However, the HESCOM has not proposed any change to its proposed loss levels.

Therefore, there could have been a revised target of distribution loss for FY18. However, considering that, a higher target would incentivize HESCOM to make efforts to identify and plug commercial losses through vigilance and other activities, the Commission decides to fix the following distribution loss targets for FY18 as follows:

TABLE – 5.7
Approved Distribution Losses for FY18

Figures in % Losses

Particulars	FY18
Upper limit	16.00
Average	**15.50**
Lower limit	15.00

5.2.4 Power Purchase for FY18:

HESCOM's Submission:

HESCOM has submitted the power purchase requirement along with its cost including the transmission charges and SLDC charges, in D-1 Format. HESCOM has sought approval of the Commission for purchase of power to an extent of 12999.68 MU at Cost of Rs.5374.93 Crores for the FY18, which includes transmission charges and SLDC charges.

The cost of power purchase has been considered by the HESCOM as per the norms defined in the contracts (PPAs)/Regulations and based on the tariff indicated by the KPCL, for its Stations. In respect of Central Generating Stations, DVC Stations and UPCL Stations, the cost is considered as per the tariff determined by the CERC.

Table-5.8

Power Purchase Cost as filed by HESCOM for FY18

Source of Power	Power Purchase Cost as filed by HESCOM		
	Energy in MU	Cost in Rs. Crores	Cost Per Unit in Rupees
KPCL Hydel Energy	2434.65	198.68	0.81
KPCL Thermal Energy	3139.02	1368.10	4.35
CGS Energy	3953.05	1405.36	3.55
IPP	1452.06	615.70	4.24
NCE	1755.26	812.77	4.63
Other State Hydel	6.00	10.44	17.38
Short Term/Medium term	259.63	116.83	4.5
KPTCL Transmission charges		594.52	
PGCIL Charges		257.94	
POSOCO Charges		0.68	
Other Charges		-6.09	
Total	**12999.68**	**5374.93**	**4.13**

Commission's Analysis and Decisions:

The energy requirement of the ESCOMs, including HESCOM is being met by Karnataka Power Corporation Limited (KPCL) Generating Stations, Central Generating Stations(CGS), Major Independent Power Producers(IPPs) and Minor Independent Power Producers (RE sources) through long term Power Purchase Agreements.

The Commission has considered the availability of energy as furnished by KPCL for its generation and by SRPC/CEA in respect of Central Generating Stations (CGS). The availability of CGS stations is based on the share of Karnataka, as notified by MoP from time to time. However, the availability of energy from CGS thermal Generating Stations been considered duly limiting the quantum of energy as per the requirement of ESCOMs, to meet the sales target on the basis of merit Order dispatch.

The energy availability for FY18 from the upcoming thermal projects of 750MW unit No.3 of BTPS, 2X800 MW units of YTPS and 1X800MW of Kudagiplant of NTPC, has not been considered by the HESCOM, since these units are under trial Operation and are yet to stabilize.

The Commission has decided to consider the energy availability from these units in line with the LGBR furnished by the NTPC for the 1X800 MW unit of Kudgi Power Plant for the FY18. However, the energy has been considered from these units by limiting the quantum of energy as per the requirement of the ESCOMs, to meet the sales target on the basis of merit order despatch. It is expected that any surplus energy available from tied up sources of energy would be traded by the ESCOMs through PCKL on commercial principles. Similarly, any requirement over and above the quantum approved in this Tariff Order shall be procured from the tied up sources only.

While approving the cost of power purchase, the Commission has determined the quantum of power from various sources in accordance with the principles of merit order schedule and despatch based on the ranking of all approved sources of supply, according to the merit order of the variable cost.

After a detailed Analysis of the rates claimed by the HESCOM, the Commission has arrived at the power purchase cost to be allowed in the ARR for the FY18.

The fixed charges and the variable charges for the Central Generating Stations, UPCL Stations and the DVC Stations are reckoned based on the Tariff determined by the CERC and the CERC norms. The transmission charges payable to PGCIL are arrived at with 5% annual escalation on the base figure for FY16.

The fixed charges and the variable charges for the State owned Thermal and Hydel Power Stations are based on the tariff approved by the Commission and the norms in the PPAs wherever the tariff is regulated as per the PPAs. In respect of upcoming new stations only variable charges has been considered.

The variable costs of State thermal stations and UPCL are considered based on the recent power purchase bills passed by the **BESCOM** duly keeping in view the substantial increase in the fuel costs. This is subject to adjustment in the FAC exercise/Annual Performance Review of FY18.

The ESCOM-wise share of the quantum of power from different sources of generation is as per the allocation given by the Government of Karnataka.

The Source-wise approved power purchase quantum for the State (of all ESCOMs) and its cost is as under:

TABLE-5.9

Approved Power Purchase Quantum & Cost- For the State

Source of Power	Power Purchase		
	Energy (MU)	Amount in Rs. Crores	Cost/Unit in Rupees
KPCL Thermal Energy	16071.68	6963.89	4.33
CGS Energy	20542.91	7283.67	3.55
IPP	6712.00	3288.88	4.90
KPCL Hydel Energy	11668.46	926.33	0.79
OTHER HYDRO	119.37	49.54	4.15
NCE	7165.41	2980.86	4.16
NTPC Bundled power	582.21	258.46	4.44
Power purchase from Co gen	1300.00	451.10	3.47
Short term Power Purchase	1120.00	467.04	4.17
Short term Purchase from MSEDCL	294.00	106.43	3.62
TRANSMISSION CHARGES			
PGCIL CHARGES		1066.00	
KPTCL CHARGES		2753.70	
SLDC		24.77	
POSOCO CHARGES		3.48	
TOTAL INCLUDING TRANSMISSION & SLDC CHARGES	**65576.04**	**26624.15**	**4.06**

The Source-wise approved Power Purchase quantum and cost of HESCOM is as under:

TABLE-5.10

Approved Power Purchase Cost of HESCOM for FY18

Source of Power	Power Purchase Cost as filed by HESCOM			Power Purchase Cost as approved by the Commission		
	Energy in MU	Cost in Rs. Cr	Per Unit Cost in RS	Energy in MU	Cost in Rs. Cr	Per Unit Cost in Rs.
KPCL Hydel Energy	2434.65	198.68	0.81	2046.94	175.10	0.86
KPCL Thermal Energy	3139.02	1368.10	4.35	3255.64	1410.64	4.33
CGS Energy	3953.05	1405.36	3.55	4161.38	1475.45	3.55
UPCL	1452.06	615.70	4.24	1880.23	921.31	4.90
Renewable Energy	1755.26	812.77	4.63	1465.37	609.86	4.16
Other State Hydel	6	10.44	17.38	24.18	10.03	4.15
Short Term/Medium term	259.63	116.83	4.5	450.15	166.86	
PGCIL Charges		257.94			197.02	
KPTCL Charges		594.52			535.48	
SLDC & POSOCO Charges		0.68			6.07	
Other Charges		-6.09				
Total	**12999.68**	**5374.93**	**4.13**	**13283.89**	**5507.82**	**4.146**

The details of station-wise / Source-wise power purchased quantum & cost for the State and HESCOM are shown in Annexure-I & Annexure-II respectively.

5.2.5 RPO target for FY18:

1. The Commission had directed HESCOM to submit the estimates for complying with solar and non-solar RPO for 2017-18, including cost implication for purchasing RECs, if any. HESCOM has not furnished any specific replies.

2. Further, the Commission had directed HESCOM to furnish certain details, with respect to the renewable energy purchase estimates made for the FY18. HESCOM in its replies has furnished the following details:

TABLE-5.11

Anticipated Capacity Addition from RE Sources

Source	Capacity under PPA in MW as on 30.11.2016	Anticipated MW capacity addition under PPA during the remaining period of FY17	Anticipated MW capacity addition under PPA during FY18
Wind	786.75	100.00	200
Mini-hydel	41.30	0	0
Co-generation	148.74	170.00	50
Biomass	0	0	0
Waste to Energy	0	0	0
Solar	366.00	0	100

2. The Commission had directed HESCOM to furnish certain data on solar power projects. HESCOM has furnished the details as under:

TABLE-5.12

Anticipated Solar Capacity and Energy during FY17 & FY18

Type of Solar Plant	Capacity in MWp	Estimated Energy contribution and cost for FY17		Estimated Energy contribution and cost for FY18	
		Qty MU	Cost Rs.Crs	Qty MU	Cost Rs.Crs
Solar Rooftop plants of < 500KW	0.8	1.168	1.116	2.19	
Solar Rooftop plants of >500KW	0	0	0	0	
1-3 MW Projects allotted to Farmers by KREDL.	10	14.60	12.26	73	
20 MW Projects Taluk wise issued by KREDL.	226	0	0	203.40	
Other MW scale projects	30	54.10	39.97	62.5	
Total	**266.80**	**69.87**	**52.75**	**341.09**	

Commission's observations on HESCOM's RPO Submissions:

Regarding Non-Solar RPO, the Commission notes that:

a. As per D-1 format, the non-solar renewable energy is estimated as 955.67 MU including 142.06 MU of power purchased under APCC.

b. HESCOM has considered addition of wind projects to the extent of 300 MW and cogeneration projects to the extent of 220 MW by 2017-18, which should generate around 1866 MU at normative CUF, whereas HESCOM has considered only 68 MU in its D-1 format.
c. With the estimated energy of 12999.68 MU for FY18 and considering excess solar energy of 536.93 MU, HESCOM as per its filing would meet Non-solar RPO of 10.39% as against target of 8.50% for FY18.

As far as solar RPO is concerned, the Commission notes that:

i. As per D-1 format, the solar renewable energy is estimated as 699.43 MU.
ii. With the estimated energy of 12999.68 MU, HESCOM would meet solar RPO of 5.38% as against target of 1.25% for FY18.
iii. In replies to the preliminary observations, HESCOM has estimated solar energy as 341.09 MU, which is not in tune with the data furnished in D-1 format. Considering 341.09 MU, HESCOM would meet 2.62% of solar RPO.

Commission's Analysis:

The Commission has approved power purchase quantum of 13283.89 MU for FY18. The Non-solar RPO target at 8.5% would be 1129.13 MU. The Commission has approved purchase of 1066.56 MU from non-solar RE sources. Thus, HESCOM would be able to procure 1066.56 MU as against an estimated RPO of 1129.13 MU, resulting in shortfall of 62.57 MU, which could be met by the anticipated surplus of solar energy of 243.49 MU, as indicated later. Therefore, the need for purchasing non solar RECs may not arise. Thus, in case there is a shortfall based on the actuals, HESCOM may purchase RECs at the market rates, which would be considered by the Commission in the APR of FY18.

The Commission has approved power purchase quantum of 13283.89 MU for FY18. The Solar RPO target at 1.25 % would be 166.05 MU. The Commission has approved purchase of 409.54 MU of Solar energy. Thus, HESCOM would exceed the solar RPO by 243.49 MU, which shall be utilized to meet the shortfall in non-solar RPO. In case, there is any need to buy Solar RECs to fully meet the solar RPO, the cost thereon would be factored in the APR of FY18.

5.2.6 O & M Expenses for FY18:

HESCOM's Proposal:

The HESCOM, in its application, has considered actual O&M expenses of Rs.617.65 Crores inclusive of contribution to pension and gratuity trust incurred in FY16 as the base year O&M expenses. HESCOM has considered three year CAGR of 3.73% for FY17 and 3.52% for FY18 for computing the consumer growth index. Further, the weighted inflation index of 7.24% is considered. HESCOM has also included an amount of Rs.63.99 Crores towards increase in employee cost on account of recruitment of additional employees during FY18.

Based on the above, the HESCOM has sought the O & M expenses of Rs.797.41 Crores for FY18 as detailed below: -

TABLE – 5.13

O&M Expenses -FY18- HESCOM's Submission

Amount in Rs. Crores

Particulars	FY16	FY17	FY18
No. of Installations		4403562	4567386
CGI based on 3 Year CAGR		3.73%	3.52%
Weighted Inflation index		7.24%	7.24%
Base Year O&M expenses (as per actuals of FY16)-Rs. Crs.	617.65		
Total O&M Expenses-Rs.Crs.		**673.05**	**733.42**
Additional employee cost due to recruitment			63.99
Total O&M expenses			**797.41**

Commission's analysis &decision:

The Commission in its MYT Order dated 30th March, 2016 while approving the ARR for each year of the control period FY17-19, had approved O&M expenses of Rs.756.93 Crores for FY18 based on the base year O&M expenses determined on the basis of actual O&M expenses incurred in FY15, three year compounded annual growth rate (CAGR) of consumers of 3.97% and weighted inflation index of 7.24%. The approved O&M expenses for FY18 were as follows:

TABLE-5.14

Approved O&M Expenses for FY18 as per Tariff Order dated 30th March, 2016

Particulars	FY16	FY17	FY18
No. of Installations		4448061	4596876
CGI based on 3 Year CAGR		4.14%	3.97%
Weighted Inflation index		7.24%	7.24%
Base Year O&M expenses (as per actuals of FY15)-Rs. Crs.	633.66		
Total O&M Expenses-Rs. Crs		**693.09**	**756.93**

As per the norms specified under the MYT Regulations, the O & M expenses are controllable expenses and the distribution licensee is required to incur these expenses within the approved limits.

The Commission is of the view that the additional employee cost of Rs.63.99 Crores owing to recruitment of additional employees as requested could be factored only after being incurred by the distribution licensee.

In view of the above discussion, the Commission has computed the O & M expenses for FY18 duly considering the actual O & M expenses of FY16 as per the audited accounts (being the latest data available as per the audited accounts) to arrive at the O & M expenses for the base year i.e. FY16. The actual O& M expenses for FY16 are Rs.617.65 Crores. Considering the Wholesale Price Index (WPI) as per the data available from the Ministry of Commerce & Industry, Government of India and Consumer Price Index (CPI) as per the data available from the Labour Bureau, Government of India, and adopting the methodology followed by the CERC with CPI and WPI in a ratio of 80:20, the allowable annual escalation rate for FY18 is 7.71%.

For the purpose of determining the normative O & M expenses for FY18, the Commission has considered the following:

a) The actual O & M expenses incurred as per the audited accounts inclusive of contribution to the Pension and Gratuity Trust to determine the O & M expenses for the base year FY16.

b) The three year compounded annual growth rate (CAGR) of the number of installations considering the actual number of installations as per the audited accounts up to FY16 and as projected by the Commission for FY17 and FY18.

c) The weighted inflation index (WII) at 7.71%.

d) Efficiency factor at 2% as considered in the MYT Order.

The above said parameters are computed duly considering the same methodology as being followed in the earlier Tariff Orders of the Commission and the relevant orders of the Commission issued on Review Petitions.

Accordingly, the normative O & M expenses for FY18 are as follows:

TABLE – 5.15

Approved O & M expenses for FY18

Particulars	FY16	FY17	FY18
No. of Installations		4427785	4621835
CGI based on 3 Year CAGR		3.98%	4.16%
Weighted Inflation Index		7.71%	7.71%
Base Year O&M expenses (as per actuals of FY16)-Rs. Crs.	617.65		
Total allowable O&M Expenses-Rs.Crs.			**744.36**

Since, the base year data includes the O & M expenses inclusive of contribution to the P & G Trust, the Commission has not considered allowing contribution to the P & G Trust separately.

Thus, the Commission decides to approve O&M expenses of Rs.744.36 Crores for FY18.

5.2.7 Depreciation:

HESCOM's Proposal:

The HESCOM, in its application has claimed depreciation of Rs.152.91 Crores for FY18 after deducting the depreciation on assets created out of consumer contribution and grants. HESCOM in claiming the deprecation has factored addition of assets at 70% of the proposed capex of Rs.901.50 Crores and Rs748.55 Crores for FY17 and FY18 respectively. After recognizing the value of retirement of assets, the depreciation has been calculated as per the CERC

Regulations without considering the cost of assets created out of consumers' contribution/ grants for FY18 as detailed below:

TABLE – 5.16

Depreciation-FY18- HESCOM's Submission

Amount in Rs. Crores

Particulars	FY18
Buildings	2.62
Civil	0.11
Other Civil	0.10
Plant & M/c	42.43
Line, Cable Network	106.49
Vehicles	0.54
Furniture	0.28
Office Equipment	0.35
Net Depreciation	**152.91**

Commission's analysis and decision:

The Commission in its Order dated 30th March, 2016 had recognized capex of Rs.743.55 Crores and considered Rs.556.00 Crores for determination of ARR for FY18. The Commission in allowing deprecation for FY18 in approval of the revised ARR for FY18 has considered the same amount of capex as approved in the ARR for FY17-19. Accordingly, the Commission, in accordance with the provisions of the MYT Regulations and amendments issued thereon, has determined the depreciation for FY18 considering the following:

a) The actual rate of depreciation of category-wise assets has been determined considering the depreciation and gross block of opening and closing balance of fixed assets, as per the audited accounts for FY16.

b) The actual rate of depreciation, so arrived at, is considered to allow the depreciation on the gross block of opening and closing balance of fixed assets projected by HESCOM, in its application for FY18 duly factoring the cost of retirement of assets.

c) The depreciation on account of assets created out of consumers' contribution / grants are deducted based on the opening and closing balance of such assets duly considering the addition of assets as proposed by the HESCOM, at the weighted average rate of depreciation as per actuals in FY16.

Accordingly, the depreciation for FY18 is arrived at as follows:

TABLE – 5.17

Approved Depreciation for FY18

Amount in Rs. Crores

Particulars	FY18
Buildings	2.60
Civil	0.10
Other Civil	0.17
Plant & M/c	44.11
Line, Cable Network	82.49
Vehicles	0.10
Furniture	0.16
Office Equipment	0.30
Net Depreciation	**130.04**

Thus, the Commission decides to approve an amount of Rs.130.04 Crores towards net depreciation for FY18.

5.2.8 Interest on Capital Loans:

HESCOM's proposal:

HESCOM in its application has proposed to draw capital loans of Rs.743.55 Crores against the proposed capex of Rs.748.55 and the interest on capital loan requirement is projected at Rs.306.31 Crores for FY18 at weighted average rate of interest of 12.00%.

The HESCOM has requested to approve interest on capital loans for FY18 as follows:

TABLE – 5.18

Interest on Capital Loan– HESCOM's Proposal

Amount in Rs. Crores

Particulars	FY18
Opening Balance of Capital Loans	2373.18
Add; New Loans	743.55
Less Repayments	384.68
Total Loan at the end of the year	2732.05
Average Loan for the year	2552.62
Rate of Interest	12%
Total Interest on Capital Loans	**306.31**

Commission's analysis and decision:

The Commission in its Order dated 30th March, 2016 had recognized capex of Rs.743.55 Crores for FY18, but had considered Rs.550.00 Crores of interest and deprecation elements in the determination of ARR.

The Commissions notes that, HESCOM in its filing had considered the weighted average rate of interest of 12% for FY16. The HESCOM, in its replies to the Commission's Preliminary Observation made on the claims of interest on capital loan and working capital loan had furnished the actual balances of capital loan and short term / overdraft and interest thereon.

Based on the figures furnished by HESCOM and as per the audited accounts and as per the APR of FY16, it is noted that the HESCOM had incurred interest on capital loan at a weighted average rate of interest of 12.72% p.a. This rate of interest is considered for the existing loan balances for which interest has to be factored during FY17. Further, for the year FY18, the weighted average rate of interest of the preceding year has been considered on the existing loan balances. The Commission has considered new loan, in compliance of the debt equity ratio of 70:30 as in MYT Regulations.

The present interest rates by commercial banks and financial institutions are charged mainly on the basis of Marginal Cost of fund based Lending Rates (MCLR). These rates are comparatively lower than the base rates considered earlier. Further, in view of the changing economic situation, it is observed that there is a considerable reduction in the MCLR and also downward trend is evident in the MCLR rates. Hence, in such a situation, the Commission is of the view that, the ESCOMs can avail capital loans at competitive interest rates. The Commission notes that, the present SBI MCLR rate for loans with a tenure of 3 years is 8.15%. Considering the present rate at which the new loans are drawn by HESCOM during FY17 and the present MCLR, the Commission decides to allow an interest rate of 12.00% for FY18 for new Capital loans. It shall be noted that, the rate of interest now considered by the Commission on the new capital loans is subject to review during APR.

Accordingly, the approved interest on loans for FY18 is as follows:

TABLE – 5.19

Approved Interest on Loans for FY18

Amount in Rs. Crores

Particulars	FY18
Opening Balance long term loans	**1324.05**
Add new Loans	385.00
Less: Repayments	151.65
Total loan at the end of the year	1557.39
Average Loan	**1440.72**
Weighted average rate of interest in %	12.51%
Interest on long term loans	**180.23**

Thus, the Commission decides to approve interest of Rs.180.23 Crores on Capital loans for FY18.

5.2.9 Interest on Working Capital:

HESCOM's proposal:

HESCOM has claimed interest on working capital of Rs.134.73 Crores at 11.75% interest rate on the working capital requirement computed as per the norms prescribed in the MYT Regulations.

Commission's analysis and decision:

The Commission in its MYT Order dated 30th March, 2016 while deciding the ARR for each year of the control period FY17-19, had approved Interest on working capital of Rs.129.87 Crores for FY18.

The Commission has been computing the interest on working capital as per the norms specified under the MYT Regulations, which consists of one month's O & M expenses, 1% of opening GFA and two months' revenue. As discussed earlier, the current interest regime is based on MCLR. The present MCLR for loans with tenure of one year is 8.00%. Therefore, the Commission decides to consider interest on working capital at 11% p.a. for FY18.

Accordingly, the approved interest on working capital for FY18 is as follows:

TABLE – 5.20

Approved Interest on Working Capital for FY18

Amount in Rs. Crores

Particulars	FY 18
One-twelfth of the amount of O&M Expenses	62.03
Opening Gross Fixed Assets (GFA)	4266.39
Stores, materials and supplies 1% of Opening balance of GFA	42.66
One-sixth of the Revenue	1047.24
Total Working Capital	1151.94
Rate of Interest (% p.a.)	11.00%
Interest on Working Capital	**126.71**

Thus, the Commission decides to approve the interest on working capital of Rs.126.71 Crores for FY18.

5.2.10 Interest on Consumer Security Deposit:

HESCOM's proposal:

HESCOM in its application has claimed interest on consumer security deposit of Rs.55.91 Crores at 7.75% of bank rate on the average consumer security deposit of Rs.3755.08 Crores for FY18 duly considering the addition of deposits for FY18.

Commission's analysis and decision:

In accordance with the KERC (Interest on Security Deposit) Regulations 2005, the interest rate on consumer security deposit to be allowed is the bank rate prevailing on the 1st of April of the financial year for which interest is due. As per Reserve Bank of India notification dated 4th October, 2016, the bank rate is 6.75%. The Commission considers the same, for computation of interest on consumer security deposits for FY18.

The Commission also considers the consumer security deposits as per audited accounts of FY16 for onward projection for FY18. Also, the Commission is considering the average of the opening and closing balances of consumer security deposits of the relevant year. Accordingly, the interest on consumer deposits for FY18 works out as follows:

TABLE – 5.21

Approved Interest on Consumer Security Deposits for FY18

Amount in Rs. Crores

Particulars	FY18
Opening balance of consumer security deposits	689.62
Addition of deposits during FY18	73.00
Closing balance of consumer security deposits	762.62
Average Consumer Security Deposits for FY18	726.12
Rate of Interest at bank rate to be allowed as per Regulations	6.75%
Approved Interest on average Consumer Security Deposit	**49.01**

Thus, the Commission decides to approve the interest on consumer security deposits of Rs.49.01 for FY18.

The abstract of approved interest and finance charges for FY18 are as follows:

TABLE – 5.22
Approved Interest and finance charges for FY18

Amount in Rs. Crores

Particulars	FY18
Interest on Loan Capital	180.23
Interest on Working Capital	126.71
Interest on Consumers Security Deposit	49.01
Total Interest & Finance Charges	**355.95**

5.2.11 Other Debits:

HESCOM, in its application has claimed an amount of Rs.13.09 Crores towards other debits for FY18.

Commission's analysis and decision:

The Commission notes that, the other debits cannot be estimated upfront and included in the proposed ARR for FY18. However, as per the provisions of the MYT Regulations, the Commission would consider the same based on the actuals as per the audited accounts while approving APR for FY18.

5.2.12 Exceptional Items (Adjustment of Excess Subsidy)

HESCOM in its, application has claimed an amount of Rs.102.90 Crores for FY18 towards the adjustment of excess subsidy received during FY09, as per the order of the Commission in approval of APR for FY09 dated 23.04.2015 and subsequent GoK Order No. EN 38 PSR 2015 dated 31.03.2016.

Commission Views / Decisions:

The Commission notes that, the claims made by HESCOM in its application towards the exceptional items of adjustment of excess subsidy accounted and received during FY09. The Commission in its Order dated 23.04.2015, in approving the revised ARR as per APR had directed HESCOM to adjust the excess subsidy received during FY09 in five equal installments out of the subsidy amount receivable from FY16 onwards.

Accordingly, in compliance of the Order of the Commission and as per GoK order dated 31.03.2016, mere accounting the excess amount of subsidy received in previous years in the accounts of the subsequent years cannot be treated as an item of expenditure in determination and approval of APR/ARR. In view of the above, **the Commission is unable to accept the claims made by HESCOM to allow an amount of Rs.102.90 Crores under exceptional items in the ARR for FY18.**

5.2.13 Return on Equity:

HESCOM's proposal:

HESCOM in its application has not claimed RoE for FY18 as there is negative equity on account of accumulated losses.

Commission's analysis and decision:

The Commission has considered the actual amount of share capital, share deposits and the accumulated deficit under reserves & surplus account as per the audited accounts for FY16 for arriving at the allowable equity base for FY18.

The Commission, in accordance with the provisions of the MYT Regulations and amendment thereon, has considered 15.5% of Return on Equity duly grossed up with the applicable Minimum Alternate Tax (MAT) of 21.342%. This works out to 19.706% per annum. Further, as per the decision of the Commission in the Review Petition No.6/2013 and Review Petition 5/2014 and the provisions of amended MYT Regulations, the Return on Equity is to be computed based on the opening balances of share capital, share deposits and accumulated surplus deficit under reserves and surplus account. Further, an amount of Rs.34.00 Crores of recapitalized consumer security deposit as net-worth is considered as per the orders of the Hon'ble Appellate Tribunal for Electricity in Appeal No.46/2014.

Further, in compliance with the Orders of the Hon'ble ATE in Appeal No.46/2014, wherein it is directed to indicate the opening and closing balances of gross fixed assets along with break-up of equity and loan component in the Tariff Order henceforth, the details of GFA, debt and equity (net-worth) for FY18 are indicated as follows:

TABLE – 5.23

Status of Debt Equity Ratio for FY18

Amount in Rs. Crores

Year	Particulars	GFA	Debt	Equity (Net-worth)	Normative Debt @ 70% of GFA	Normative Equity @ 30% of GFA	%age of actual debt on GFA	%age of actual equity on GFA
FY18	Opening Balance	4266.39	1324.05					
	Closing Balance	4684.86	1557.39	(543.29)	3279.40	1406.46	33.24%	-

From the above table it is seen that the amount of debt equity of is within the normative levels with reference to the closing balances of GFA for FY18. Further, the Commission would review the same during the Annual Performance Review, for FY18, based on the actual data, as per the audited accounts.

Accordingly, the Return on Equity that could be approved for FY18, works out as follows:

TABLE – 5.24
Approved Return on Equity for FY18

Amount in Rs. Crores

Particulars	FY18
Opening Balance of Paid Up Share Capital	934.49
Share Deposit	118.29
Reserves and Surplus	(1562.07)
Less Recapitalised Security Deposit	(34.00)
Total Equity	**(543.29)**

Thus, as there is negative equity due to accumulated deficit, the Commission decides not to allow any Return on Equity for FY18.

5.2.14 Other Income:

HESCOM's proposal:

HESCOM has claimed an amount of Rs.154.37 Crores as other income which includes the cost of energy sold to Hukeri RECS for FY18.

Commission's analysis and decision:

The Commission notes that, the other income received by the HESCOM mainly includes income from rebate for collection of electricity duty, miscellaneous recoveries, interest on bank deposits, rent from staff quarters and sale of scrap, profit on sale of stores besides incentives for timely payment of power purchase bills. Further, HESCOM receives the cost of energy sold to HRECS besides a trading margin of five paise per unit.

Considering the other income earned by the HESCOM in the previous years and the projected income from sale of power to HRECS, **the Commission decides to approve other income of Rs.170.73 Crores for FY18.**

5.2.15 Fund towards Consumer Relations / Consumer Education:

The Commission has been allowing an amount of Rs.0.50 Crore per year towards consumer relations / consumer education. This amount is earmarked to conduct consumer awareness and grievance redressal meetings periodically and institutionalize a mechanism for addressing common problems of the consumers. The Commission has already issued guidelines for consumer education and grievance redressal activities.

The Commission decides to continue providing such amount of Rs.0.50 Crore for FY18, also towards meeting the expenditure on consumer relations / consumer education.

The Commission directs HESCOM to furnish a detailed plan of action for utilization of this amount and also maintain a separate account of these funds and furnish the same at the time of APR.

5.2.16 Contribution towards Pension and Gratuity Trust

HESCOM in its application has claimed an amount of Rs.448.27 Crores being the arrears of contribution to P&G Trust not released by the Government of Karnataka.

The Commission in its preliminary observations had asked HESCOM to furnish reasons /justifications for inclusion of this amount in the proposed ARR for FY18 to be recovered from the consumers as part of the retail supply tariff during FY18 in contravention to the Commission's decision in Tariff Order 2016.

In its replies to the Commission's preliminary observations, HESCOM has stated that it has included an amount of Rs.448.27 Crores towards HESCOM portion of arrears of contribution to P&G Trust not released by the Government of Karnataka, in accordance to the instructions issued by the Energy Department, GoK vide Letter No. EN 26 PSR 2016/P3 dated 16.09.2016.

It is to be noted that, the Commission in its Order dated 30th March, 2016 has already dealt with this issue and has observed that,

"a) As per Rule 4(13) of the Karnataka Electricity Reforms (Transfer of Undertakings of KPTCL and its Personnel to Electricity Distribution and Retail Supply Companies) Rules, 2002, notified by the Government on 31.05.2002, the State Government is liable for funding the pension and gratuity liability of existing pensioners as on the effective date of Second Transfer Scheme.

b) The Government, as per its order dated 19.12.2002, has adopted "pay as you go" approach to meet the pension and gratuity requirements of existing pensioners on the effective date of second transfer Scheme. With this arrangement, the GoK is liable to meet the pension and gratuity requirement of existing pensioners. "

On this issue as per the provisions of the prevailing Rules and Government Orders issued thereon, the Commission had earlier decided that this liability cannot be passed on to the consumers, through tariff.

In spite of this Order of the Commission, HESCOM has gone ahead to claim this liability (in the proposed ARR for FY18) that should have been borne by the Government of Karnataka.

The Commission reiterates its earlier decision that, as per Rule 4(13) of the Karnataka Electricity Reforms (Transfer of Undertakings of KPTCL and its Personnel to Electricity Distribution and Retail Supply Companies) Rules, 2002, notified by the Government on 31.05.2002 and the Government Order No. DE 15 PSR 2002 Dated 19.12.2002, the amount in question is liable to be borne by the Government of Karnataka only and cannot be passed on to the consumers, through tariff.

In view of the above, the Commission is unable to accept the claims of HESCOM to allow an amount of Rs.448.27 Crores being the GoK liability towards arrears of contribution to P&G Trust in the ARR for FY18.

5.3 Abstract of ARR for FY18:

In the light of the above analysis and decisions of the Commission, the following is the approved ARR for the control period FY18:

TABLE – 5.25

Approved ARR for FY18

Amount in Rs. Crores

Sl. No	Particulars	FY18		
		As Appd. in Tariff Order dated 30.03.2016	As per filing dated 30.11.2016	As revised & Approved
	Revenue at existing tariff in Rs. Crores			
1	Revenue from tariff and Miscellaneous Charges		2717.81	2843.85
2	Tariff Subsidy to BJ/KJ		53.30	117.87
3	Tariff Subsidy to IP		3321.76	3321.76
4	**Total Existing Revenue**		**6092.87**	**6283.47**
	Expenditure in Rs. Crores			
5	Power Purchase Cost	4712.54	4780.41	4966.95
6	Transmission charges of KPTCL	589.72	589.72	535.48
7	SLDC Charges	4.80	4.80	5.39
8	**Power Purchase Cost including cost of transmission**	**5307.06**	**5374.93**	**5507.82**
9	Employee Cost		637.68	
10	Repairs & Maintenance		67.37	
11	Admin & General Expenses		92.36	
12	**Total O&M Expenses**	**756.93**	**797.41**	**744.36**
13	Depreciation	121.60	152.91	130.04
	Interest & Finance charges			
14	Interest on Capital Loans	180.23	306.31	180.23
15	Interest on Working capital loans	129.87	134.73	126.71
16	Interest on belated payment on PP Cost	0.00	0.00	0.00

17	Interest on consumer security deposits	49.01	55.91	49.01
18	Other Interest & Finance charges	0.00	0.00	0.00
19	Less interest & other expenses capitalised	0.00	0.00	0.00
20	**Total Interest & Finance charges**	**359.11**	**496.95**	**355.95**
21	Other Debits	0.00	13.09	0.00
22	Extraordinary item (Adjustment of excess subsidy amount as per KERC Order)	0.00	102.90	0.00
23	Return on Equity	0.00	0.00	0.00
24	Funds towards Consumer Relations/Consumer Education	0.50	0.50	0.50
25	Other Income	155.70	154.37	170.73
26	**ARR**	**6389.50**	**6784.32**	**6567.94**
27	Deficit for FY16 carried forward		-372.73	-223.23
28	Distribution loss reduction incentive		24.31	
29	Contribution to P&G Trust (as per GoK directions)		448.27	
30	**Net ARR**	**6389.50**	**7629.63**	**6791.16**

5.4 Segregation of ARR into ARR for Distribution Business and ARR for Retail Supply Business:

HESCOM in its application has proposed the segregation of ARR into ARR for Distribution Business and ARR for Retail Supply Business as approved by the Commission in its Tariff Order dated 30th March, 2016. The Commission decides to continue with the same ratio of segregation of ARR as detailed below:

TABLE – 5.26

Approved Segregation of ARR – FY18

Particulars	Distribution Business	Retail Supply Business
O&M	63%	37%
Depreciation	84%	16%
Interest on Loans	100%	0%
Interest on Consumer Deposits	0%	100%
RoE	82%	18%
GFA	84%	16%
Non-Tariff Income	0%	100%

Accordingly, the following is the approved ARR for Distribution Business and Retail supply business:

TABLE – 5.27

APPROVED REVISED ARR FOR DISTRIBUTION BUSINESS – FY18

Amount in Rs. Crores

Sl. No	Particulars	FY18
1	R&M Expenses	
2	Employee Expenses	
3	A&G Expenses	468.95
4	Depreciation	109.23
	Interest & Finance Charges	
5	Interest on Capital Loans	180.23
6	Interest on Working capital loans	29.84
	ARR FOR DISTRIBUTION BUSINESS	**788.24**

TABLE – 5.28

APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY18

Amount in Rs. Crores

Sl. No	Particulars	FY18
1	Power Purchase	4966.95
2	Transmission Charges	540.87
3	R&M Expenses	
	Employee Expenses	
	A&G Expenses	275.41
4	Depreciation	20.81
	Interest & Finance Charges	
5	Interest on Working capital loans	96.87
6	Interest on consumer security deposits	49.01
	Total	**5949.92**
7	Other Income	170.73
8	Fund towards Consumer Relations / Consumer Education	0.50
	ARR FOR RETAIL SUPPLY BUSINESS	**5779.70**

5.5 Gap in Revenue for FY18:

As discussed above, the Commission decides to approve the revised Annual Revenue Requirement (ARR) of HESCOM for its operations in FY18 at Rs.6791.16 Crores as against HESCOM's application proposing the revised ARR of Rs.7629.63 Crores by including the revenue deficit of Rs.372.73 Crores for FY16. This approved revised ARR includes an amount of Rs.223.23 Crores which is determined as the deficit in FY16 as discussed in Chapter-4. Based on the existing retail supply tariff, the total realization of revenue will be Rs.6283.47 Crores which is Rs.507.69 Crores less than the projected revenue requirement for FY18.

The net ARR and the gap in revenue for FY18 are shown in the following table:

TABLE – 5.29

Revenue gap for FY18

Particulars	FY18
Net ARR including carry forward gap of FY16 (in Rs.Crores)	6791.16
Approved sales (in MU)	10569.56
Average cost of supply (in Rs./unit)	6.43
Revenue at existing tariff (in Rs. Crores)	6283.47
Gap in revenue (in Rs. Crores)	**(507.69)**

The determination of revised retail supply tariff on the basis of the above approved ARR is detailed in the following Chapter.