CHAPTER – 5

REVISED ANNUAL REVENUE REQUIREMENT FOR FY19

5.0 Revised Annual Revenue Requirement (ARR) for FY19

HESCOM's Application:

HESCOM in its application dated 30th November, 2017, has sought approval of the Commission for the revised ARR and retail supply tariff for FY19. The summary of the proposed revised ARR for FY19 is as follows:

TABLE – 5.1

Revised ARR for FY19-HESCOM's Submission

Rs. Crores

Sl. No.	Particulars	Amount
1	Energy at Gen Bus in MU (With HRECS & AEQUS)	13958.55
2	Transmission Losses in %	3.27%
3	Energy at Interface in MU	13161.20
4	Distribution Losses in %	15.00%
	Sales in MU	
5	Sales to other than IP & BJ/KJ installations	4818.56
6	Sales to BJ/KJ installations	146.38
7	Sales to IP sets	6222.08
	Total Sales in MU	**11187.02**
	Revenue at existing tariff, in Rs. Corers	
8	Revenue from Tariff and Misc. Charges	3286.72
9	Tariff Subsidy from BJ/KJ installations	94.12
10	Tariff Subsidy from IP Sets	3758.14
	Total Existing Revenue	**7138.98**
	Expenditure in Rs. Crores.	
11	Power Purchase Cost	5431.49
12	Transmission charges of KPTCL	650.08
13	SLDC Charges	5.21
	Power Purchase Cost including cost of transmission	**6086.78**
14	Employee Cost	676.48
15	Repairs & Maintenance	72.57
16	Admin & General Expenses	113.95
	Total O&M Expenses	**863.00**
17	Depreciation	179.00
	Interest & Finance charges	
18	Interest on Capital Loans	337.90

19	Interest on Working capital Loans	144.33
20	Interest on belated payment on PP Cost	0.00
21	Interest on consumer security deposits	65.70
22	Other Interest & Finance charges	0.00
23	Less interest & other expenses capitalised	0.00
	Total Interest & Finance charges	**547.93**
24	Other Debits	11.02
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	Other Income	224.02
	ARR	**7567.11**
29	Net deficit for FY19	(428.13)
30	Deficit for FY17 carried forward	-943.37
	Net ARR	**8510.48**

The HESCOM has requested the Commission to approve the revised Annual Revenue Requirement of Rs.8510.48 Crores for FY19. Considering the estimated revenue of Rs.7138.98 Crores based on the existing retail supply tariff, HESCOM has projected a revenue gap of Rs.1371.50 Crores, inclusive of Rs.943.37 Crores being the revenue gap for FY17 carried forward to the ARR of FY19. In order to bridge this gap in revenue, the HESCOM, in its application has proposed an increase in retail supply tariff by **123 paise** per unit in respect of all the categories of consumers including BJ/KJ and IP set consumers for FY19.

5.1 Annual Performance Review for FY17:

As discussed in the preceding chapter of this Order, the Commission as per the provisions of MYT Regulations has carried out the Annual Performance Review for FY17 based on the audited accounts furnished by HESCOM. Accordingly, a deficit of Rs. 741.17 Crores of FY17 is carried forward into the revised ARR of FY19.

5.2 Revised Annual Revenue Requirement for FY19:

The item wise revenue and expenditure proposed by HESCOM and approved by the Commission for FY19 is discussed in this Chapter as follows:

5.2.1 Capital Investments for FY19:

HESCOM's submission:

The HESCOM has proposed a capex of Rs.1298.16 Crores for the FY19, as against the capex of Rs.732.55 Crores approved in the MYT order dated 30th March, 2016. The category-wise amount of capex approved as per the MYT Tariff Order by the Commission and the revised capex proposed by HESCOM for FY19 are shown in the table below:

TABLE-5.2

Capital expenditure proposed by the HESCOM for the FY19

Rs. Crores

Sl. No.	Scheme	MYT Approved capex for FY19	Revised capex for FY19
1	Mandatory works, Social obligation and other works		
a	Gangakalyan IP sets	25	50
b	Special Development Plan for backward talukas under Nanjundappa scheme(SDP)	20	20
c	Electrification of Hamlets(Not covered under RGGVY)	1	10
d	Electrification of HB/DB/JC/AC (Habitations) under SCP (Not covered under RGGVY)	0.5	20
e	Electrification of TC(Habitations) under TSP (Not covered under RGGVY)	0.5	10
f	Electrification of BPL Households (Not covered under RGGVY)	1	2
g	Water works	5	25
h	RGGVY	3	6
i	DDGUVY	100	100
j	"Maadari Grama"	-	65
	Sub - total	**156**	**308**
2	**Expansion of network and system improvement works.**		
a	E & I works.	25	85
b	Energization of IP sets under general.		8
c	Energization of IP sets as per GOK	125	100
d	Service connections other than IP/BJ/KJ/Water works.	30	20
e	Construction of new 33 KV stations and lines.	4	30

f	Augmentation of 33 KV stations.	3	20
g	Construction of 11 KV lines for 33 KV / 110 KV sub-stations.	5	25
h	Nirantar Jyoti Yojana.	40	10
		30	70
i	Providing prepaid meters to temporary installations		5.4
j	Providing numerical relays to provide power supply to farm houses	-	7.3
k	Providing 16KVA Transformers for A/P/S to farm houses in Chikkodi Division	-	6.2
l	R- APDRP.	20	5
m	R-APDRP exclusively for Modem and meters	1	2
n	IPDS IT imitative Phase II		10
o	IPDS	50	60.01
ii	**Sub - total**	**333**	**463.91**
3	Reduction of T & D and ATC loss		
a	Providing meters to un-metered IP sets.	0.05	0.25
b	Providing meters to un-metered BJ/KJ installations.	-	2
c	Replacement of faulty / MNR energy meters by static meters.	5	10
d	Replacement of more than 10 year old electromechanical energy meters by static meters.	50	25
	Fixing of boxes to Single Phase Meters		25
e	DTC's metering (Other than APDRP)	25	35
f	Replacement of 33 KV lines Rabbit conductor by Coyote conductor.	5	15
g	Replacement of 11 KV lines Weasel conductor by Rabbit conductor.	10	25
h	Replacement of age old LT conductor by Rabbit conductor.	6	20
i	HVDS (Pilot project for 1 district/year)	1	20
j	NEF (REC) for replacing 11 KV OH feeders by UG Cables in Hubballi and Belgaum cities.	100	70
iii	**Sub - total**	**202.05**	**247.25**
4	New initiatives works		
a	IT initiatives, automation and call center	1	6
b	Installation of energy efficient motors		
c	Smart grid/sprinkler/drip irrigation system	0.5	5
d	Providing solar roof tops to the HESCOM office buildings	2	20
e	Establishing ALDC & SCADA.	1	3
f	Thermal Imaging and GIS Mapping of DTCs	5	
g	Special pilot project for Strategic Business	1	-

	Centre at Shiggaon sub-Division		
h	Special pilot project for Strategic Business Centre at Gadag Division	-	1
i	Smart City /Smart Meters	-	50
j	DSM Projects	-	1
iv	**Sub - total**	**10.5**	**86**
5	Replacement and other miscellaneous works		
a	Replacement of failed distribution transformers.	5	10
b	Replacement of Power Transformers.	2	8
c	Replacement of old and failed equipment and other works of existing 33 KV stations and lines.	3	10
d	Preventive measures to reduce the accidents. (Providing intermediate poles replacement of deteriorated conductor, DTC earthing etc.)	5	25
e	T&P materials.	1	5
f	Creating infrastructure to UAIP Sets	10	15
g	Civil Engineering works.	5	35
	Refurbishing works on HT/LT/DTC in O & M Divisions	-	85
v	**Sub – total**	**31**	**193**
	Total	**732.55**	**1298.16**

Commission's analysis and decision:

The Commission notes from the above table that, in the revised Capex of Rs.1298.16 Crores for FY19, the proposed capex under some categories of works has increased and under some categories like, smart city/smart meters, civil engineering works and refurbishing works on HT/LT/DTC in the O&M divisions are increased with a large amount. The important categories in which increased capex has been proposed by the HESCOM are discussed below:

(a) The HESCOM has indicated higher capex on the Works such as Re-conductoring of 33/11/LT lines, construction of 33 KV stations, providing new feeders/Link lines/express lines from the newly commissioned substations, augmentation of stations, NJY Phase I, II & III, Construction of 11 kV link lines for load bifurcation etc. The HESCOM, in its replies to the preliminary observations, has stated that, tenders have been invited for E&I and system strengthening works like construction of 33kV line, 11kV link lines for load bifurcation, evacuation lines from newly commissioned sub-stations, replacement of conductors for 33kV lines, 11kV lines and LT lines etc. to reduce interruptions, losses & snapping of conductors thereby reducing electrical accidents, providing additional DTCs for overloaded DTCs, augmentation of 33/11kV sub-stations by providing additional power transformers etc. It is also stated that, more emphasis has been given on construction of new sub stations and augmentation which resulted in huge capital.

(b) The HESCOM has furnished the capex incurred for the FY18 (till October, 2017) at Rs.507.40 Crores and stated that, the likely expenditure incurred for the FY18 would be at Rs.1100 Crores, owning to taking up of huge number of capital works.

(c) In case of Electrification of Hamlets (Not covered under RGGVY) & Electrification of TC(Habitations) under TSP (Not covered under RGGVY), it has increased the capex from Rs.1 Crores to Rs.10 Crores each. The HESCOM in its replies to the preliminary observations, has stated that, all the hamlets were covered under RGGVY and later the same was subsumed in DDUGJY due to which capex of Rs.1 crore was allotted for Electrification of Hamlets (Not covered under RGGVY) head. Since there was delay in the finalization by State steering committee and also delay in the tendering process of DDUGJY works, the works in hamlets of Sirsi and Karwar division were taken up departmentally for which additional Capex was proposed under this scheme.

(d) In case of Electrification of HB/DB/JC/AC (Habitations) under SCP (Not covered under RGGVY, it has increased the capex from Rs.0.5 Crores to Rs.20 Crores. The HESCOM in its replies to the preliminary observations has stated that, these projects are funded by GoK as equity and looking into the grant released by GOK, during previous years, the capex is increased on par with previous years' capex.

(e) In case of **"Maadari Grama",** HESCOM has indicated a capex of Rs.65 Crores. The HESCOM in its replies to the preliminary observations has stated that, works have been taken up as per the GoK order No EN 70 VSC 2017, dated: 24.05.2017, envisaging, improvement works in five villages for each MLA/MP constituency. The HESCOM with 55 Nos. of Assembly and 7 Nos. of Parliamentary constituencies in its jurisdiction, provisioned an amount of Rs. 65 crores for carrying out such works. The HESCOM has also stated that, it has requested Energy Department to backup financially by means of providing grant/fund from the Government to take up these works.

(f) In the case of E&I works, the HESCOM has indicated an increased capex of Rs.85 Crores as compared to approved capex of Rs.25 Crores. The HESCOM, in its replies to the preliminary observations, has stated that, the E& I work have resulted in respect of:

I. Reduction in failure of distribution transformers,
II. Reduction in line losses and savings of energy,
III. Reduction in power supply interruptions,
IV. Increased Consumer Satisfaction and
V. Improved reliability and Quality of Power Supply.

(g) In the case of Replacement of more than ten-year-old electromechanical energy meters by static meters, it has reduced its capex from Rs.50 Crores to Rs.25 Crores. The HESCOM, in its replies to the preliminary observations has stated that, since, the smart metering program has been taken up the capex on this category is reduced.

(h) In case of Smart Metering Programme in major cities proposed by HESCOM. The HESCOM in its replies to the preliminary observations, has stated that, the Tender for work of Smart Metering schemes in Hubballi-Dharwad and Belagavi Cites in HESCOM is under process. The subject proposal has been placed before the HESCOM Board of Directors Meeting along with the Commission's directions to take up pilot project in one O&M section. As per the directions of the Commission, the project will be taken up on Pilot basis in one O & M Section of the HESCOM.

The Commission observes that, there is significant improvement in the achievement of the capex targets in HESCOM over the past two years and there is an upward trend in utilizing the approved capex as indicated in table below:

TABLE-5.3

Approved Vs Actual capital investment

Rs. Crores

Particulars	FY13	FY14	FY15	FY16	FY17
Capital Investment Proposed & **Approved**	1189.22*	1178*	797.5*	704.21	806.05
Capital Investment actually incurred (Figures as per Annual Report)	251.27	343.05	358.09	683.5	707.63
Short fall	937.95	834.95	431.41	20.71	98.42
% Achievement	21.13%	29.12%	44.90%	97.06%	87.79%

*** Rs.500 Crores was considered for the purpose of computing ARR for FY13, FY14 & FY15**

Thus, with the above observations, the Commission decides to consider the capex of Rs.1298.16 Crores, as proposed by the HESCOM for FY19. The capex to be incurred is subject to the prudence check by the Commission, to be taken up during the APR exercise for FY19. HESCOM shall note that no capex proposals shall be made in the middle year of FY19 and that all the requirement for the year shall be made by appropriation and re-appropriation of the approved capex, without exceeding the approved capex.

5.2.2 Sales Forecast for FY19:

A. Sales -other than IP Sets:

HESCOM Proposal:

The HESCOM in their filing has stated that the number of installations for the FY18 & the FY19 has been estimated considering CAGR for the period the FY13 to the FY17, except in the case of HT-2c, HT-3 (excluding HT 3a(iii)) AND ht-4. For HT-2c CAGR for the period FY14 to FY17 is considered. Further, for HT-4 and HT-3a(iii), the four year CAGR is negative and therefore it has adopted the present trend in the growth rate.

The HESCOM, for estimating the energy sales has adopted the CAGR for the period the FY13 to the FY17. However, in the case of HT-2c and HT-3 (excluding HT-3a(iii)), four-year CAGR [the FY14 to the FY17] is considered.

Commission's observations on sales forecast for the FY19 are as follows:

1. LT (1) – BJ/KJ category:

The HESCOM was directed to furnish the details of BJ/KJ installations as on 30.11.2017 in the specified format. HESCOM, in the replies have furnished the following details:

TABLE-5.4

Details of BJ/KJ Installations

Particulars	No. of Installations as on 30.11.2017	Consumption in MU
Installations Consuming up to 40 Units	715449	124.17
Installations consuming more than 40 units and build under LT 2a	54899	36.79

Further, in the D-2 Format, for the FY19, BJ/KJ Installations consuming up to 40 Units was indicated as 707467 and Installations consuming more than 40 units and build under LT-2a as 55155, whereas in D-21 Format, the mid-year installations were indicated as 707657 and 55155 respectively. Therefore, the HESCOM was directed to reconcile the number of installations and clarify as to whether in D-21 for BJ/KJ end-year figures are considered.

HESCOM in their replies have furnished the reconciled data of number of installations as under:

Particulars	FY18	FY19
Installations Consuming up to 40 Units	718684	728530
Installations consuming more than 40 units and build under LT 2a	55147	55902

The Commission has considered the above data for estimating sales to BJ/KJ installations.

2. As regards the Growth rates considered for the number of installations the Commission has observed that:

   a. The growth rate considered for HT-3 is high as compared to the previous year's growth rate and the CAGR for the period 2013-14 to 2016-17.

HESCOM in its replies, has stated that it has worked out the estimates considering the four-year CAGR for HT-3a(i) and HT 3a(ii) separately and for HT-3a(iii) and 3b considering the current trend as on September, 2017.Therefore, HESCOM has stated that the above estimates seem to be normal.

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

HESCOM has stated that the estimates based on CAGR seems to be normal.
The Commission has noted the replies furnished by HESCOM on the observations made by the Commission and the approach of the Commission in estimating the number of installations is discussed in the subsequent paragraphs.

3. The Commission, on the Growth rates considered for the energy sales' estimate had observed that:

a. The growth rate considered for LT- 2(b), HT-2c and HT-3 categories is high considering the CAGR. In reply HESCOM has stated that:

Considering the nature of installations and the trend in past couple of years, the sales estimate for LT-2b, HT-2c and HT-3 seems to be normal.

The Commission has noted the replies furnished by HESCOM on the observations made by the Commission and the approach of the Commission in estimating the sales is discussed in the subsequent paragraphs.

b. The growth rate considered for LT-3 and HT-2b is low considering the CAGR. HESCOM has attributed the lower growth rate to solar generation and open access. The Commission notes that, HESCOM has not analyzed the extent of solar generation impacting the growth rates.

c. Even though the HESCOM has indicated positive growth in the number of installations for HT-2a and HT-4 categories, sales growth rate indicated is negative. the HESCOM shall furnish the reasons for the same.

HESCOM has attributed the lower growth rate to solar generation and open access. The Commission notes that as per the data furnished by HESCOM there are no OA consumers under HT-4 category. Further, in HT-2a category, the sales growth under OA/wheeling has increased by about 60% in FY18 over FY17. Also, HESCOM has not analyzed the extent of solar generation impacting the growth rates.

For HT2(a) category, the sales estimate based on the analysis of open access impact shall be considered. The HESCOM should have computed the growth rates considering the total energy sold to this category including OA/wheeling and should have estimated the sales considering the ratio of energy sold by the HESCOM in the FY17 to the total sales of the FY17 including OA/wheeling sales. The HESCOM shall compute HT-2a sales on the above method and furnish the data.

HESCOM in its replies has stated that, due to inconsistency in OA/wheeling consumption, it was not possible to arrive at the exact growth rate and therefore, has requested to retain the sales as estimated for HT-2a category.

The Commission has noted the replies furnished by HESCOM on the observations made by the Commission and the approach of the Commission in estimating the sales is discussed in the subsequent paragraphs.

4. The Commission in order to validate the sales, had directed HESCOM to furnish category-wise information regarding the number of installation and energy sales in the specified format.

HESCOM in their replies have furnished the requested data.

5. Sales to HRECS:

The HESCOM has indicated that the energy sold to the HRECS for the FY17 is 312.24 MU at page 50 of the filing. The Commission notes that the HRECS in its filing has also indicated the same as 312.24 MU, including the energy requirement of AEQUS.

For the FY19, the HESCOM has indicated sales to HRECS as 325.60 & to AEQUS as 26.83 at page 105 of the current filing, totalling to 352.43 MU, whereas HRECS in its P & L account of current filing has indicated it as 375.40 MU including sales to AEQUS. The HESCOM was directed to reconcile the above figures.

HESCOM in its replies has stated that the estimates made for HRECS and AEQUS for FY-19 seems to be normal and has requested to retain the same.

The Commission has discussed the sales to HRECS and AEQUS in the respective licensee's Orders.

The Commission's approach in estimating the number of installations and sales for the Year FY19 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 FY18 is modified duly validating the revised estimate furnished by HESCOM in the current filing and the data available as on 30.11.2017. The Commission has validated both the number of installations and sales to various categories considering the actuals as on as on 30.11.2017 and has estimated the number of installations and sales for the remaining period reasonably, keeping in view the number of installations and sales as on 31.03.2017 also. Accordingly, the base year estimation has been revised which has an impact on the estimates on number of installations and sales for the year FY19.

b. Wherever the number of installations estimated by HESCOM for the FY19 is within the range of the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimates of HESCOM are retained.

c. Wherever the number of installations estimated by HESCOM for the FY19 is lower than the estimates based on the CAGRs for the period FY12 – FY17 and for the period FY14 - FY17, the estimate based on the lower of the CAGRs are considered.

d. Wherever the number of installations estimated by HESCOM for the FY19 is higher than the estimates based on the CAGRs for the period FY12 – FY17 and for the period FY14 - FY17, the estimate based on the higher of the CAGRs are considered.

e. LT-7, HT-4 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 installations consuming up to 40 units/month and IP sets) estimated by the Commission for FY19 is 33,28,026 as against 33,27,908 proposed by HESCOM.

ii) Energy Sales:

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

a. The base year sales for FY18 as estimated by HESCOM are validated duly considering the actual sales up to November, 2017 and modified suitably as stated earlier.

b. Wherever the sales estimated by HESCOM for the FY19 is within the range of the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimates of HESCOM are retained.

c. Wherever the sales estimated by HESCOM for the FY19 is lower than the estimates based on the CAGRs for the period FY12 – FY17 and for the period FY14 - FY17, the estimate based on the lower of the CAGRs are considered.

d. Wherever sales estimated by HESCOM for FY19 is higher than the estimates based on the CAGRs for the period FY12 – FY17 and for the period FY14 - FY17, the estimate based on the higher of the CAGRs are considered.

e. For HT4, the sales are worked out based on the specific consumption of FY-18 as estimated by the Commission.

f. For LT-7and 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 average of CAGR method and based on analysis of open access impact is considered reasonable. It may be noted that based on 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.

Based on the above approach, the sales (excluding BJ/KJ installatins and IP-sets) estimated by the Commission for FY 19 is 4750.18 MU as against 4818.56 MU proposed by HESCOM.

iii) Sales to BJ/KJ:

The break-up of sales to BJ/KJ installations furnished by HESCOM vide letter dated 09.01.2018 for FY-18, as on 30.11.2017 is as indicated below:

TABLE-5.5

Details of BJ/KJ Installations

Particulars	No. of Installations	Consumption in MU	Specific consumption per installation per month (kWh)
Installations consuming less than or equal to 40 units*	715449	124.17	21.69
Installations consuming more than 40 units and billed under LT2(a)	54899	36.79	83.77

Considering the breakup of BJ/KJ installations for FY19 as furnished by HESCOM and the specific consumption as above, the sales is worked out for the year FY 19 as indicated below:

Particulars	No. of Installations	Consumption in MU
Installations consuming less than or equal to 40 units*	728530	189.62
Installations consuming more than 40 units and billed under LT2(a)	55902	56.19

B. IP set sales projections for ARR for FY19

i) 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 FY17. The specific consumption works out to 9,195 units/installation/annum on the basis of actual IP set consumption of 5,981.13 MU reported for FY17. The Commission observes that this indicates an increase in specific consumption by 951 units/installation / annum. The increase in specific consumption for FY17 by 951 units/installation/annum corresponds to around 12 per cent increase over the approved figures. The IP-sets' sales reported as per the Tariff filing by the HESCOM is 5,981.13 MU as against the approved sales quantity of 5,619.82 MU, for FY17.

ii) It is noted that the HESCOM has already segregated substantial number of feeders under NJY as exclusive agricultural feeders and rural feeders, which means that regulated power supply to IP-sets is being arranged and the same should have contributed to reduction in the agricultural consumption during the FY17. However, it is noted that the consumption has increased by 361.31 MU, entailing that numbers of hours of power supply to IP sets may have been increased exceeding the scheduled hours of power supply fixed by the Government. Further, the HESCOM in its subsequent communication dated 2nd February, 2018, has submitted the revised IP-sets' sales based on the energy meter readings of segregated agricultural feeders considering initial & final readings and multiplication factor of energy meters as 5,768.43 MU for FY17 instead of 5,981.13 MU as claimed in its Tariff filing.

iii) Further, it is noted that the HESCOM's specific consumption of IP-sets worked out on the basis of the revised consumption of 5,768.43 MU is 8,868 units/installation/annum for FY17. Also, it is noted that the specific consumption arrived at by considering the revised consumption of 5,768.43 MU based on the segregated agricultural feeders for FY17, is much higher than the approved specific consumption of 8,244 units / installation /annum. This is perhaps due to supplying of more number of hours of power in excess of scheduled hours of power and also presence of dried-up/defunct installations, in the field. For the same reasons, the specific consumption of 8,868 units/installation/annum arrived at on the basis of revised for FY17 cannot be considered for projections of FY19.

iv) 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 FY19. In view of this, the Commission decides to approve the specific consumption of 8,244 units / installation / annum for the ARR of FY19.

v) Further, it is noted that the HESCOM has estimated the number of IP-set installations as 7,28,201 for the FY19 in the current Tariff filing. However, it is noted that 12,515 number of defunct IP sets have to be deducted from the number of installations projected by the HESCOM for FY18 in its Tariff application. Therefore, the projected number of IP sets reckoned for FY18 and FY19 are 6,82,327 and 7,15,686 respectively, taking into account the defunct IP set installations reported. In view of this, the Commission has considered the number of IP-sets as 7,15,686 for the FY19 as against 7,28,201 IP sets projected by the HESCOM in its Tariff application. Hence, based on the estimated number of installations for the FY18 and the FY19 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-5.6

Computation of IP sets' Consumption

Particulars	As filed by the HESCOM		Considering the defunct IP sets	As approved by the Commission
	FY18	FY19	FY18	FY19
No of installations	6,94,842	7,28,201	6,82,327	7,15,686
Mid-Year no. of installations		7,11,523		6,99,007
Specific consumption in units/installation/annum		8,745		8,244
Sales in MU		**6,222.08**		**5,762.61**

vi) **Accordingly, the Commission approves 5,762.61 MU as energy sales to IP-sets as against the projected sales quantum of 6,222.08 MU by the HESCOM for the FY19. The number of installations approved for FY19 is 7,15,686. This approved IP-set consumption for FY19 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. The HESCOM shall therefore regulate the number of hours of power supply to exclusive agricultural feeders, accordingly.**

vii) **Further, the HESCOM was directed to take up GPS survey of IP-sets to identify the defunct/dried up installations in the field and arrive at correct number of IP-sets by deducting such IP-sets from its account, on the basis of GPS survey results. In this regard, the HESCOM has stated that during FY17 it had identified 12,515 of defunct IP sets during the exercise of GPS survey. It has further submitted that the GPS survey results after its completion will also be considered to arrive at net number of installations in FY18 onwards. In this regard, the Commission directs the HESCOM to complete the GPS survey of IP-sets and compliance thereon shall be submitted to the Commission. In view of GPS survey of IP-sets not completed fully, the number of installations estimated for FY18 as well as for FY19 are subject to further change based on the GPS survey results. 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 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 FY19.

viii) **Further, it is noted that the HESCOM has already segregated agriculture feeders from rural loads under NJY phase1 & 2 and implementation of the balance feeders' works taken up under DDUGJY is in progress. Therefore, energy consumed by the IP sets could be more accurately measured at the 11 kV feeder level at the sub-stations in respect of segregated feeders 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-5.7

Format for furnishing IP set Consumption

Month	Name of Sub-division	Name of. Segregated Agriculture Feeders in the subdivision	Initial energy meter reading in the feeder	Final energy meter reading in the feeder	Meter constant	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 agri. feeders only to be considered)	Net consumption duly deducting the Distribution loss (11kV & LT) & any other loads if any	No. of live IP sets (total-dried up) connected to the agri. feeders in the subdivision			Average consumption of IP / month (specific cons in units /IP/month)	Total no of IP sets in the subdivision			Total sales of IP sets in MU
									Beginning of the month	Serviced at the end of	Mid-month		Beginning of the month	Serviced at the end of	Mid-month	
1	2	3	3a	3b	3c	4 =(3b-3a) *3c	5	6=(4-5)	7a	7b	7c = (7a +7 b)/ 2	8=6/7c	9a	9b	9c =(9 a+ 9b) /2	10=8*9c
Apr- 18 To Mar-19	Subdiv-1 Subdiv-2 Subdiv-3															
TOTAL																

Note:

(1) **If the agriculture 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 defunct/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.**

(3) The values under column 9b (number of installations) & column 10 (total sales) shall be considered for DCB of the subdivision.

Based on the above discussions, the category wise approved number of installations and sales for the year FY 19 vis-à-vis the estimates made by HESCOM is indicated below:

TABLE-5.8

Approved Sales for FY19

Category	HESCOM's FY-19 For Estimate		Approved Sales for FY19	
	No. of installations	Sales-MU	No. of installations	Sales-MU
BJ/KJ-more than 40 units/month	55902	45.80	55902	56.19
LT-2a	2638699	1536.23	2638455	1545.67
LT-2b	7314	26.99	7071	21.42
LT-3	373603	479.45	373603	481.88
LT-4 (b)	1614	16.55	1555	16.55
LT-4 (c)	509	1.46	518	1.24
LT-5	121495	327.91	121015	327.49
LT-6-WS	47181	343.07	47612	343.07
LT-6-PL	23268	160.57	23848	161.76
LT-7	55015	33.07	55015	33.07
HT-1	341	236.33	349	237.40
HT-2 (a)	1665	778.72	1710	892.61
HT-2 (b)	533	128.91	621	130.02
HT2C	379	124.21	362	97.62
HT-3(a)& (b)	286	528.48	286	350.35
HT-4	32	12.37	32	15.39
HT-5	72	38.44	72	38.44
Sub-Total other than BJ/KJ and	**3327908**	**4818.56**	**3328026**	**4750.18**
BJ/KJ-upto 40 units	728530	146.38	728530	189.62
IP	774703	6222.08	715686	5762.61
Sub Total BJ/KJ and IP sets	**1503233**	**6368.46**	**1444216**	**5952.23**
Total	**4831141**	**11187.02**	**4772242**	**10702.41**

Thus, the Commission approves 10702.41 MU as the sales for FY19 excluding the energy sold to HRECS and SEZ.

5.2.3 Distribution Losses for FY19:

HESCOM's Submission:

As per the audited accounts for FY17, the HESCOM has reported the distribution losses of 15.56 per cent as against the approved average loss level of 16.00 per cent. However, as per the revised sales of 5,924.50 MU to IP sets as reported by the HESCOM in furnishing its replies to the preliminary observations of the Commission. The total sales have reduced to 10,208.92 MU, resulting in increased distribution losses at 16.02 per cent for FY17.

The Commission in its MYT Order dated 30th March, 2016 had fixed the target level of losses for FY19 at 15.00 per cent. The HESCOM in its current Tariff application has proposed to retain the distribution losses of 15% as approved by the Commission for FY19.

Commission's Analysis and Decisions:

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

TABLE – 5.9

Approved & Actual Distribution Losses-FY12 to FY17

Figures in % Losses

Particulars	FY12	FY13	FY14	FY15	FY16	FY17
Approved Distribution losses	19.35	18.00	19.00	19.00	17.50	16.00
Actual distribution losses	19.99	19.88	18.05	16.74	16.89	16.02*

**Actual losses for FY17 are reported as 15.50%, however as per APR, the losses for FY17 are reckoned as16.02 % due to revised IP set sales furnished by HESCOM.*

The Commission notes that except in FY12, FY13 and FY 17 the distribution loss levels achieved by the HESCOM from FY14 to FY17 are within the approved loss levels. In FY 17 even though the losses are marginally higher, it is within the upper limit of 16.50%. Further, the Commission is of the view that any investments made for improving the existing distribution network should reduce the distribution losses significantly besides increasing the reliability and quality of supply of electricity to the consumers.

Therefore, the Commission notes that, in view of the achievements made by the HESCOM in the reduction of distribution losses during the previous years, besides considering the capex incurred so far along with the proposed capex for FY19, decides to fix the following distribution loss targets for FY19:

TABLE – 5.10

Approved Distribution Losses for FY19

Figures in % Losses

Particulars	FY19
Upper limit	15.40
Average	**14.90**
Lower limit	14.40

5.2.4 Power Purchase for FY19:

a. HESCOM's Proposal;

In its application for revision of ARR for FY19, the HESCOM has proposed power purchases of 13958.55MU a cost of Rs.6086.78 Crores (including Transmission and System Operation charges). The HESCOM has made the following source-wise projections to meet the power purchase requirement for FY19:

Table: 5.11

Energy Projection & Power Purchase Cost of HESCOM -FY19				
	Source	Energy in Mus	Cost in Rs Crs	Cost per Unit in Rs
1	KPCL Hydel Energy			
2	KPCL Thermal Energy	3094.02	1314.09	4.24
3	CGS Energy	4054.20	1579.8	3.90
4	IPP	1452.06	672.60	4.63
5	RE	2473.98	1028.51	4.15
6	Other State Hydel	25.75	9.78	3.79
7	Total Medium Term &Short Term	381.18	169.58	4.44
8	Allocation to Other ESCOMs	307.09	121.16	3.94
9	KPTCL Transmission Charges		650.08	
10	SLDC Charges		5.21	
11	PGCIL Charges		344.42	
12	POSOCO charges		0.44	
13	Grand Total	13958.55	6086.78	4.36

The above estimates are based on the following assumptions made by HESCOM:

1. HESCOM has proposed to purchase power from different sources viz., KPCL Hydel, KPCL Thermal, Central Generating Stations, IPPs, NCE projects and other through short term purchases to meet the deficit.
2. The Energy availability of Hydel and Thermal stations of State Owned Power plants are considered as per the projections made by KPCL.
3. The energy projected by KPCL in respect of hydro stations is based on inflows anticipated as per moving average of the past ten years reduced by 1% towards auxiliary consumption in terms of the PPA. Energy availability in respect of Thermal Stations is as per the targeted availability defined in the PPA/ Regulations, wherever applicable and reduced by the applicable auxiliary consumption of each station.
4. Though the KPCL has projected the Energy from Yermarus Thermal Station units I & II, BTPS Unit III and Yelahanka Combined Cycle thermal station, HESCOM has not considered the energy from these stations since these plants were commissioned after 2016 and there was minimal energy generation from these stations.
5. The rates considered by the KPCL are based on the Commission's Order dated 03.08.2009 for hydel stations except for Shivasamudram, Shimsha, Munirabad & MGHE
6. In respect of thermal stations vizRTPS units 1 to 7 and BTPS unit-1, the rates worked out by the KPCL are based on various parameters defined in the tariff orders.
7. In respect of Central Generating stations of NTPC, Neyveli Lignite Corporation(NLC), Nuclear power stations and other Joint Venture Projects,the ESCOMs have a share. The allocation of capacity entitlement from these stations includes both firm and unallocated share. The unallocated share would vary depending upon the allocation made by the Ministry of Power, GoI.

8. The actual generation of NCE projects for the year 2016-17 has been considered for 2018-19, including the Solar, Co-generation, Bio-mass, Wind Mills and Mini Hydel projects.

b. Commission's analysis and decisions;

Energy Availability:

The energy requirement of the ESCOMs is being met from the following sources:

i. Karnataka Power Corporation Limited (KPCL),
ii. Central Generating Stations (CGS);
iii. Major Independent Power producers (Major IPPs);
iv. Renewable Energy sources (Minor IPPs- NCE Sources);
v. Medium and short-term purchase on need basis through competitive bidding.

The available quantum of energy from these sources has been projected by the PCKL based on the data furnished by KPCL, SRPC and SLDC. The month-wise availability of electricity in terms of Mega Watts and Million Units for FY19 has also been furnished by the PCKL.

While the availability in respect of all the existing KPCL thermal units has been considered as per the projections, the energy availability from unit 3 of the BTPS thermal station and from 2x800 MW units of Yeramaras has been considered partly, since these units are yet to stabilize.

The Energy availability from 1x800 MW of Kudgi plant of NTPC is considered at a lower quantum due to high variable cost as compared with all the other thermal generation plants.

Power Purchase Rates:

The rates for the long term sources and the renewable sources are considered at the rates considered by the ESCOMs as per the PPAs executed with the individual generators. The power procurement from the short term sources at the rates as discovered by PCKL through competitive bidding has been considered. For the medium term power procurement from Co-generation plants, the tariff as determined by the Commission for the period from FY17 to 21 has been considered.

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 dispatch based on the ranking of all approved sources of supply according to the merit order of the variable cost.

The fixed charges and the variable charges for the Central Generating Stations, UPCL Stations and the DVC Stations have been considered based on the Tariff determined by the CERC as per the CERC norms.

In respect of new stations, only variable charge 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.

The Commission is yet to approve the tariff and the Power Purchase agreements in respect of the new KPCL thermal stations/ units and hence the rates now allowed are only provisional and subject to determination of tariff and approval the PPAs.

Based on the energy sales and the approved transmission and distribution losses in the system, the consolidated power purchase requirement of the State is enclosed in Annexure-1

Considering the ESCOMs' approved energy sales, the available energy from individual sources is assigned to each of the ESCOMs, as per the allocation made by the Government of Karnataka. Any variations in actual quantum of energy and its cost against the quantum allocated as per the Government Order will be reviewed at the time of Annual Performance Review for FY19.

Based on the allocation of available power from KPCL Hydro and Thermal stations, Central Generating Stations, Major IPPs, Minor IPPs, and Medium term sources for FY19, the approved Power Purchase quantum and cost of HESCOM for FY19 is as follows:

Table-5.12

HESCOM's Approved Power Purchase for FY19

Source of power	Allowed Energy in MUs	Cost of Energy Rs Cr	Cost per unit in RS.
KPCL THERMAL	3082.85	1325.57	4.30
CGS Energy	3790.72	1407.44	3.71
IPPs	948.07	451.28	4.76
KPCL Hydel Stations	2823.36	229.53	0.81
Other Hydro	32.05	12.08	3.77
RE Sources	1823.52	785.15	4.30
NTPC Bundled power	520.53	172.75	3.32
Power purchase from Co-gen - Medium Term	188.92	91.14	4.82
Short term power purchase	123.53	50.40	4.08
PGCIL CHARGES		292.22	
KPTCL CHARGES		555.73	
SLDC		5.30	
POSOCO CHARGES		0.44	
TOTAL INCLUDING TRANSMISSION & LDC CHARGES	**13333.57**	**5379.02**	**4.03**

Thus the Commission approves 13333.57MU at cost of Rs5379.02Crores towards purchase of HESCOM for FY19.

The breakup of source-wise availability and the cost thereon, is shown in Annexure-2 respectively of this Order.

5.2.5 RPO target for FY19:

The Commission has approved power purchase quantum of 10509.80 MU for FY19, net of hydro. The Non-solar RPO target at 9.50% would be 998.43MU. The Commission has approved purchase of 1315.30 MU from non-solar RE sources.

Thus, HESCOM would be able to procure 1315.30 MU as against an estimated RPO of 998.43 MU, resulting in excess of 316.87 MU. Therefore, HESCOM would be able to meet its Non-Solar RPO in FY19.

The Commission has approved power purchase quantum of 10509.80MU for FY19, net of hydro. The Solar RPO target at 6.00 % would be 630.58 MU. The Commission has approved purchase of 697.18 MU of Solar energy. Thus, HESCOM would exceed the solar RPO by 66.60 MU in FY19.

5.2.6 O & M Expenses for FY19:

HESCOM's Proposal:

The HESCOM, in its application, has claimed an amount of Rs.863 Crores towards O&M expenses for FY19. The HESCOM in projecting the O&M expenses for FY19 has considered the base year i.e., FY16 O&M expenses of Rs.628.65 Crores inclusive of contribution to pension and gratuity trust at Rs.102.40 Crores incurred in FY17. HESCOM has considered three year CAGR of 3.76% for FY18 and FY19 for computing the consumer growth index. Further, the weighted inflation index of 7.71% is considered.
Based on the above, the HESCOM has sought the normative O & M expenses of Rs.822.20 Crores for FY19 as detailed below: -

TABLE – 5.13

O&M Expenses -FY19- HESCOM's Submission

Rs. Crores

Particulars	FY16	FY17	FY18	FY19
No. of Installations	4264566	4427071	4597682	4776864
CGI based on 3 Year CAGR	3.52		3.76	3.76
Weighted Inflation index			7.71	7.71
Base Year O&M expenses (as per actuals of FY16)-in Rs. Crores.	628.65			
Total O&M Expenses-in Rs. Crores.				
Additional employee cost due to recruitment				
Total O&M expenses		**685.66**	**754.84**	**863.00**

The HESCOM has also included an amount of Rs.66.46 Crores towards increase in employee cost on account of recruitment of employees during FY19.

Thus, the HESCOM has claimed an amount of Rs.863 Crores towards O&M expenses for FY19.

Commission's analysis & decision:

The Commission in its MYT Order dated 30th March, 2016, while approving the ARR of the control period FY17-19, had approved O&M expenses of Rs.825.79 Crores for FY19, determined on the basis of actual O&M expenses incurred in FY15, based on the base-year O&M expenses as per the audited accounts (the latest data being available as per the audited accounts) to arrive at the O&M expenses for the base year FY16 and the three year compounded annual growth rate (CAGR) of consumers of 3.86% and weighted inflation index of 7.24%. The approved O&M expenses for FY19 were as follows:

TABLE-5.14

Approved O&M Expenses for FY19 as per Tariff Order dated 30th March, 2016

Particulars	FY16	FY17	FY18	FY19
No. Of Installations		4448061	4596876	4771526
CGI based on 3 Year CAGR		4.14%	3.97%	3.86%
Inflation index		7.24%	7.24%	7.24%
Base Year O&M Cost (as per actuals of FY15)	633.66			
Approved O&M Expenses		**693.09**	**756.93**	**825.79**

Since, the base year data includes the O&M expenses inclusive of contribution to P&G Trust, the Commission has not considered allowing contribution to P&G Trust separately. 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 has computed the O & M expenses for FY19, duly considering the base year actual O & M expenses of FY16 as per the audited accounts. The actual O& M expenses for FY16 are Rs.617.52 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 FY17 to FY19 is 8.1059%. The Commission has computed the allowable O&M expenses for FY19 for the purpose of determining the normative O & M expenses for FY19. 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 FY17 and as projected by the Commission for FY18 and FY19 at 3.96%

c) The weighted inflation index (WII) at 8.1059%.

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

The above parameters are computed duly considering the same methodology as is being followed consistently in the earlier Tariff Orders of the Commission and the relevant orders of the Commission issued on the Review Petitions filed by some of the Licensees.

Accordingly, the normative O & M expenses for FY19 are as follows:

TABLE – 5.15

Approved O & M expenses for FY19

Particulars	FY16	FY17	FY18	FY19
No. of Installations	4246990	4411081	4621835	4772242
CGI based on 3 Year CAGR		3.85%	4.16%	3.96%
Weighted Inflation Index		8.1059%	8.1059%	8.1059%
Base Year O&M expenses (as per actuals of FY16)-Rs. Crs.	617.52			
Total allowable O&M Expenses-Rs.Crs.		**688.63**	**759.31**	**835.77**

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

The Commission is of the view that, the additional employee cost of Rs.66.46 Crores towards the recruitment of additional employees as requested by HESCOM could be factored only after being incurred by the distribution licensees and claimed in the APR with details.

Thus, the Commission decides to approve O&M expenses of Rs.835.77 Crores for FY19.

5.2.7 Depreciation:

HESCOM's Proposal:

The HESCOM, in its application has claimed depreciation of Rs.179 Crores for FY19 after deducting Rs.84.81 Crores of 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.839.80 Crores and Rs.908.71 Crores for FY18 and FY19 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 FY19 as detailed below:

TABLE – 5.16

Depreciation-FY19- HESCOM's Submission

Rs. Crores

Particulars	Amount
Buildings	2.88
Civil	0.13
Other Civil	0.10
Plant & M/c	48.45
Line, Cable Network	210.82
Vehicles	0.58
Furniture	0.47
Office Equipment	0.37
Less: assets created out of DCW & grants	84.81
Net Depreciation	**179.00**

Commission's analysis and decision:

The Commission in its Order dated 30th March, 2016 had recognized capex of Rs.**732.55** Crores and considered Rs.550.00 Crores for determination of ARR for FY19. The Commission in allowing deprecation for FY19 in approval of the revised ARR for FY19 has recognized the capex an of Rs.1298.16 Crores as proposed by HESCOM and considered 70% of the proposed capex of Rs.908.60 Cores for FY19. The Commission notes the various State/Central scheme works included in the capex proposed for FY19 which are provided with capital grants. Thus the Commission by considering the capital growth capex for FY19. Thus, the Commission by considering the capital grants, consumer contribution the capital grants, consumer contribution and the internal reserves available in HESCOM has factored Rs.585 Crores of audited assets to the GFA for computation of depreciation for FY19. Accordingly, the Commission, in accordance with the provisions of the MYT Regulations and amendments issued thereon, has determined the depreciation for FY19 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 FY17.

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 for FY19 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, and the depreciation as claimed by HESCOM for FY19.

   Accordingly, the depreciation for FY19 is arrived at as follows:

TABLE – 5.17

Approved Depreciation for FY19

Rs. Crores

Particulars	Amount
Buildings	2.74
Civil	0.11
Other Civil	0.18
Plant & M/c	76.86
Line, Cable Network	160.71
Vehicles	0.13
Furniture	0.40
Office Equipment	0.30
Gross Depreciation	**241.34**
Less: Depreciation on assets created out of consumer contribution /grants	**84.81**
Net Depreciation	**156.53**

Thus, the Commission decides to approve an amount of Rs.156.53 Crores towards net depreciation for FY19.

5.2.8 Interest on Capital Loans:

HESCOM's proposal:

HESCOM in its application has proposed to draw fresh capital loans of Rs.1279.55 Crores as against the proposed capex of Rs.1298.16 Crores and the interest on capital loan requirement is projected at Rs.337.90 Crores for FY19 at weighted average rate of interest of 11.59%.

The HESCOM has requested to approve the interest on capital loans for FY19 as follows:

TABLE – 5.18

Interest on Capital Loan– HESCOM's Proposal

Rs. Crores

Particulars	Amount
Opening Balance of Capital Loans	2456.56
Add; New Loans	1279.55
Less Repayments	270.70
Total Loan at the end of the year	3465.41
Average Loan for the year	2960.99
Rate of Interest	11.59%
Total Interest on Capital Loans	**343.18**

Commission's analysis and decision:

The Commission in its Order dated 30th March, 2016 had recognized capex of Rs.732.55 Crores for FY19, but had considered Rs.550.00 Crores for computation of interest and deprecation elements in the determination of ARR.

The Commission notes that, HESOCM has proposed the fresh barrowings of Rs.1279.55 Crores to the proposed capex of Rs.1298.16 Crores. The Commission after having noted the various State/Central scheme works covered in the proposed capex opined that, the new barrowings proposed by HESCOM is abnormal and not in compliance with the MYT Regulations.

The Commissions further notes that, HESCOM in its filing had considered the weighted average rate of interest of 11.59% for FY19. 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 for FY17 and the loan details furnished upto November, 2017 during FY18, it is noted that the HESCOM had incurred interest on capital loan at a weighted average rate of interest of 10.42% p.a. during FY17. 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 the current economic conditions favorable for investments, it is observed that there is a down trend in the MCLR and also interest rates. Hence, in such a situation, the Commission is of the view that, the ESCOMs can avail capital loans at competitive interest rates from the Commercial Banks. The Commission notes that, the present SBI MCLR rate for loans with a tenure of 3 years is 8.35%. Considering the actual weighted average rate of interest, the present rate at which the new loans are drawn by HESCOM during FY17 from the Commercial Banks /Financial institutions and the present MCLR, the Commission decides to allow an interest rate of 11% for the new Capital loans for FY19. 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. The Commission directs HESCOM, to make use of the present reduced rate of interest prevailing in the market offered by the Commercial Banks and reduce the burden on the consumers.

Accordingly, the approved interest on loans for FY19 is as follows:

TABLE – 5.19

Approved Interest on Loans for FY19

Rs. Crores

Particulars	Amount
Opening Balance long term loans	**1761.00**
Add new Loans	500.00
Less: Repayments	202.76
Total loan at the end of the year	2058.24
Average Loan	**1909.62**
Weighted average rate of interest in %	10.55%
Interest on long term loans	**201.54**

Thus, the Commission decides to approve an interest amount of Rs.201.54 Crores on capital loans for FY19.

5.2.9 Interest on Working Capital:

HESCOM's proposal:

HESCOM in its application has claimed interest on working capital of Rs.144.33 Crores at 11.00% 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.136.94 Crores for FY19.

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 8.15%. Therefore, as per the provisions of the MYT Regulations and the interest rates on the barrowed working capital of HESCOM, the Commission decides to consider interest on working capital at 11.00% p.a. for FY19.

Accordingly, the approved interest on working capital for FY19 is as follows:

TABLE – 5.20

Approved Interest on Working Capital for FY19

Rs. Crores

Particulars	Amount
One-twelfth of the amount of O&M Expenses	69.65
Opening Gross Fixed Assets (GFA)	4963.15
Stores, materials and supplies 1% of Opening balance of GFA	49.63
One-sixth of the Revenue	1159.75
Total Working Capital	1279.02
Rate of Interest (% p.a.)	11.00%
Interest on Working Capital	**140.69**

Thus, the Commission decides to approve the interest on working capital of Rs.140.69 Crores for FY19.

5.2.10 Interest on Consumer Security Deposit:

HESCOM's proposal:

HESCOM in its application has claimed interest on consumer security deposit of Rs.65.70 Crores at 8.75% of bank rate on the average consumer security deposit of Rs.750.83 Crores for FY19 duly considering the addition of deposits for FY18 and FY19.

Commission's analysis and decision:

The Commission notes that, HESCOM in its application has incorrectly considered the bank rate of 8.75% as against the RBI notified 6.25% while computing the interest on consumer security deposits for FY19.

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 2nd August, 2017, the bank rate is 6.25%. The Commission considers the same, for computation of interest on consumer security deposits for FY19.

The Commission also considers the consumer security deposits as per audited accounts of FY17 for projecting the amount for FY19. 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, that could be approved for FY19 works out as follows:

TABLE – 5.21

Approved Interest on Consumer Security Deposits for FY19

Rs. Crores

Particulars	Amount
Opening balance of consumer security deposits	738.36
Addition of deposits during FY19	70.00
Closing balance of consumer security deposits	808.36
Average Consumer Security Deposits for FY19	773.36
Rate of Interest at bank rate to be allowed as per Regulations	6.25%
Approved Interest on average Consumer Security Deposit	**48.33**

Thus, the Commission decides to approve the interest on consumer security deposits at Rs.48.33 Crores for FY19.

The abstract of approved interest and finance charges for FY19 are as follows:

TABLE – 5.22

Approved Interest and finance charges for FY19

Rs. Crores

Particulars	Amount
Interest on Loan Capital	201.54
Interest on Working Capital	140.69
Interest on Consumers Security Deposit	48.33
Total Interest & Finance Charges	**390.56**

5.2.11 Other Debits:

HESCOM, in its application has claimed an amount of Rs.11.02 Crores towards other debits for FY19.

Commission's analysis and decision:

The Commission notes that, the other debits cannot be estimated upfront and included in the proposed ARR for FY19. 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 FY19.

5.2.12 Exceptional Items (Adjustment of Excess Subsidy)

HESCOM in its, application has claimed an amount of Rs.102.90 Crores for FY19 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 FY19.**

5.2.13 Return on Equity:

HESCOM's proposal:

HESCOM, in its application, has not claimed RoE for FY19 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 FY17 for arriving at the allowable equity base for FY19.

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.48.33 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 FY19 are indicated as follows:

TABLE – 5.23

Status of Debt Equity Ratio for FY19

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
FY19	Opening Balance	4963.15	1761.00	(1128.06)	3474.21	1488.95	35.48%	negative
	Closing Balance	5548.84	2058.24	(1128.06)	3875.648	1660.992	37.09%	negative

From the above table it is seen that the amount of debt equity of is within the normative levels with reference to the projected opening and closing balances of GFA for FY19. Further, the Commission would review the same during the Annual Performance Review, for FY19, based on the actual data, as per the audited accounts.

Accordingly, the Return on Equity that could be approved for FY19, works out as follows:

TABLE – 5.24

Approved Return on Equity for FY19

Rs. Crores

Particulars	Amount
Opening Balance of Paid Up Share Capital	934.49
Share Deposit (opening balance)	476.93
Reserves and Surplus (opening balance)	(2505.48)
Less Recapitalised Security Deposit	(34.00)
Total Equity	**(1128.06)**

Since there is negative equity due to accumulated deficit, the Commission decides not to allow any Return on Equity for FY19.

5.2.14 Other Income:

HESCOM's proposal:

HESCOM has claimed an amount of Rs.224.02 Crores as other income which includes the cost of energy sold to Hukkeri RECS for FY19.

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.224.02 Crores for FY19 as proposed by HESCOM.**

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 FY19, 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 within a month of this Order and also maintain a separate account of these funds and furnish the same at the time of APR.

5.3 Abstract of ARR for FY19:

In the light of the above analysis and decisions of the Commission, the following is the approved ARR for the control period FY19:

TABLE – 5.25
Approved ARR for FY19

Rs. Crores

Sl. No.	Particulars	FY19		
		As Appd in T.O dated 30.03.2016	As Filed 30.11.2017	Appd Revised ARR
1	Energy at Gen Bus (With HRECS & AEQUS)	14014.92	13958.55	13333.57
2	**Transmission Losses in %**	**3.27%**	**3.27%**	**3.08%**
3	Energy at Interface in MU	13226.87	13161.2	12576.27
4	Distribution Losses in %	15.00%	15.00%	14.90%
5	Sales in MU			
	Sales to other than IP-sets & BJ/KJ installations	4933.19	4818.56	4750.18
	Sales to BJ/KJ installations	87.57	146.38	189.62
	Sales to IP-sets	6222.08	6222.08	5762.61
	Total Sales	**11242.84**	**11187.02**	**10702.41**
6	**Revenue at existing tariff in Rs Crs**			
	Revenue from tariff and Misc Charges		3286.72	3355.92
	Tariff Subsidy to BJ/KJ installations		94.12	121.93
	Tariff Subsidy to IP-sets		3758.14	3480.62
	Total Existing Revenue	**0**	**7138.98**	**6958.47**
	Expenditure in Rs Crs			
7	Power Purchase Cost	5214.91	5431.49	4818.00
	Transmission charges of KPTCL	650.08	650.08	555.72
	SLDC Charges	5.21	5.21	5.30
	Power Purchase Cost including cost of transmission	**5870.2**	**6086.78**	**5379.02**
8	Employee Cost		676.48	
	Repairs & Maintenance		72.57	
	Admin & General Expenses		113.95	
	Total O&M Expenses	**825.79**	**863.00**	**835.77**
9	Depreciation	130.11	179.00	156.53

10	Interest & Finance charges			
11	Interest on Capital Loans	212.24	337.90	201.54
12	Interest on Working capital loans	136.94	144.33	140.69
13	Interest on belated payment on PP Cost	0	0	0
14	Interest on consumer security deposits	63.67	65.70	48.33
15	Other Interest & Finance charges	0	0	0
16	Less interest & other expenses capitalised	0	0	0
	Total Interest & Finance charges	**412.85**	**547.93**	**390.56**
17	Other Debits	0	11.02	0
18	Extra-ordinary item (Adjustment of excess subsidy amount as per KERC Order)	0	102.90	0
19	Return on Equity	0	0	0
20	Funds towards Consumer Relations/Consumer Education	0.50	0.50	0.50
21	Other Income	163.72	224.02	224.02
	ARR	**7075.73**	**7567.11**	**6538.36**
22	**Surplus for FY19**		**-428.13**	**420.11**
23	Deficit for FY17 carried forward		-943.37	-741.17
	Distribution loss reduction incentive		0	0
	Net ARR	**7075.73**	**8510.48**	**7279.54**

Thus the Commission approves an ARR of Rs. 7279.54 Crores which includes deficit of FY17.

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 – FY19

Particulars	Distribution Business	Retail Supply Business
O&M Expenses	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 – FY19

Rs. Crores

Sl. No	Particulars	Amount
1	R&M Expenses	
2	Employee Expenses	
3	A&G Expenses	526.53
4	Depreciation	131.48
	Interest & Finance Charges	
5	Interest on Capital Loans	201.54
6	Interest on Working capital loans	33.33
	ARR FOR DISTRIBUTION BUSINESS	**892.89**

TABLE – 5.28

APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY19

Rs. Crores

Sl. No	Particulars	Amount
1	Power Purchase	4818.00
2	Transmission charges	561.02
3	R&M Expenses	
	Employee Expenses	
	A&G Expenses	309.23
4	Depreciation	25.04
	Interest & Finance Charges	
5	Interest on Working capital loans	107.36
6	Interest on consumer security deposits	48.33
	Total	**5869.00**
7	Other Income	224.02
8	Fund towards Consumer Relations / Consumer Education	0.50
	ARR FOR RETAIL SUPPLY BUSINESS	**5645.48**

5.5 Gap in Revenue for FY19:

As discussed above, the Commission decides to approve the revised Annual Revenue Requirement (ARR) of HESCOM for its operations in FY19 at Rs.7279.54 Crores by including the revenue deficit of Rs.741.17 Crores as per APR for FY17, as against HESCOM's application proposing the revised ARR of Rs.8510.48 Crores by including a revenue deficit of Rs.943.37 Crores for FY17. This approved revised ARR includes an amount of Rs.741.17 Crores which is determined as the deficit in FY17 as discussed in Chapter-4. Based on the existing retail supply tariff, the total realization of revenue will be Rs.6958.47 Crores which is Rs.321.07 Crores less than the projected revenue requirement for FY19.

The net ARR and the gap in revenue for FY19 are shown in the following table:

TABLE – 5.29

Revenue Gap for FY19

Particulars	FY19
Net ARR including carry forward gap of FY17 (in Rs. Crores)	7279.54
Approved sales (in MU)	10702.41
Average cost of supply (in Rs./unit)	6.80
Revenue at existing tariff (in Rs. Crores)	6958.47
Gap in revenue (in Rs. Crores)	**(321.07)**

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