CHAPTER – 5

REVISED ANNUAL REVENUE REQUIREMENT FOR FY18

5.0 Revised Annual Revenue Requirement (ARR) for FY18

CESC's Application:

CESC 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-CESC's Submission

Amount in Rs. Crores

Sl. No.	Particulars	FY18
1	Energy at Gen Bus in MU	7739.23
2	Transmission Losses in %	3.37%
3	Energy at Interface in MU	7478.41
4	Distribution Losses in %	13.00%
	Sales in MU	
5	Sales to other than IP & BJ/KJ	3499.12
6	Sales to BJ/KJ	38.45
7	Sales to IP	2968.65
	Total Sales	**6506.22**
	Revenue from tariff, in Rs. Crores	
8	Revenue from Tariff and Misc. Charges	2205.86
9	Tariff Subsidy from BJ/KJ	21.80
10	Tariff Subsidy from IP	1457.84
	Total Revenue	**3685.50**
	Expenditure in Rs. Crores	
11	Power Purchase Cost	2648.63
12	Transmission charges of KPTCL	332.24
13	SLDC Charges	2.70
14	**Power Purchase Cost including cost of transmission**	**2983.57**
15	Employee Cost	394.71
16	Repairs & Maintenance	47.28
17	Administration & General Expenses	62.14
18	**Total O&M Expenses**	**504.13**
19	Depreciation	191.01
	Interest & Finance charges	
21	Interest on Loans	186.57
22	Interest on Working capital	68.95
23	Interest on belated payment on PP Cost	0.00
24	Interest on consumer security deposits	41.70
25	Other Interest & Finance charges	0.52

26	Less: interest & other expenses capitalised	24.00
	Total Interest & Finance charges	
28	Other Debits	6.79
29	Net Prior Period Debit/Credit	2.00
30	Return on Equity	0.00
31	Funds towards Consumer Relations/Consumer Education	0.00
32	Provision for contribution to P&G Trust (GoK Liability)	346.50
33	Other Income	115.86
34	**ARR**	**4191.88**
35	Deficit for FY16 carried forward	-456.54
	Net ARR	**4648.42**

The CESC has requested the Commission to approve the revised Annual Revenue Requirement of Rs.4648.42 Crores for FY18. Considering the estimated revenue of Rs.3685.50 Crores based on the existing retail supply tariff, CESC has projected a revenue gap of Rs.962.92 Crores inclusive of carried forward gap of revenue of Rs.456.54 Crores of FY16. In order to bridge this gap in revenue, CESC, in its application has proposed 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 CESC. Accordingly, a deficit of Rs.492.73 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 CESC and approved by the Commission for FY18 is discussed in this Chapter as follows:

5.2.1 Capital Investments for FY18:

CESC's Submission:

CESC has proposed a revised capex of Rs.889 Crores as against the capex of Rs.552 Crores approved in the MYT Order, being the amount factored for tariff computations. The Commission, while recognizing a capex of Rs.697 Crores for FY18, as proposed by CESC, had factored Rs.552 Crores, for the tariff computations, keeping in view the debt equity ratio of 70:30 for financing the capex, as per the MYT Order.

The CESC has now proposed to execute the following capital works during FY18:

i) **Extension and Improvement (E&I) Works**: The CESC proposes to add 1500 additional distribution transformers, 500 distribution transformers of different capacities for capacity enhancement works and construction of new link lines with associated LT lines for evacuation of power from the new substations of KPTCL coming up during FY18. Also, the CESC has planned to replace maximum number of existing 7.5/8.0 M poles by 9.0 M poles in the elephant corridor in its jurisdiction.

ii) **Niranthara Jyothi Yojana (NJY)**: CESC has planned to complete the spill over/on-going works of phase-1& 2 schemes during FY18.

iii) **Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) & Decentralized Distributed Generation (DDG)** : CESC has submitted that the electrification of BPL households under RGGVY 12th Plan of Mysuru and Mandya districts have been awarded already and, for electrification of households in non-conventional method under DDG project, the work award has been issued and work is in progress.

iv) **Integrated Power Development Scheme (IPDS)**: The CESC has submitted that, 33 towns are included under this scheme. The proposed cost, as per the DPR, is Rs.170.00 Crores. As per the guidelines for execution of IPDS, the work has to be awarded within one month from the date of approval from GoI and CESC has stated that the tendering work is in process.

v) **Deen Dayal Upadyay Grameena Jyothi Yojana (DDUGJY)**: CESC has stated that, the Improvement works will be taken up in rural areas of five districts in CESC jurisdiction and the tendering is in process.

vi) **Metering programme**: As per the information provided under UDAY Scheme, there are around 28,233 DTCs to be metered in Next two years. CESC has proposed to provide 1200 meters to DTCs under Thread through metering, 950 meters under IPDS and 19222 meters under DDUGJY projects for which budget provision has been made under respective scheme heads. Remaining 6857 DTCs are proposed to be metered under E&I during FY18.

vii) **Software development**: It is proposed to implement computerization and develop software in Finance, Material Management and HRMS areas under UDAY scheme. Work amounting Rs.9.96 Crores has been awarded for development of software in Material Management and 60 % of work is completed. Proposal is to be submitted for Finance, HRMS and other software development for Rs.25 Crores.

The scheme-wise proposed capex of CESC for FY18 as per the actions plan mentioned above is shown in the following table:

Table –5.2

Capital expenditure for FY18-CESC's Submission

Amount in Rs. Crores

Sl. No	Schemes	As Approved in MYT Order	As proposed by CESC in the present filing
1	Extension & improvement	230	320
2	NJY	40	40
3	HVDS		
4	R-APDRP	25	25
5	IPDS	50	100
6	DDUGJY	100	150
7	RGGVY(Restructured)+DDG	-	45
8	Replacement of failed Transformers	5	5
9	Service Connections	40	50
10	**Rural Electrification(General)**		
A	Electrification of Hamlets/HB/JC under RGGVY	34	50
B	Providing infrastructure to Irrigation Pump sets & energization of IP SETS		
C	Kutir Jyothi(RGGVY)		
11	**Tribal Sub Plan**		
A	Electrification of Tribal Colonies (RGGVY)	2	3
B	Energisation of IP sets		
C	Kutir Jyothi (RGGVY)		
12	**Special Component Plan**		
A	Electrification of HB/JC/AC(RGGVY)	7	10
B	Energisation of IP sets		
C	Kutir Jyothi(RGGVY)		
13	Tools & Plants	4	4
14	Civil Engineering Works	5	12
15	Providing Meters to DTC, BJ/KJ, Street Light for replacement of electro-mechanical meters, providing modems to meters for communication	10	40
16	Software Development and smart grid project	-	35
	Total	**552**	**889**

Commission's analysis and decision:

The CESC has proposed a total capex of Rs.889 Crores indicating an additional capex of Rs.337 Crores over and above the approved capex of Rs.552 Crores as per MYT order for FY18, which was considered for tariff computation. CESC has indicated the requirement of additional capex in respect of certain categories duly giving the action plan as discussed above, and it has retained the outlay for the other categories of capex for FY18. The additional capex sought by CESC in some of the major categories of works is shown below:

The category of works for which additional Capex is sought by CESC for FY18:

TABLE-5.3

Additional Capex Sought by CESC

Amount in Rs. Crores

Sl. No.	Schemes	As approved in MYT Order	CESC Proposal	Additional CAPEX
1	Extension & improvement	230	320	90
2	IPDS	50	100	50
3	DDUGJY	100	150	50
4	RGGVY(Restructured)+DDG	0	45	45
5	Electrification of Hamlets/HB/JC under RGGVY Providing infrastructure to Irrigation Pump sets & energization of IP SETS	34	50	16
	Kutir Jyothi (RGGVY)			
6	Providing Meters to DTC, BJ/KJ, Street Light for replacement of electromechanical meters, providing modems to meters for communication	10	40	30
7	Software Development and smart grid project	0	35	35
Total		**424**	**740**	**316**

It is noted that, CESC is seeking additional capex in respect of major categories of works mentioned in the above table at Rs.740 Crores as against the approved capex of Rs.424 Crores in MYT filing which amounts to an excess capex of Rs.316 Crores.

However, looking at the performance of CESC for the past five years vis-à-vis the approved capex, it is to be noted that, CESC has not achieved its capex even closer to Rs. 500 Crores in any of the years right from FY12 except during FY16 and it is unlikely that, CESC would be able to achieve a capex of Rs.889 Cores in FY18. The details of the capex achieved for the past five years are shown in the following table:

TABLE – 5.4

Approved Vs. Actual capital investment

Amount in Rs. Crores

Particulars	FY12	FY13	FY14	FY15	FY16
Capital Investment Proposed & Approved	485	560	575.5	455	317
Capital Investment actually incurred	183.27	195.87	321.75	318.83	488.52
Short fall (-)/ Excess outlay	-301.73	-364.13	-253.75	-136.17	171.52
% Achievement	37.79%	34.98%	55.91%	70.07%	154.10%

From the above it could be seen that, CESC has not been able to achieve a capital expenditure more than 70% of the approved capex. in the past years, except in FY16, wherein it has exceeded the approved capex of Rs.317 Crores. The CESC has clarified in the replies to the preliminary observation that, the excess capex achievement in FY16, is due to the spill over/on-going works of NJY which were not commissioned in the previous years due to RoW / litigations and have been completed and commissioned during FY16. If the amount of capex incurred for FY16 on NJY is taken out of the total capex of Rs.488.52 Crores, the remaining capex would not be more than Rs.300 Crores for FY16. Keeping in view the reasons for excess capex during FY16 as well as a very low capex achievement indicated by CESC during FY17 till September, 2016 at Rs.111.53 Crores, the Commission is of the view that, it is unlikely that CESC would incur such a huge capex of Rs.889 Crores in FY18.

Further, it is noted that, though CESC has indicated the action plan for FY18 by giving reasons for additional capex and furnished extract of DPR/Estimates pertaining to eight projects stated to be prepared complying to the "Capital Expenditure Guidelines for ESCOMs", they do not indicate the objectives and quantifiable outcomes of the projects. The CESC should mandatorily 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 discussed in detail, so as to address:

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 etc.

The Commission notes that, CESC has submitted the details of 11kV feeder's losses in the descending order during earlier review meetings, but, it has not mentioned whether, the E&I work taken up by it are addressing the issue of reduction of distribution losses in the high loss making feeders, which are listed by it.

In light of the above discussions and taking into consideration the capex achievement during the past five years and the reasons for excess capex during FY16 and also, a very low capex achievement till September, 2016 during FY17, the Commission decides that, it is unlikely for CESC to achieve the capex as proposed. Further, the Commission, while recognizing the capex proposed by CESC at Rs.889 Crores, decides to consider the capital expenditure of Rs.552 Crores for the purpose of tariff calculations for FY18 which is subject to prudence check. The Commission directs CESC that, it should meet any additional capex required during FY18, only through re-appropriation of approved amounts for the prioritized category 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:

a) Sales other than IP sets:

CESC in its Tariff Application has stated that for estimating sales for FY-17 and FY18, it has considered three years or five year CAGR. The Commission has observed that the CAGR (which is annual growth rate) has been applied for the half-year data of FY-17 for estimating the sales for second half of FY17, which is not appropriate, as CAGR stands for compounded annual growth rate and has to be applied for annual data and not on half-year data. For the current year, where the half-year data is available, the estimate could be done on pro-rata basis by considering the actual sales up to 30.09.2016 and estimating the sales for the remaining period based on the growth rate of the previous year for the corresponding period.

The observations of the Commission on sales forecast for the FY18 and the replies furnished by CESC are discussed below:

i) LT(1) – BJ/KJ category:

While the number of installations in this category has been reduced from 497094 installations in FY16 to 496020 in FY18, the sales has increased from102.75 MU to 118.52 MU. Further, though the number of installations for FY18 is retained at FY17 level, the allocation between installations consuming less than 18 units and above 18 units have been altered in FY18. CESC shall explain the reasons for the same. Further the number of installations is indicated as 496020 at pg.12 and as 496780 at pg. 22. The figures shall be reconciled.

CESC in its replies has stated that the number of installations under BJ/KJ installations consuming less than 18 units is decreasing since FY13 and those under BJ/KJ consuming more than 18 units are increasing, resulting in alteration in the allocation between BJ/KJ consuming less than 18 units and those consuming more than 18 units.

Further CESC in its replies to the preliminary observations had clarified that the number of installations indicated at page 22 is for FY16 and that the figures indicated in page-12 is for FY17 and FY18. Subsequently. In its replies to the rejoinder, CESC has clarified that number of installations indicated at page 22 is for first half of FY17.

The Commission has taken note of the replies furnished by CESC. The approach of the Commission in estimating the sales to different category of consumers is discussed in the subsequent paragraphs.

ii) Number of Installations:

Regarding the number of installations, the Commission had observed that, the growth rate considered for HT3 and HT4 categories is on the higher side when compared to the normal growth rate indicated and the growth rate considered for LT-2b and HT-1 categories is on the lower side when compared to the normal growth rate indicated.

Further, the Commission regarding the energy sales, had observed that the estimated growth rates for HT-2a, HT-2b and HT-4 categories is higher considering the recent trends in growth rate for these categories.

CESC, in its response to the preliminary observations did not furnish any reply on the above observations. Since the above issue was again raised in the rejoinder by the Commission, in its replies to the rejoinder, CESC has stated that it has furnished the details of estimation in its application for ERC and Revision of tariff for FY18 and has reiterated the same.

iii) Category-wise information in the specified format was requested to validate the sales and the CESC has furnished the detail in its replies to the preliminary observations.

iv) To validate the sales estimate, the CESC was requested to furnish the following information:

a) The data of sales to HT2(a) and HT2(b) categories along with the consumption from open access / wheeling for the period 2011-12 to 2015-16 in the in the specified format.

b) To estimate the impact of shifting of installations from HT2a, HT2b and HT-4 to HT-2c category, the number of installations shifted from these categories and the corresponding sales figures for FY14, FY15 and FY16.

CESC in their replies to the preliminary observations has furnished the above details.

The Commission's approach for estimating the number of installations and sales for FY18:

The methodology adopted by the Commission to estimate the number of installations and sales to categories other than BJ/KJ and IP sets 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 CESC in the current filing and the data available as on 30.11.2016. The Commission has validated both the number of installations and sales to various categories considering the actuals as on 30.11.2016 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 31.03.2016 also. Accordingly, the base year estimation has been revised which has an impact on the estimated number of installations and estimated sales for the year FY18.

b. Wherever the number of installations estimated by CESC for the FY18 is within the range of the estimates based on the CAGR for the period FY11 – FY16 and for the period FY13 - FY16, the estimates of CESC are retained.

c. Wherever the number of installations estimated by CESC 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. Wherever the number of installations estimated by CESC 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 LT 4(b), 4(c), LT-7, HT-2(c), HT (4) and HT-5 categories, the estimates of CESC 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 2218006 as against 2221966 proposed by CESC.

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ii) Energy Sales:

For 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 CESC are validated duly considering the actual sales upto November, 2016 and modified suitably as stated earlier.

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

c. Wherever the sales estimated by CESC 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. Wherever sales estimated by CESC for the 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), LT 4(c), LT-7, HT-2(c) and HT-5 categories, the estimates of CESC are retained, as the growth rate for these categories is not consistent.

f. For HT-4 category, the sales are estimated based on the specific consumption of FY16.

g. For HT2(a) and HT2(b) categories, the sales estimate based on the methodology specified at paras b, c and d above are reasonable and is adopted. Therefore, the sales estimate based on the analysis of open access impact is not considered for FY18.

Based on the above approach, the sales (excluding BJ/KJ and IP) estimated by the Commission for FY18 is 3368.54 MU, as against 3419.05 MU proposed by CESC.

b) 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 CESC, the total sales estimated for this category for FY18 works out to 106.17 MU. Considering the total number of BJ/KJ installations of 496020 for FY18 as proposed by CESC, the specific consumption works out to 17.84 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 106.17 MU is considered for the purpose of estimating the subsidy for this category. However, the CESC 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.

c) 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 7,843 units/installation/ annum for the control period FY17 to FY19. However, based on the actual data of sales to IP-sets as reported by the CESC in its Tariff filing, the Commission had approved the specific consumption as 8,195 units/installation/annum, for the FY16.

Further, the IP-sales reported as per the format D2 of its Tariff filing by the CESC was 2,306.87 MU as against the approved sales quantity of 2,624.47 MU, for FY16. However, the CESC in its subsequent communication dated 30th January, 2017, to the Commission, has submitted the revised sales of IP-sets based on the specific consumption arrived at from the meter readings of segregated agricultural feeders as 2,077.97 MU, for FY16. This indicates a decrease in sales to an extent of 228.9 MU between the IP consumption reported by the CESC in its Tariff filing and its subsequent submission on the basis of metered consumption in respect of the segregated agricultural feeders, under NJY. Also, it is noted that the CESC has already segregated significant number of feeders under NJY as exclusive agricultural feeders and rural feeders, which means that regulated power supply to IP-sets has contributed to reduction in the agricultural consumption during the FY16.

It is noted that during FY15, the CESC's specific consumption arrived at on the basis of metered consumption in respect of agricultural feeders was 7,843 units/installation/annum. It is observed that the specific consumption of 7,843 units/installation/annum for FY15 is less than the approved specific consumption of 8,195 units / installation /annum for FY16 by 352 units /installation/annum. Further, the specific consumption worked out on the basis of the revised consumption of 2,077.97 MU for FY 16 as reported by the CESC is 6,728 units/installation/annum. Further, it is noted that the specific consumption arrived at considering the revised consumption based on the segregated agricultural feeders for FY16 is far less than the approved specific consumption of 8,195 units/

installation/annum, by 1467 units/installation/annum. Hence, it is appropriate to consider the specific consumption of 6,728 units/ installation/annum for the FY18 also. In view of this, the Commission decides to approve the specific consumption of 6,728 units/installation/ annum for the ARR of FY18.

Further, it is noted that the CESC has estimated the number of IP-set installations as 3,69,402 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 CESC, 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 CESC, the mid-year number of installations is determined and the sales to IP-set consumers are indicated as follows:

TABLE-5.5
Computation of IP Set Consumption

Particulars	As filed by the CESC		As approved by the Commission
	FY17	FY18	FY18
No of installations	3,40,102	3,69,402	3,69,402
Mid-Year no. of installations		3,54,752	3,54,752
Specific consumption in units/installation/annum		8,368	6,728
Sales in MU		2,968.65	2,386.77

Accordingly, the Commission approves 2,386.77 MU as energy sales to IP-sets as against the CESC's sales projections of 2,968.65 MU, for the FY18. The number of installations approved for FY18 is 3,69,402. 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 CESC 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 further action to arrive at correct number of IP-sets, by deducting such IP-sets from its account, on the basis of GPS survey report. In this regard, the CESC has reported that it has completed GPS survey of 50 per cent of the feeders and has identified 9,114 as not-in-use installations and 82,908 as unauthorized installations. The CESC has sought time up to March, 2017 to revalidate the same and to complete the survey of remaining installations under other feeders, to enable it to arrive at correct number of dried up/defunct/not-in-use wells and to take further action to deduct such IP-set installations from its accounts.

In this regard, the CESC 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 CESC shall arrive at 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. Any variation in sales due to change in number of installations would be trued up during the Annual Performance Review, for the FY18.

Further, it is noted that the CESC has already segregated 372 agriculture feeders from rural loads under NJY phase1&2 and implementation of balance feeders' works 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 after allowing for distribution system losses in 11 KV lines, distribution transformers and LT lines.

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

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+7b) /2**	**8=6/7c**	**9 a**	**9 b**	**9c = (9a+9 b)/2**	**10= 8*9c**
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 CESC is indicated below:

TABLE-5.6
Approved Sales for FY18

Category	FY18 CESC's estimate		FY-18 Approved	
	Installations No.	Sales MU	Installations No.	Sales MU
LT-2a	1847441	1070.63	1842749	1030.81
LT-2b	3063	9.9	3088	9.73
LT-3	238968	310.82	239319	297
LT-4 (b)	202	0.8	202	0.8
LT-4 (c)	7537	14.84	7537	14.84
LT-5	40945	147.23	40946	143.77
LT-6-WS	25860	216.56	25860	216.56
LT-6-PL	21188	111.53	21592	111.53
LT-7	34645	15.82	34645	15.82
HT-1	152	466.79	140	463.65
HT-2 (a)	934	776.96	917	776.95
HT-2 (b)	604	132.01	590	126.28
HT2C	283	65.27	283	65.27
HT-3(a)& (b)	100	70.85	95	84.51
HT-4	18	3.96	18	5.93
HT-5	26	5.08	26	5.08
Sub-Total other than BJ/KJ and IP sets	**2221966**	**3419.05**	**2218006**	**3368.54**
BJ/KJ	496020	118.52	496020	106.17
IP	369402	2968.65	369402	2386.77
Sub-Total of BJ/KJ and IP sets	**865422**	**3087.17**	**865422**	**2492.94**
Total	**3087388**	**6506.22**	**3083428**	**5861.48**

Thus, the Commission decides to approve 5861.48 MU as sales for FY18.

5.2.3 Distribution Losses for FY18:

CESC's Submission:

As per the audited accounts for FY16, the CESC has reported distribution losses of 13.60% as against an approved loss level of 14.50%. The Commission in its Tariff Order dated 2nd March, 2015 had fixed the target level of losses for FY18 at 13.00%. CESC in its application has proposed to retain the loss levels of 13.00% for FY18.

Commission's Analysis and Decisions:

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

TABLE – 5.7

Approved & Actual Distribution Losses-FY11 to FY16

Figures in % Losses

Particulars	FY11	FY12	FY13	FY14	FY15	FY16
Approved Distribution losses	15.50	15.24	15.00	15.50	15.00	14.50
Actual distribution losses	16.42	16.20	15.07	14.73	13.88	13.60*

***Actual losses for FY16 are reported as 13.60%.**

As per Commission's APR the losses for FY16 is 17.26% 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 17.26% which is much higher than the actual loss of 13.6% reported by CESC.

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

Hence, the Commission, in its preliminary observations stressed on the need of further reduction in the distribution loss levels proposed by the CESC, for FY18, duly considering the past and the present capex. Therefore, there could have been a revised target of distribution loss for FY18. However, the CESC has not proposed any change to its proposed loss levels. Nevertheless, considering that, a higher target would incentivize CESC to make efforts to identify and plug commercial losses through vigilance and other activities, the Commission decides to retain the distribution loss levels as approved in the Tariff Order dated 30th March, 2016 for FY18 as follows:

TABLE – 5.8
Approved Distribution Losses for FY18

Figures in % Losses

Distribution Loss Range	FY18
Upper limit	13.50
Average	**13.00**
Lower limit	12.50

5.2.4 Power Purchase for FY18

CESC's Submission:

CESC has submitted the power purchase requirement along with its cost including the transmission charges and SLDC charges, in D-1 Format. CESC has sought approval of the Commission for purchase of power to an extent of 7739.23MU at Cost of Rs 2983.57Crores for the FY18, which includes transmission charges and SLDC charges.

The cost of power purchase has been considered by the CESC 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 CERC.

Table-5.9

Power Purchase Cost as filed by CESC for FY18

Source of Power	Power Purchase Cost as filed by CESC		
	Energy in MU	Cost in Rs. Crs	Cost Per Unit in Rupees
KPCL Hydel Energy	1645.85	126.47	0.76
KPCL Thermal Energy	1850.79	806.07	4.35
CGS Energy	2245.57	798.32	3.55
IPP	824.86	349.76	4.24
NCE	1021.25	348.80	3.41
Other State Hydel	3.41	5.93	17.38
Short Term/Medium term	147.50	66.37	4.50
KPTCL Transmission charges		334.94	
PGCIL Charges		146.53	
POSOCO Charges		0.38	
Total	**7739.23**	**2983.57**	**3.85**

Commission's Analysis and Decisions:

The energy requirement of the ESCOMs, including CESC 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 has 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 750 MW unit No.3 of BTPS, 2x800 MW units of YTPS and 1x800 MW of Kudgi plant of NTPC, has not been considered by the CESC, 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 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 dispatch 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 CESC, 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 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 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-5.10

Approved Power Purchase Quantum & Cost- For the State

Source of Power	Power Purchase		
	Energy (MU)	Amount in Rs. Crores	Cost/Unit in Rs.
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 CESC is as under:

TABLE-5.11

Approved Power Purchase Cost of CESC for FY18

Source of Power	Power Purchase Cost as filed by CESC			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	1645.85	126.47	0.76	2434.98	153.76	0.63
KPCL Thermal Energy	1850.79	806.07	4.35	1031.07	445.66	4.32
CGS Energy	2245.57	798.32	3.55	2184.12	774.41	3.55
UPCL	824.86	349.76	4.24	164.70	80.70	4.90
Renewable Energy	1021.25	348.80	3.41	828.55	361.79	4.36
Other State Hydel	3.41	5.93	17.38	12.69	5.27	4.15
Short Term/Medium term	147.50	66.37	4.50	316.19	120.00	
PGCIL Charges		146.53			109.79	
KPTCL Charges		334.94			301.47	
SLDC & POSOCO Charges		0.38			3.52	
Total	**7739.23**	**2983.57**	**3.85**	**6972.30**	**2356.37**	**3.379**

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

5.2.5 RPO target for FY18:

1. The Commission had directed CESC to submit the estimates for complying with solar and non-solar RPO for 2017-18, including cost implication for purchasing RECs, if any.

CESC in its replies has not furnished the estimates explicitly. However as per the D1 format furnished by CESC, the estimate would be as indicated below:

TABLE-5.12

Estimated Solar RPO for FY18

Energy in MU

Estimated Energy Purchase	7739.23
Estimated Non-Solar energy purchase	457.31
Estimated Non-Solar compliance as percentage of energy purchase	5.91
Estimated Solar energy purchase	563.94*
Estimated Solar compliance as percentage of energy purchase	7.29

***Includes NTPC bundled power of 67.39 MU. As NTPC bundled power for FY16 is retained for FY18 also, based on the breakup furnished by CESC for FY16, out of 67.39 MU, solar energy at 12.56 MU is considered.**

2. Further, the Commission had directed CESC to furnish certain details, with respect to the renewable energy purchase estimates made for the FY18.

CESC in its replies has furnished the following details

TABLE-5.13

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	121.25	00	00
Mini-hydel	117.70	5.00	0
Co-generation	28.00	93.14	16.50
Biomass	7.80	0	00
Waste to Energy	00	0	00
Solar	26.00	79.00	255.00

CESC has also indicated that it would purchase 73.29MU from IEX.

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

TABLE 5.14

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.Crores)	Qty (MU)	Cost Rs.Crores)
Solar Rooftop plants of < 500KW	0.5	1.495	0.227	0	0
Solar Rooftop plants of >500KW	1.827	0	0	0	0
1-3 MW Projects allotted to Farmers by KREDL.	21	8.738	7.32	0	0
20 MW Projects Taluk wise issued by KREDL.	145	0	0	211.70	106.80
Other MW scale projects	58	25.4	17.46	96.30	43.30
Total	**226.33**	**35.63**	**25.01**	**308**	**150.10**

***Projects expected in FY18**

Commission's observations on CESC'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 457.31 MU.

b. Even though, CESC has not considered any energy under non-solar projects for FY18 in D-1 format, in the replies furnished to the preliminary observations, it has considered new Mini-Hydel Projects of 5 MW and about 110 MW of cogeneration capacity addition. CESC has not considered the contribution from the above projects while estimating renewable energy for FY18.

c. With the estimated energy of 7739.23 MU for FY18 and considering excess solar energy of 412.37 MU, CESC as per its filing would meet Non-solar RPO of 11.24% against target of 12% for FY18.

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

a. As per D-1 Format, the solar renewable energy is estimated as 563.94 MU. However, considering only 12.56 MU of solar energy, out of NTPC bundled power of 67.90 MU, CESC would be able to procure only 509.11 MU of solar energy.

b. With the estimated energy of 7739.23 MU and considering 509.11 MU of solar energy, CESC would meet solar RPO of 6.58% against target of 1.25% for FY18.

c. In the replies to the preliminary observations, CESC has estimated solar energy as 150.10 MU, which is not in tune with the data furnished in D-1 format.

Commission's Analysis and Decision:

The Commission has approved power purchase quantum of 6972.30 MU for FY18. The Non-solar RPO target at 12% would be 836.68 MU. The Commission has approved purchase of 601.00 MU from non-solar RE sources. Thus, CESC would be able to procure 601.00 MU as against an estimated RPO of 836.68 MU, resulting in shortfall of 235.68 MU. Even after considering the anticipated surplus of solar energy of 229.26 MU, CESC would fall short in meeting the non-solar RPO by 6.42 MU. Therefore, there may be a need for purchasing RECs. Thus, in case there is a shortfall based on the actuals, CESC 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 6972.30 MU for FY18. The Solar RPO target at 1.25 % would be 87.15 MU. The Commission has approved purchase of 316.41 MU of Solar energy. Thus, CESC would exceed the solar RPO by 229.26 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:

CESC's Proposal:

The CESC, in its application, has considered the actual O&M expenses of Rs.418.48 as the base year O&M expenses and factored the weighted inflation index of 7.71% and consumer growth index of 3.98% for FY17 on three years CAGR and 7.41% for FY18. Also an amount of Rs.282.63 Crores is claimed as CESC portion of liability towards pension and gratuity as per the instructions of the Energy Department, Government of Karnataka vide letter No. EN 26 PSR 2016/ P3 dated 16th September, 2016. CESC has also included an amount of Rs. 63.87 Crores towards increase in employee cost on account of the proposed revision of pay scales during FY18.

Based on the above, the CESC has sought the O & M expenses of Rs. 850.63 Crores for FY18 as detailed below:-

TABLE – 5.15

O & M Expenses for FY18- CESC's Submission

Amount in Rs. Crores

Particulars	FY16	FY17	FY18
No. of Installations		2962650	3087388
CGI based on 3 Year CAGR		3.98%	4.11%
Weighted Inflation index		7.71%	7.71%
Base Year O&M expenses (as per actuals of FY16)	418.48		
Total O&M Expenses		**459.03**	**504.12**
Pay scale impact during FY18			**63.87**
P&G Contribution liability			**282.63**
Total O&M Expenses for FY18			**850.63**

Commission's analysis & 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 O&M expenses of Rs. 484.09 Crores for FY18 based on the base year O&M expenses of FY16 determined on the basis of the actual O&M expenses inclusive of contribution to P&G Trust of FY15, three years compounded annual growth rate (CAGR) of consumers of 3.92% and weighted inflation index of 7.24%. The approved O&M expenses for FY18 were as follows:

Table-5.16

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

Particulars		FY17	FY18
No. of Installations		2963000	3070460
CGI based on 3 Year CAGR		3.98%	3.92%
Weighted Inflation index		7.71%	7.71%
Base Year O&M expenses (as per actuals of FY15)-Rs.Crs	406.02		
Total O&M Expenses-Rs.Crs		**443.46**	**484.09**

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 notes that, the CESC has claimed additional O&M expenses of Rs.63.87 Crores and Rs.282.63 Crores for FY18 owing to revision of pay scales and liability of P&G contribution respectively.

The Commission is of the view that additional employee cost due to revision of pay scale during FY18 could be factored and considered only after being incurred by the distribution licensee. The claims of liability of P&G contribution of Rs.282.63 Crores is discussed separately in the following paragraphs.

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.418.48 Crores inclusive of contribution to P&G Trust. 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 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 of 4.07% 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 issued by the Commission on Review Petitions.

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

TABLE – 5.17

Approved O & M expenses for FY18

Particulars	FY16	FY17	FY18
No. of Installations		2958371	3083428
CGI based on 3 Year CAGR		3.93%	4.07%
Weighted Inflation index		7.71%	7.71%
Base Year O&M expenses (as per actuals of FY16)-Rs.Crs	418.48		
Total allowable O&M Expenses-Rs.Crs			**503.63**

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.503.63 Crores for FY18.

5.2.7 Depreciation:

CESC's Proposal:

The CESC, in its application has claimed the depreciation of Rs.191.01 Crores for FY18 as detailed below:

TABLE – 5.18

Depreciation-FY18- CESC's Submission

Amount in Rs.Crores

Particulars	FY18
Land and Rights	0.02
Buildings	3.57
Civil	0.16
Other Civil	0.05
Plant & M/c	23.79
Line, Cable Network	161.57
Vehicles	0.87
Furniture	0.56
Office Equipment	0.42
Total	**191.01**

Commission's analysis and decision:

The Commission notes that, the depreciation amount claimed by CESC is gross depreciation on gross fixed assets. The depreciation of Rs.53.26 Crores on the assets created out of consumer contribution/ grants has been factored under other income for FY18.

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 fixed assets projected by CESC, in its application for FY18 duly factoring the retirement of assets also.

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 CESC, at the weighted average rate of depreciation as per actuals in FY16.

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

TABLE – 5.19

Approved Depreciation for FY18

Amount in Rs. Crores

Particulars	FY18
Buildings	3.19
Civil	0.13
Other Civil	0.03
Plant & M/c	43.65
Line, Cable Network	122.07
Vehicles	0.12
Furniture	0.26
Office Equipment's	0.65
Total	**170.09**
Less: Deprecation on Assets created out of Consumer Contribution / Grants	53.26
Net Depreciation	**116.83**

Thus, the Commission decides to approve an amount of Rs.116.83 Crores towards depreciation for FY18.

5.2.8 Interest on Capital Loans:

CESC's proposal:

CESC in its application has stated that, based on the proposed revised capex of Rs.889.00 Crores and the interest on capital loan requirement is projected at Rs.186.57 Crores for FY18.

The CESC has requested to approve interest on capital loan for FY18 as follows:

TABLE – 5.20

Interest on Capital Loan– CESC's Submission

Amount in Rs. Crore

Particulars	FY18
Opening Balance of Capital Loans	1613.81
Add : New Loans	936.00
Less : Repayments	520.22
Total Loan at the end of the year	2029.59
Average Loan for the year	1821.70
Total Interest on Capital Loans	**186.57**

Commission's analysis and decision:

The Commission in its Order dated 30th March, 2016 had approved capex of Rs.552.00 Crores for FY18. CESC in its present application has proposed the revised capex of Rs.889.00 Crores for FY18. As discussed in the preceding section of this Order, the Commission has reckoned capex of Rs.552.00 Crores for FY18.

As per the audited accounts and as per the APR of FY16, the CESC had incurred interest on capital loan at a weighted average rate of interest of 11.40% 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 interest 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 capital loans with tenure of 3 years is 8.15%. Considering the present MCLR, the Commission decides to allow an interest rate of 11.00% 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 – 5.21
Approved Interest on Loans for FY18

Amount in Rs. Crores

Particulars	FY18
Opening Balance long term loans	**1042.39**
Add : New loans	386.40
Less : Repayments	155.51
Total loan at the end of the year	1273.28
Average Loan	**1157.84**
Weighted average rate of interest in %	11.35%
Interest on long term loans	**131.41**

Thus, the Commission decides to approve interest of Rs.131.41 Crores on Capital loans for FY18.

5.2.9 Interest on Working Capital:

CESC's proposal:

CESC has claimed interest on working capital of Rs.68.95 Crores based on 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. 73.64 Crores for FY18.

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

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

TABLE – 5.22

Approved Interest on Working Capital for FY18

Amount in Rs. Crs

Particulars	FY 18
One-twelfth of the amount of O&M Expenses	41.97
Opening Gross Fixed Assets (GFA)	3073.80
Stores, materials and supplies 1% of Opening balance of GFA	30.74
One-sixth of the Revenue	556.67
Total Working Capital	629.38
Rate of Interest (% p.a.)	11.00%
Interest on Working Capital	**69.23**

Thus, the Commission decides to approve the interest on working capital of Rs.69.23 Crores for FY18.

5.2.10 Interest on Consumer Security Deposit:

CESC's proposal:

CESC in its application has claimed interest on consumer security deposit of Rs.41.70 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 applicable bank rate is 6.75%. The Commission has considered the same, for computation of interest on consumer security deposits for FY18.

The Commission has considered 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 deposits of the relevant year. Accordingly, the interest on consumer deposits for FY18 is as follows:

TABLE – 5.23

Approved Interest on Consumer Security Deposits for FY18

Amount in Rs. Crores

Particulars	FY18
Opening balance of consumer security deposits	504.48
Addition of deposits during FY18	40.00
Closing balance of consumer security deposits	544.48
Average Consumer Security Deposits for FY18	524.48
Rate of Interest at bank rate to be allowed as per Regulations	6.75%
Approved Interest on average Consumer Security Deposit	**35.40**

Thus, the Commission decides to approve interest on consumer security deposits of Rs.35.40 for FY18.

5.2.11 Other Interest and Finance Charges:

CESC has claimed an amount of Rs.0.52 Crores towards other interest and finance charges for FY18. Considering, the expenditure on this item in the earlier years, the Commission decides to allow an amount of Rs.0.52 Crores towards interest and finance charges for FY18.

5.2.12 Interest and other expenses Capitalized:

CESC has claimed an amount of Rs.24.00 Crores towards capitalization of interest and other expenses during FY18. Considering, the capital expenditure incurred and capitalized in the previous years, the Commission decides to allow capitalization of interest and other expenses of Rs.24.00 Crores as proposed by CESC for FY18.

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

TABLE – 5.24
Approved Interest and finance charges for FY18

Amount in Rs. Crores

Particulars	FY18
Interest on Loan Capital	131.41
Interest on Working Capital	69.23
Interest on Consumers Security Deposit	35.40
Other Interest & Finance Charges	0.52
Less : Interest & other expenses capitalized	(24.00)
Total Interest & Finance Charges	**212.57**

5.2.13 Other Debits and Prior period charges:

CESC, in its application has claimed an amount of Rs.6.79 Crores towards other debits and Rs.2.00 Crores towards net prior period debit / credit for FY18.

Commission's analysis and decision:

The Commission notes that, CESC has claimed expenditure of Rs.6.79 Crores towards Other Debits and Rs.2.00 Crores towards Prior period debit/credit for FY18. It is to be noted that, these items of expenditures/income 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.

5.2.14 Return on Equity:

CESC's proposal:

CESC 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 reserves & surplus as per the audited accounts for FY16 for arriving at the allowable equity base for the control period FY18.

The Commission, in accordance with the provisions of the MYT Regulations, and amendments 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 Regulations the Return on Equity is to be computed based on the opening balances of share capital, share deposits and accumulated balance of surplus / deficit under reserves and surplus account. Further, an amount of Rs.23.00 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 – 5.25

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	3073.80	1042.39	(84.70)				
	Closing Balance	3602.02	1273.28	(84.70)	2521.41	1080.61	35.35%	-

From the above table it is seen that the amounts of debt and equity are within the normative debt:equity amounts on 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 – 5.26
Approved Return on Equity for FY18

Amount in Rs. Crores

Particulars	FY18
Opening Balance of Paid Up Share Capital	508.57
Share Deposit	64.00
Reserves and Surplus (Accumulated deficit)	(634.27)
Less Recapitalised Security Deposit	(23.00)
Total Equity	**(84.70)**

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

5.2.15 Other Income:

CESC's proposal:

CESC has claimed an amount of Rs.115.86 Crores as other income for the FY18, which also include depreciation on assets created out of consumer contribution / grants.

Commission's analysis and decision:

The other income received by the CESC mainly includes income from rebate on 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. The actual 'other income' as per the audited accounts for FY16 is Rs.79.52 Crores.

Considering the other income earned by the CESC in the past two years, the Commission decides to approve other income of Rs.59.48 Crores for FY18.

5.2.16 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 an amount of Rs.0.50 Crore for each year of the control period FY18, towards meeting the expenditure on consumer relations / consumer education.

The Commission directs CESC 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.

5.2.17 Contribution towards Pension and Gratuity Trust

CESC in its application has claimed an amount of Rs.282.63 Crores as being the arrears of contribution to P&G Trust not released by the Government of Karnataka.

The Commission in its preliminary observations had requested CESC 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, CESC has stated that it has included an amount of Rs. 282.63 Crores towards CESC 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".*

In the above context, 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, CESC 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 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 CESC to allow an amount of Rs.282.63 Crores being the GoK liability towards arrears of contribution to P&G Trust in the ARR for FY18.

5.3. Abstract of revised ARR for FY18:

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

TABLE – 5.27

Approved Revised ARR for FY18

Amount in Rs.Crores

Sl. No	Particulars	FY18		
		As Appd 30.03.3016	**As Filed 30.11.2016**	**As Revised Approved**
	Revenue at existing tariff in Rs Crs			
1	Revenue from tariff and Misc. Charges		2205.86	2154.32
2	Tariff Subsidy in BJ/KJ		21.80	20.98
3	Tariff Subsidy in IP		1457.84	1164.74
3	**Total Existing Revenue**		**3685.50**	**3340.04**
	Expenditure in Rs Crs			
5	Power Purchase Cost	2651.81	2648.63	2051.76
6	Transmission charges of KPTCL	332.24	332.24	301.47
7	SLDC Charges	2.70	2.70	3.14
8	**Power Purchase Cost including cost of transmission**	**2986.75**	**2983.57**	**2356.37**
9	Employee Cost		394.71	
10	Repairs & Maintenance		47.28	
11	Admin & General Expenses		62.14	
12	**Total O&M Expenses**	**484.09**	**504.13**	**503.63**
13	Depreciation	104.56	191.01	116.83
	Interest & Finance charges			
14	Interest on Capital Loans	124.89	186.57	131.41
15	Interest on Working capital loans	73.64	68.95	69.23
16	Interest on consumer security deposits	41.26	41.70	35.40
17	Other Interest & Finance charges		0.52	0.52
18	Less interest & other expenses capitalised	24.00	24.00	24.00
19	**Total Interest & Finance charges**	**215.79**	**273.74**	**212.57**
20	Other Debits*	0.00	6.79	0.00
21	Net Prior Period Debit/Credit*	0.00	2.00	0.00
22	Return on Equity	0.00	0.00	0.00
23	Funds towards Consumer Relations/Consumer Education	0.50	0.00	0.50
24	Provision for contribution to P&G Trust (GoK Liability) and Revision of pay scale.		346.50	0.00
25	Other Income	42.81	115.86	59.48
26	Disallowance of Interest and Depreciation on imprudent investments in FY16			1.55
	ARR	**3748.89**	**4191.88**	**3128.86**
27	Deficit for FY16 carried forward		-456.54	-492.73
28	**Net ARR**	**3748.89**	**4648.42**	**3621.58**

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

CESC in its application has proposed the segregation of ARR into ARR for Distribution Business and ARR for Retail Supply Business as proposed in MYT application made earlier as detailed below:

TABLE – 5.28

Segregation of ARR – CESC's Submission-FY18

Particulars	Distribution Business	Retail Supply Business
Power Purchase	0%	100%
Repairs & Maintenance	90%	10%
Employee costs	48%	52%
A&G expenses	55%	45%
Depreciation	78%	22%
Interest and Finance charges	100%	0%
Other interest charges	0%	100%
Other debits	48%	52%
Extra-ordinary items	0%	0%
Prior period expenses	91%	9%
RoE	75%	25%
Provision for taxes	50%	50%

Commission's Analysis and Decisions:

The Commission notes that CESC has retained the same ratio as being adopted for the MYT period FY17-19 for segregation of consolidated ARR into ARR for Distribution Business and ARR for Retail Supply. As decided by the Commission in its Tariff Order dated 30th March, 2016, the following ratio of segregation of ARR is adopted for FY18:

TABLE – 5.29

Approved Basis for Segregation of ARR – FY18

Particulars	Distribution Business	Retail Supply Business
O&M	51%	49%
Depreciation	84%	16%
Interest on Loans	100%	0%
Interest on Consumers' Deposits	0%	100%
Return on Equity	75%	25%
Gross Fixed Assets	84%	16%
Non-Tariff Income	2%	98%

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

TABLE – 5.30

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	256.85
4	Depreciation	98.14
	Interest & Finance Charges	
5	Interest on Capital Loans	129.86
6	Interest on Working capital loans	6.42
7	Other Interest & Finance charges	0.52
8	Less interest & other expenses capitalised	24.00
9	**Total**	**467.79**
10	Other Income	1.19
11	**NET ARR**	**466.60**

TABLE – 5.31

APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY18

Amount in Rs.Crores

Sl. No	Particulars	FY18
1	Power Purchase	2051.76
2	Transmission Charges	304.61
3	R&M Expenses	
4	Employee Expenses	
5	A&G Expenses	246.78
6	Depreciation	18.69
	Interest & Finance Charges	
7	Interest on Working capital loans	62.81
8	Interest on consumers' security deposits	35.40
9	**Total**	**2720.05**
10	Other Income	59.29
11	Fund towards Consumer Relations / Consumer Education	0.50
12	**NET ARR**	**2662.26**

5.5. Gap in Revenue for FY18:

As discussed above, the Commission decides to approve the revised Annual Revenue Requirement (ARR) of CESC for its operations in FY18 at Rs.3621.58 Crores as against CESC's application proposing the revised ARR of Rs.4648.42 Crores by including the revenue deficit of Rs.456.54 Crores for FY16. This approved revised ARR includes an amount of Rs.492.73 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.3340.04 Crores which is Rs.281.54 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 – 5.32

Revenue gap for FY18

Particulars	FY18
Net ARR including carry forward gap of FY16 (in Rs. Crores)	3621.58
Approved sales (in MU)	5861.48
Average cost of supply (in Rs./unit)	6.18
Revenue at existing tariff (in Rs. Crores)	3340.04
Gap in revenue (in Rs. Crores)	**(281.54)**

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