

CHAPTER – 5

REVISED ANNUAL REVENUE REQUIREMENT FOR FY19

5.0 Revised Annual Revenue Requirement (ARR) for FY19

BESCOM's Application:

BESCOM in its application dated 30th November, 2017, has sought the 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-BESCOM's Submission

Rs. Crores		
Sl. No.	Particulars	Amount
1	Energy at Gen Bus in MU	33073.82
2	Transmission Losses in %	3.27%
3	Energy at Interface point in MU	31992.30
4	Distribution Losses in %	12.50%
	Sales in MU	
5	Sales to other than IP & BJ/KJ installations	20660.23
6	Sales to BJ/KJ installations	127.69
7	Sales to IP-sets	7205.35
8	Total Sales	27993.27
	Revenue at existing tariff in Rs. Crs,	
9	Revenue from Tariff and Miscellaneous Charges	14888.08
10	Tariff Subsidy from BJ/KJ installations	82.74
11	Tariff Subsidy from IP-sets	2406.59
12	Total Existing Revenue	17377.41
	Expenditure in Rs. Crs.	
13	Power Purchase Cost	13486.70
14	Transmission charges of KPTCL	1781.99
15	SLDC Charges	14.29
16	Power Purchase Cost including cost of transmission	15282.98
17	Employee Cost	1200.89
18	Repairs & Maintenance	102.12
19	Admin & General Expenses	331.48
20	Total O&M Expenses	1634.49
21	Depreciation	428.65
22	Interest & Finance charges	
23	Interest on Capital Loans	574.32
24	Interest on Working capital	375.73
25	Interest on belated payment on PP Cost	0.00
26	Interest on consumer deposits	287.74
27	Other Interest & Finance charges	11.63
28	Less interest & other expenses capitalised	80.00

29	Total Interest & Finance charges	1169.42
30	Other Debits	0.00
31	Net Prior Period Debit/Credit	0.00
32	Return on Equity with MAT	210.63
33	Funds towards Consumer Relations/Consumer Education	1.00
34	Other Income	75.82
	ARR	18651.35
	Surplus / Deficit for the year	(1273.94)
35	Deficit for FY17 carried forward	(1028.99)
	Net ARR	19680.34

The BESCOM has requested the Commission to approve the revised Annual Revenue Requirement of Rs.19680.34 Crores for FY19. Considering the estimated revenue from sale of power to consumers and miscellaneous charges of Rs.17377.41 Crores, based on the existing retail supply tariff, the BESCOM has projected a revenue gap of Rs.2302.93 Crores for FY19, which includes the carried forward estimated revenue gap of Rs.1028.99 Crores of FY17. In order to bridge this gap in revenue, the BESCOM, in its application has proposed increase in retail supply tariff by 82 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, as per the provisions of MYT Regulations, the Commission has carried out the Annual Performance Review for FY17 based on the audited accounts submitted by the BESCOM. Accordingly, a deficit of Rs.234.10 Crores of FY17 is carried forward into the ARR of FY19.

5.2 Revised Annual Revenue Requirement for FY19:

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

5.2.1 Capital Investments for FY19:

BESCOM's submission:

The BESCOM has proposed a capex of Rs.2836.44 Crores for the FY19 as against Rs.713.18 Crores approved by the Commission in the Tariff Order

dated 30th March, 2016. The details of scheme-wise capex proposed for FY19 along with the breakup of spill-over and new works are as shown below:

Table -5.2**Capital investments for the FY19 - BESCOM's Submission**

SI No	Type of Work	Approved by KERC during MYT for FY19	Total Revised Capex proposal for FY19 in Rs. Crores		
			Spill over	New works	Total
1	Ganga kalyana Works	45.48	30.30	50	80.30
2	Water Works		19.09	35	54.09
3	Service connection works		34.08	60	94.08
4	SDP Works.	0.00	4.48	35	39.48
5	Providing Infrastructure to Un authorized IP-sets	3.27	168.00	250	418.00
6	NJY	0	183.96	0	183.96
7	DDUGJY	100	60.00	0	60.00
8	IPDS	100	116.00	150	266.00
9	DSM	77.3	32.57	35	67.57
10	RAPDRP A	0	0.00	5.9	5.90
11	11 KV new lines/ Link lines	78.06	38.84	50	88.84
12	Providing Additional DTC's /Enhancement of DTCs	44.8	29.26	50	79.26
13	Strengthening of HT circuit using Conductor/UG cable/Covered Conductor/AB cable	52.45	48.23	74.93	123.16
14	Strengthening of LT circuit using Conductor/UG cable/AB cable	48.29	48.89	72.01	120.90
15	Local planning, Safety, Hazardous, Emergency, Natural Calamity	53.04	65.51	100	165.51
16	Meters	10.5	43.60	48	91.60
17	HVDS	100	70.00	50	120.00
18	Erection of distribution transformer centers using 11 mtrs Spun poles	0	20.00	0	20.00
19	Civil Engineering Works	0	34.16	30	64.16
20	IT initiative	0	26.63	30	56.63
21	TIC	0	2.01	5	7.01
22	Auto reclosure	0	20.00	50	70.00
23	Model Sub division	0	120.00	400	520.00
24	Corporate office reserve fund	0	0.00	40	40.00
Total		713.18	1215.60	1620.84	2836.44

It is stated by the BESCOM that, out of the proposed capex of Rs.2836.44 Crores, schemes involving capital expenditure of Rs.1175.30 Crores are being funded by the Central and State Governments and the balance will be carried out by raising capital loans and internal resources.

Commission's analysis and decisions:

In the MYT application for the 4th control period, the BESCOM had indicated a capex of Rs.713.18 Crores for FY19. This has been revised to Rs.2836.44 Crores, in the filing for Tariff revision for FY19, which is nearly four times the capex approved in the MYT Tariff Order.

The BESCOM has indicated category-wise capital expenditure, incurred upto September, 2017 during FY18, of Rs.516.78 Crores which means that it has incurred only 15.79% of the overall capex of Rs.3272.31 Crores (which was revised by BESCOM in the mid-year) approved for FY18.

Further, in reply to the preliminary observations, the BESCOM has stated that, the major capital works have been finalised during November, 2017 and action would be taken for maximum progress in achieving the capex before March, 2018. To substantiate its statement, the BESCOM has furnished the details of likely expenditure upto the end of March, 2018 as follows:

Table-5.3
Capital expenditure in FY18

Sl. No.	Type of Work	Rs. Crores		
		Revised Capex proposal for FY18	Progress as on Nov-17	Anticipated progress till March-18
1	Ganga kalyana Works	75.76	52.428	60.608
2	Water Works	47.73	35.244	38.184
3	SDP Works.	44.77	12.156	44.7678
4	Providing Infrastructure to Un authorized IP sets	420	77.316	252
5	NJY	459.89	162.864	321.923
6	DDUGJY	150	1.044	75
7	IPDS	290	55.164	203
8	RGGVY 12th plan	42	34.536	42
9	DAS	60.04	23.052	60.04
10	DSM	81.42	9.108	56.994
11	RAPDRP A	42.86	8.052	42.86
12	Service connection works	85.2	42.336	85.2
13	11 KV new lines/ Link lines	97.1	54.492	58.26

14	Providing Additional DTC's /Enhancement of DTCs	73.15	17.364	58.52
15	Strengthening of HT circuit using Conductor/UG cable/Covered Conductor/AB cable	120.57	22.356	72.342
16	Strengthening of LT circuit using Conductor/UG cable/AB cable	122.22	46.068	73.332
17	Local planning, Safety, Hazardous, Emergency, Natural Calamity	163.77	55.86	98.262
18	Meters	109	2.352	65.4
19	HVDS	175	38.976	140
20	One time maintenance	10	3.072	10
21	Erection of distribution transformer centers using 11 meters Spun poles	50	0	25
22	Smart Grid	0.15	0	0.15
23	Civil Engineering Works	85.39	15.132	59.773
24	IT initiative	66.58	1.584	53.264
25	TIC	5.02	2.964	5.02
26	Auto reclosure	50	0	45
27	Model Sub division	300	0	300
28	Corporate office reserve fund	44.7	0	44.7
Total		3272.31	773.52	2391.59

The Commission from the above table notes that, even with the anticipated expenditure upto the end of March, 2018, BESCOM would achieve progress up to 73% of the planned outlay. This indicates that the BESCOM is proposing amount of capex higher than its ability to complete the works with in the financial year and is also not following the Capital Expenditure Guideline issued by the Commission. Therefore, BESCOM shall strictly adhere to the “**Capital Expenditure Guidelines for ESCOMs**” issued by the Commission and plan its capex works to the extent that can be achieved during the financial year including the following works:

- a) The network strengthening and expansion required /requirement with reference to its business plan,
- b) Improvement of power supply reliability,
- c) loss reduction trajectory.

BESCOM should prepare a realistic plan duly prioritizing the works and shall not approach the Commission in the middle of the year seeking additional/higher capex. The Commission notes that, approval of any additional capex would

adversely affect the already approved ARR and under-recovery of revenue during the year. Therefore, the Commission directs BESCOM to meet the additional capex, if required, only through re-appropriation of the approved capex within the overall amount approved for the Financial Year and shall not approach the Commission for revised capex approval.

Thus, with the above observations, the Commission decides to consider the capex of Rs.2836.44 Crores as proposed by the BESCOM for FY19. However, for the purpose of tariff computations, after having considered the capital grant of Rs.1175.30 Crores from the State/Central schemes and the available internal resources of BESCOM, the new capital loans of Rs.700 Crores for incurring capex FY19 is considered.

5.2.2 Sales Forecast for FY19:

A. Sales other than IP sets:

No. of Installations:

BESCOM in its tariff Application has stated that the number of installations for FY19 has been worked out on the following basis:

- a. The number of consumers for FY18 has been estimated by adding the half yearly growth of consumers to the first half year data of FY18; and
- b. Generally, the revised estimates for FY19 are being worked out by considering one-year growth rate of FY17 over FY16, on FY18 data. However, BESCOM has stated that the following deviations are taken from the above approach:
 - For IP sets i.e., LT4a, 26070 unauthorized IP installations planned to be serviced in five-months of the second half of FY18 along with Rural Electrification of IP sets of 7000 is considered and for FY19, 15000 addition of installations under Rural Electrification of IP sets is considered.
 - Under DDUJY, 59830 No. of installations are to be serviced in FY18 (23624 installations are already serviced), Hence, 36206 additional installations

are considered for second half of FY18 and for FY19, 59829 additional installations are considered.

- Wherever, one-year growth rate for FY17 is negative or exorbitant, certain modifications have been made, as indicated below:
 - For LT2b, one-year growth rate is -0.2%, therefore, FY18 numbers are retained for FY19.
 - For LT4c, one-year growth rate is -50.7%, therefore, installations added during FY18 is added to the year-end installations of FY18 for estimating the installations for FY19.
 - For LT7, one-year growth rate is 14.5%. Since, the percentage growth varies under this category only 10% growth rate over FY18 is considered for FY19.
 - For, HT5, one-year growth rate is 59.8%, which is exorbitant. Hence, 25% growth rate over FY18 is considered for FY19.

Further, BESCOM has stated that, sales estimate for FY19 is computed as under:

- a. The estimation for FY18 is computed, adding the Sales for Second Half of FY 18 (which is projected considering the H2 ratio for FY17) to the actuals sales upto September,2018, and
- b. Sales for FY19 are computed based on one-year growth rate with the following modifications:
 - Wherever there is a negative growth, the sale of FY18 is retained, as in the case of LT4b category.
 - For LT6- water supply installations, one-year growth rate is 43.8% and CAGR as per formula is 22.5%. Since, 43.8% is on the higher side, growth rate as per CAGR formula i.e. 22.5% is considered.
 - For LT7 water supply installations, one-year growth rate is -5.3% and the CAGR as per the formula is 2.6%. Since, there is negative growth for one year, growth rate as per CAGR formula, i.e. 2.6% is considered.

- Sale to IP sets is computed by multiplying the average consumption of 7980 Units/IP set/annum for FY18 with the year-end installations figure of FY19.
- Sale to BJ/KJ installations is computed by multiplying the average consumption of FY18 with the year-end installations figure of FY19, a part of the sales is considered under LT2a category.

2. The Commission's observations on sales forecast for FY19 and the replies furnished by BESCOM:

i) LT(1) – BJ/KJ category:

BESCOM had not indicated the breakup of installations consuming upto 40 units/month and more than 40 units/month under this category. Hence, BESCOM was directed to furnish, the breakup of installations consuming less than or equal to 40 units/month and above 40 units/month for FY 2017-18 and estimates for FY19.

BESCOM in its replies to preliminary observations has furnished the following details:

TABLE-5.4
Details of consumption of BJ/KJ Installations

Particulars	FY-18		FY-19	
	No.of Installations	Consumption in MU	No.of Installations	Consumption in MU
Installations Consuming up to 40 Units	817324	119.41	873952	127.69
Installations consuming more than 40 units and billed under LT 2a	46195	44.73	49396	47.83

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

- ii) In the case of HT4, the number of installations as on 30.09.2017 is higher, as compared to the estimated figures as on 31.03.2018. In this context, BESCOM

was directed to explain the reasons for reduction in the number of installations as on 31.03.2018.

While acknowledging the above observation, BESCOM has requested the Commission to retain the number of installations as proposed in the Tariff filing. The Commission, has taken note of the reply furnished by BESCOM and the approach of the Commission is discussed in the subsequent paragraphs.

- iii) In the case of LT2 (b)(ii), even though the number of installations for FY19 is retained at FY18 level, the sales for FY19 is not retained at FY18 level. Also, for LT 4(b), though the number of installations has been increased in FY19 as compared to FY18, sales has been retained at FY18 level. Reasons for the same shall be furnished.

BESCOM has stated that the installations are estimated based on one-year growth rate and sales based on CAGR method with modifications, and that the sales deviations in LT 2b and LT 4b are insignificant.

The Commission, has noted the reply furnished by BESCOM and the approach of the Commission is discussed in the subsequent paragraphs.

- iv) For HT-1 category, though the number of installations has been increased for FY18, the sales are retained at FY17 level. For HT-2a, though the number of installations has been increased for FY18 & FY19, the sales are retained at FY17 level. For HT 2b(i), though the number of installations for FY19 is reduced as compared to FY18, the sales have been increased. In the case of HT-3(a)(i), though the number of installations in FY18 has increased, the sales are retained at FY17 level for FY18 and reduced for FY19. In the case of HT-4(a), even though the number of installations has decreased, the sales have been increased for FY19. Reasons for the same shall be furnished.

BESCOM, in its reply has stated that:

For HT-1 category, there is a reduction in the HT1 sales as per Half yearly growth. Hence, the sales for FY18 is retained at FY17 level. For HT-2a, HT2b and HT2c there is increase in the number of installations for FY18 & FY19 as installations are being serviced. But due to HT-2a, HT2b and HT2c consumers

opting out of the grid, there is a reduction in sales. Hence, the sales are retained at the FY17 level. HT-4(a) installations are retained as on 30.09.2017 as stated in the above paras.

The Commission has noted that HT2a & HT2b sales have negative growth even though the number of installations has increased. The Commission's approach is discussed in the subsequent paragraphs.

- v) One-year growth rate considered for estimating the No. of installations, would not capture the underlying trend. As such, BESCOM may reconsider adopting CAGR based on three to five years' data for estimating the number of installations and sales.

BESCOM has stated that one-year growth rate is more realistic for estimating sales for FY19 and hence, it has considered One-year growth rate.

The Commission reiterates that one-year growth rate for estimation of the number of installations and sales would not reflect the underlying trend. The approach of the Commission in estimating the number of installations and sales for FY19 is discussed in the subsequent paragraphs.

- vi) The observations of the Commission on growth rates considered for FY19 and replies furnished by BESCOM are as follows:

The Commission had observed that:

- a) The growth rates for the number of installations considered for LT-2b, LT-6 WS and HT-4, is higher compared to the normal growth rates as per CAGR and is lower for LT-5, HT-1, HT-2a, HT-2b and HT-3. BESCOM was directed to revise the above, as one-year growth rate would not capture the underlying trend.
- b) The growth rates for energy sales considered for LT-6 WS & SL and HT-4, are higher as compared to the normal growth rates as per CAGR and are lower in respect of HT-1 and HT-3 installations. BESCOM was asked to revise the above, as one-year growth rate would not capture the underlying trend.

BESCOM in its replies has stated that it is estimating the sales for FY19 based on previous history and has considered mean of the CAGRs with few modifications.

- vii) The Commission had noted that, for HT2(a) category, the sales estimate based on the analysis of open access impact should be considered. That BESCOM should have computed the growth rates considering the total energy sold to this category including OA/wheeling and should have estimated the sales for FY19, considering the ratio of energy sold by BESCOM in FY17 to the total sales of FY17 including OA/wheeling sales. BESCOM may compute HT-2a sales on the above method and furnish the data.

BESCOM in its replies has stated that there is a year on year increase in the Open Access/wheeling sales for HT2(a) category. If this sale is considered, demand against the same must also be considered. This will increase the revenue from sale of power which is practically not possible. Hence, BESCOM has not considered the OA/wheeling sales for FY19. However, the OA/wheeling details from FY15 to FY17 are submitted.

The Commission reiterates its observations on growth rates and the approach of the **Commission on this issue is discussed in the subsequent paragraphs.**

- viii) To validate the sales, the Commission had requested, category-wise information (No. of Installations and the sales in MU), in the specified format. BESCOM has furnished the above information.

ix) The Commission's approach for estimating the number of installations and sales for the Year FY19:

- I. 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 FY18 is modified duly validating the revised estimates furnished by BESCOM 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 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 the number of installations and sales for the FY19.
- b. Wherever the number of installations estimated by BESCOM 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 BESCOM are retained.
- c. Wherever the number of installations estimated by BESCOM for the FY19 is lower than the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimates based on the lower of the CAGRs are considered.
- d. Wherever the number of installations estimated by BESCOM for the FY19 is higher than the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimate based on the higher of the CAGRs are considered.
- e. For LT-4b, the number of installations are retained at FY-18 level for FY19 also, as CAGR is negative.
- f. For LT-7 and HT-5 categories, the estimates of BESCOM 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 upto 40 units/installations/month and IP-sets) estimated by the Commission for FY19 is 1,01,55,145 as against 1,01,04,200 proposed by BESCOM.

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 BESCOM are validated duly considering the actual sales upto November, 2017 and modified suitably as stated earlier.
- b. Wherever the sales estimated by BESCOM 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 BESCOM are retained.
- c. Wherever the sales estimated by BESCOM for the FY19 is lower than the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimates based on the lower of the CAGRs are considered.
- d. Wherever sales estimated by BESCOM for FY19 is higher than the estimates based on the CAGR for the period FY12 – FY17 and for the period FY14 - FY17, the estimates based on the higher of the CAGRs are considered.
- e. For LT4(b) and HT-4, the sales are worked out based on the specific consumption of FY-17.
- f. For LT-7 and HT-5 categories, the estimates of BESCOM are retained, as the growth rate for these categories is not consistent.
- g. For HT2(a) category, the sales estimate based on the analysis of open access impact is 5378.50 MU which is considerably higher than the

estimate made by BESCOM at 4456.17. It may be noted that BESCOM has retained the sales at FY17 level, even though it has proposed addition of 319 new installations as compared to FY17. On the other hand based on CAGR method, the sales would be 4479.30. Since, the new installations would consume certain energy, the sales for FY-19 cannot be retained at FY17 level. Therefore, the Commission has considered the sales based on average of CAGR method and OA analysis, which works out to 4928.94 MU, which is reasonable.

- h. For HT2(b) category, the sales estimate as proposed by BESCOM is retained.

Based on the above approach, the sales (excluding BJ/KJ installations consuming upto 40 units/installations/month and IP-sets) estimated by the Commission for FY 19 is 21035.86 MU as against 20660.25 MU proposed by BESCOM.

B. Sales to BJ/KJ and IP sets:

BESCOM in its replies to preliminary observations has furnished the following details:

Particulars	FY18		FY19	
	No. of Installations	Consumption in MU	No. of Installations	Consumption in MU
Installations Consuming up to 40 Units	817324	119.41	873952	127.69
Installations consuming more than 40 units and build under LT 2a	46195	44.73	49396	47.83

As per the data furnished by the BESCOM for FY18, the specific consumption for installations consuming up to 40units/month works out to 12.17 units/month. The Commission has considered the above specific consumption for estimating sales to BJ/KJ installations consuming upto 40 units/month. Further, for installations consuming more than 40 units/month, the estimates of BESCOM is retained. Also, the number of

installations as proposed by BESCOM is retained for both BJ/KJ installations consuming upto 40 units/month and more than 40 units/month.

The approved sales is indicated below:

Particulars	Energy In Million Units
	FY19
Installations consuming less than or equal to 40 units/month	127.68
Installations consuming more than 40 units/month and billed under LT2(a)	47.83

C. IP set sales projections for ARR of FY19

- I. The Commission, in its Tariff Order dated 30th March, 2016, had approved specific consumption of IP sets as 8,037 units / installation / annum for the control period FY17 to FY19. However, based on the revised data of sales to IP sets as reported by the BESCOM in its Tariff application, the Commission had approved the specific consumption as 7,324 units/installation/annum, for the FY17.
- II. Further, the IP sales reported as per D-2 Format is 7,285.47 MU as against the approved sales of 6,739.18 MU, for FY17, that is, an increase of 546.29 MU which corresponds to increase by around 8 per cent when compared to the approved figures. The Commission notes that the BESCOM has already segregated substantial number of feeders under NJY as exclusive agricultural feeders and rural feeders, which means that power supply to IP sets could be regulated resulting in reduction in the agricultural consumption during the FY16. Therefore, it is clear that the BESCOM has supplied more than the scheduled hours of power supply fixed by the State Government, to agricultural feeders.
- III. Further, the specific consumption works out to 8,829 units / installation / annum on the basis of the sales quantum of 7,285.47 MU reported by the BESCOM for FY17. Therefore, it is observed that the specific consumption of 8,829 units/installation/annum for FY17 is higher than the approved specific consumption of 8,037 units / installation / annum for FY19 as discussed above. Hence, it is appropriate to continue the specific consumption of 8,037 units/installation/annum for the ARR of FY19. **In view of this, the Commission decides to approve the specific consumption of 8,037 units/installation / annum for the ARR of FY19.**

IV. Further, it is noted that the BESCOM has estimated the number of IP-set installations as 9,02,879, as against the estimated number of installations of 8,87,879 for FY18 i.e., an increase of 15,000, for the FY19 in the current Tariff filing. However, it is noted that 9,076 number of defunct IP sets have to be deducted from the number of installations projected by the BESCOM for FY18 in its Tariff application. Therefore, the projected number of IP sets reckoned for FY18 and FY19 are 8,78,803 and 8,93,803 respectively, taking into account the defunct IP set installations reported. In view of this, the Commission has considered the number of IP-sets as 8,93,803 for the FY19 as against 9,02,879 IP sets projected by the BESCOM in its Tariff application. Hence, based on the estimated number of installations for the FY18 and the FY19 as reckoned above, the mid-year number of installations is determined and the sales to IP-set consumers are indicated as below:

TABLE-5.5
Projection of IP-set Consumption

Particulars	As filed by the BESCOM		Considering the defunct IP sets	As approved by the Commission
	FY18	FY19	FY18	FY19
No. of installations	8,87,879	9,02,879	8,78,803	8,93,803
Mid-Year No. of installations		8,95,379		8,86,303
Specific consumption in units/installation/annum		8,047		8,037
Sales in MU		7,205.3		7,123.21

V. Accordingly, the Commission approves 7,123.21 MU as energy sales to IP-sets as against the BESCOM's projections of 7,205.3MU, for the FY19. The number of installations approved for FY19 is 8,93,803. 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 BESCOM shall therefore, regulate the number of hours of power supply to exclusive agricultural feeders accordingly.

- VI. **This approved IP-set consumption of 7123.21 MU 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.**
- VII. Further, the BESCOM was directed to take up GPS survey of IP-sets to identify the defunct/dried up installations in the field and to arrive at the correct number of IP-sets by deducting such IP-sets from its account, on the basis of GPS survey results. In this regard, the BESCOM has submitted that it has completed the GPS survey of around 7.91 lakh IP sets and out of which it has identified 9,076 number of IP sets as defunct and 1,46,885 numbers as seasonally active. Hence, the BESCOM needs to further examine 1,46,885 number of IP sets reported by it as seasonally active, in order to detect the defunct wells in the field by revalidating the same. Accordingly the BESCOM shall consider the GPS survey results to arrive at the net number of installations for FY18 onwards. In this regard, the Commission directs the BESCOM 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 being completed fully, the number of installations estimated for FY18 as well as for FY19 are subject to changes based on the GPS survey results. Accordingly, on completion of the GPS survey, the BESCOM 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 the 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 BESCOM 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. Thus, 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 BESCOM 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-5.6
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 the month	Mid- month		Beginning of the month	Serviced at the end of the month	Mid- month	
1	2	3	3a	3b	3c	4 = (3b-3a) *3c	5	6=(4-5)	7a	7b	7c= (7a+7b)/2	8=6/7c	9a	9b	9c = (9a+9b) /2	8*9c
Apr-18 To Mar-19	Sub-div-1 Sub-div-2 Sub-div-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 BESCOM is indicated as below:

TABLE-5.7
Approved Sales for FY19

Category	FY-19 Number of Installations		FY19 Sales	
	BESCOM's Estimate	Approved	BESCOM's Estimate	Approved
	No.	No.	MU	MU
BJ/KJ-more than 40 units	49396	49396	47.83	47.83
LT-2a	7892122	7925533	7104.02	7139.20
LT-2b	11721	11721	52.37	52.37
LT-3	1101292	1112493	2191.45	2190.77

LT-4 (b)	693	529	0.84	2.96
LT-4 (c)	1541	1655	5.99	5.95
LT-5	207142	211234	1181.78	1190.52
LT-6-WS	82335	82313	1064.40	934.94
LT-6-PL	64119	65320	481.80	452.74
LT-7	678744	678744	166.07	166.07
HT-1	236	248	690.28	702.42
HT-2 (a)	6622	7136	4456.17	4928.94
HT-2 (b)	6032	6570	2624.34	2624.34
HT2C	764	764	365.31	365.31
HT-3(a)& (b)	47	47	6.60	17.96
HT-4	180	230	117.22	109.76
HT-5	1214	1214	103.78	103.78
Sub-Total other than BJ/KJ and IP sets	10104200	10155145	20660.25	21035.86
BJ/KJ-up to 40 units	873952	873952	127.69	127.68
IP-sets	902879	893803	7205.35	7123.21
Sub Total BJ/KJ and IP sets	1776831	1767755	7333.04	7250.89
Total	11881031	11922900	27993.29	28286.75

Thus, the Commission approves 28286.75 MU as the energy sales for FY 19 for BESCOM.

5.2.3 Distribution Losses for FY19:

BESCOM's Submission:

The BESCOM has reported distribution losses of 13.19 per cent as per the audited accounts for FY17 as against the approved distribution loss target of 13.25 per cent. Further, the Commission in its Tariff Order dated 30th March, 2016 had fixed the target level of losses for FY19 at 12.50 per cent. The BESCOM in its application has proposed to retain the loss levels of 12.50 per cent for FY19.

Commission's Analysis and Decisions:

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

TABLE – 5.8**Approved & Actual Distribution Losses-FY12 to FY17**

Particulars	Losses in %					
	FY12	FY13	FY14	FY15	FY16	FY17
Approved Distribution losses	14.50	14.00	13.80	13.60	13.40	13.25
Actual distribution losses	14.46	14.20	13.89	14.78	13.51	13.19

The BESCOM having achieved the distribution loss level of 13.19 per cent in FY17, has projected a loss level of 12.50 per cent as approved by the Commission in the Tariff Order dated 30th March, 2016 for FY19. The distribution loss level projection made by the BESCOM indicate a reduction in losses from the existing reported loss levels by 0.69 percentage of points for FY19. However, the Commission notes that the BESCOM has been consistently incurring substantial capital expenditure for strengthening of its distribution network aimed at further reducing the loss levels. Thus, it is clear that the investments made for improving the existing distribution system would not only enable the BESCOM to reduce the distribution losses but also increase the reliability and quality of power supply to the consumers.

Hence, in view of of such investments, the loss level proposed by the BESCOM is not appreciable as compared to the actual loss level achieved in FY17. The Commission notes that, the distribution losses projected by BESCOM for FY19 is at 12.50%, a mere reduction of 0.69 percentage points from distribution losses of 13.19 per cent achieved in FY17 and therefore finds is unacceptable.

In the light of the above discussion and based on the achievements made by the BESCOM in the reduction of distribution losses during the previous years and the distribution loss level of 13.19% achieved during FY17, as well as considering the capex incurred so far along with the proposed capex for FY19, the Commission decides to fix the following distribution loss targets for FY19:

TABLE - 5.9**Approved Distribution Losses for FY19**

Particulars	Figures in % Losses
	FY19
Upper limit	12.50
Average	12.25
Lower limit	12.00

5.2.4 Power Purchase for FY19

BESCOM's Proposal;

In its application for revision of ARR for FY19, the BESCOM has proposed power purchases of 33073.82 MU a cost of Rs. 15282.98 Crores (including Transmission and System Operation charges). The BESCOM has made the following source-wise projections to meet the power purchase requirement for FY19:

Table: 5.10

Energy Projection & Power Purchase Cost of BESCOM -FY19				
	Source	Energy in MUs	Cost in Rs. Crs.	Cost per Unit in Rs.
1	KPCL Hydel Energy	3184.69	364.31	1.14
2	KPCL Thermal Energy	10096.41	4229.57	4.19
3	CGS Energy	9957.13	3879.98	3.90
4	IPP	3566.26	1651.90	4.63
5	RE	5991.37	2367.65	3.95
6	Other State Hydel	63.25	24.01	3.80
7	Total Medium Term &Short Term	936.18	416.49	4.45
8	Allocation to Other ESCOMs	-721.46	-294.19	4.08
9	KPTCL Transmission Charges	-	1781.99	-
10	SLDC Charges	-	14.29	-
11	PGCIL Charges	-	845.90	-
12	POSOCO charges	-	1.08	-
13	Grand Total	33073.82	15282.98	4.62

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

1. BESCOM has proposed to purchase power from different sources viz., KPCL Hydel, KPCL Thermal, Central Generating Stations, IPPs, NCE projects and others 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, BESCOM 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 and MGHE.
6. In respect of thermal stations viz: RTPS 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, Gol.
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.

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 approved 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 BESCOM for FY19 is as follows:

Table-5.11

BESCOM'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	11145.65	4789.09	4.30
CGS Energy	9995.81	3808.30	3.81

IPPs	4381.93	2085.80	4.76
KPCL Hydel Stations	714.09	91.43	1.28
Other Hydro	22.08	8.33	3.77
RE Sources	4771.16	2066.70	4.33
NTPC Bundled power	1272.30	422.25	3.32
Power purchase from Co-gen - Medium Term	463.94	223.81	4.82
Short term power purchase	494.10	201.59	4.08
PGCIL CHARGES		758..70	
KPTCL CHARGES		1528.66	
SLDC		15.03	
POSO CO CHARGES		1.08	
TOTAL INCLUDING TRANSMISSION & LDC CHARGES	33261.05	16000.78	4.81

Thus, the Commission approves power purchase quantum of 33261.05 MU at a cost of Rs16000.78 Crores, for FY19.

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

5.2.5 RPO target for FY19:

The Commission has approved power purchase quantum of 32500.20 MU for FY19, net of Hydro energy. The Non-solar RPO target at 13% would be 4225.03 MU. The Commission has approved purchase of 3183.86 MU from non-solar RE sources. Thus, BESCOM would be able to procure 3183.86 MU as against an provisional RPO of 4225.03 MU of non-solar RE, resulting in shortfall of 1041.17 MU. Considering, the surplus of solar energy of 101.23 MU, after meeting the solar RPO, still there would be shortfall of 939.94 MU. Hence, BESCOM is directed to take necessary action to meet the non-solar RPO for FY19.

As regards Solar RPO, considering the approved power purchase quantum of 32500.20 MU for FY19, net of Hydro energy, the Solar RPO target at 6.0 % would be 1950.01MU. The Commission has approved purchase of 2051.24 MU of Solar energy. Thus, BESCOM would exceed the solar RPO by 101.23 MU, which shall be utilized to meet the shortfall in non-solar RPO.

5.2.6 O & M Expenses for FY19:

BESCOM's Proposal:

The BESCOM, in its application, has considered the base year i.e., FY16 actual O & M expenses of Rs.1035.32 Crores and uncontrollable contribution to P&G trust expenses of Rs.150.23 Crores for computing of O&M expenses of Rs.1491.34 Crores for FY 19 by considering the inflation index of 8.1059%, and three year CAGR of 6.00%. Further, BESCOM has considered Rs.143.15 Crores as the additional O&M expenses towards contribution to P&G trust for FY19. Thus, the total O&M expenses claimed by BESCOM is Rs.1634.49 Crores for FY19 as detailed below:

TABLE-5.12

Normative O & M Expenses for FY19- BESCOM's submission

Sl. No.	Particulars	FY-16	FY-17	FY-18	FY-19
1	Inflation index in%	-	7.71	7.71	8.11
2	Consumer Growth Index in %	-	6.28	6.00	6.00
3	BESCOM efficiency in %	-	1.00	1.00	1.00
4	Base year O&M Cost in Rs. Crores.	1035.32	1169.81	1318.49	1491.34
5	Uncontrollable Expenses: P&G contribution in Rs.crores.	150.23	143.15	143.15	143.15
6	O&M expenses t-year= O&M (t-1)*(1+WII+CGI-X) (Rs.Crores)	1185.55	1312.66	1461.64	1634.49

Based on the normative O&M expenses, the breakup of projected O & M expenses, as furnished by the BESCOM, for the FY19, is as follows:

TABLE – 5.13

Revised O&M Expenses for FY19- BESCOM's Proposal

Sl. No.	Particulars	Rs. Crores
		FY19
1	Employee cost	1200.89
2	Repairs and Maintenance expenses	102.12
3	Other Expenses (Administrative and General expenses)	331.48
	Total O & M Expenses	1634.49

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 an O&M expenses, of Rs.1688.27 Crores for FY19 based on the actual expenses, including contribution to P & G Trust as per the latest available audited accounts for FY15, to arrive at the O&M expenses for the base year FY16. The approved O & M expenses for FY 19 was 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	-	10574032	11162023	11802269
CGI based on 3 Year CAGR	-	6.01%	5.73%	5.57%
Weighted Inflation Index	-	7.24%	7.24%	7.24%
Base Year projected O&M expenses (as per actuals of FY15)-Rs. Crores	1201.45	-	-	-
Total O&M Expenses-Rs. Crores		1348.61	1510.01	1688.27

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, BESCOM in its application, for computation of O&M expenses has considered the consumer growth rate (CGI) based on 3 year CAGR and inflation index based on the methodology following by CERC with CPI and WPI in a ratio of 80:20, which is in line with the methodology followed by the Commission in its Tariff Orders issued earlier.

The Commission as per the provisions of MYT Regulations has computed the O & M expenses for FY19, duly considering the actual base years O & M expenses of Rs.1167.38 Crores, which is inclusive of contribution to P&G Trust of Rs.150.23 Crores of FY16 as per the audited accounts and the allowable O&M expenses of Rs.1297.97 Crores and Rs.1469.51 Crores for FY17 and FY18 respectively. The Commission in accordance with the methodology adopted in approving the ARRs and subsequent APRs, proceeds with the determination of O&M expenses based on 12-year data of WPI and CPI and three years' CAGR of consumer growth in computation of allowable O&M

expenses for FY19. 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 FY19 is 8.1059%.

Further, the BESCOM in its letter dated 21st March 2018 has submitted that the pay scale of the employees/officers of KPTCL/ESCOMs has been revised with effect from 1st April, 2017. Hence, the liability on account of the payment of pay revision arrears of Rs.227.08 Crores for FY 18 and the additional employee expenditure on pay revision of Rs.236.94 Crores for FY 19 may be included as additional employee cost in computation of O & M expenditure for FY 19. The Commission notes that the additional employee cost projected by the BESCOM for FY 18 and FY 19 on account of revision of pay scales is on ad-hoc basis without taking in to account the retirement of employee/officers during FY 18 and FY 19. Thus the Commission decides that the additional employee cost due to revision of pay scale during FY19 could be factored and considered only at the time of approving APR for FY19, when the actual impact of revision of pay scales is reported in detail by BESCOM as per its audited accounts.

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 upto FY17 and as projected by the Commission for FY18 and FY19 at 5.55%.
- c) The weighted inflation index (WII) at 8.1059%.
- d) Efficiency factor at 1% as considered in the MYT Order.

The above parameters have been computed duly considering the same methodology as is being followed in the earlier Tariff Orders of the Commission and the relevant Orders of this Commission on various Review Petitions.

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

TABLE – 5.15
O & M expenses for FY19

Particulars	FY16	FY17	FY18	FY19
No. of Installations		10696029	11285198	11922900
CGI based on 3 Year CAGR		6.41%	6.11%	5.52%
Inflation index		8.1059%	8.1059%	8.1059%
Base Year O&M expenses (as per actuals of FY16)-Rs. Crores	1167.38	1154.68		
Total allowable O&M Expenses-Rs. Crores		1297.83	1469.41	1654.99

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

Thus, the Commission decides to approve O&M expenses of Rs.1654.99 Crores for FY19.

5.2.7 Depreciation:

BESCOM's Proposal:

The BESCOM, in its application has claimed depreciation of Rs.590.88 Crores for FY19 on the projected gross fixed assets without considering the cost of retirement of assets during the respective years. After deducting an amount of Rs.162.23 Crores of depreciation on assets created out of grants and consumer contribution and grants, the net depreciation of Rs.428.65 Crores claimed by BESCOM is as detailed below:

TABLE – 5.16

Depreciation-FY19- BESCOM's Submission

Particulars	Rs. Crores
	Amount
Buildings	7.64
Civil	0.18
Other Civil	0.07
Plant & M/c	124.20
Line, Cable Network	455.71
Vehicles	1.27
Furniture	0.96
Office Equipments	0.86
Sub Total	590.88
Depreciation Withdrawn AS12	162.23
Total	428.65

Commission's analysis and decision:

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 balances of fixed assets projected for FY18 and FY19 and factoring the actual cost of retirement of assets as per the audited accounts for FY17 and projection thereon for FY18 and FY19.
- c) The depreciation on account of assets created out of consumer's contribution / grants are considered (deducted), based on the opening and closing balance of such assets duly considering the addition of assets as proposed by the BESCOM, at the weighted average rate of depreciation as per actuals in FY17.

d) The net assets created out of capital expenditure made during FY18 and FY19 and the retirement of assets during the year is considered in computation of depreciation as proposed by BESCOM.

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

TABLE – 5.17
Approved Depreciation for FY19

Particulars	Rs. Crores
	Amount
Buildings	10.69
Civil	0.28
Other Civil	0.08
Plant & M/c	144.99
Line, Cable Network	454.89
Vehicles	1.62
Furniture	0.72
Office Equipments	0.66
Released assets reused	2.65
Sub Total	616.58
Depreciation Withdrawn AS12	175.90
Total	440.68

Thus, the Commission decides to approve an amount of Rs.440.68 Crores towards depreciation for FY19.

5.2.8 Interest on Capital Loans:

BESCOM's submission:

BESCOM in its application has projected capital loan of Rs.1090.50 Crores and Rs.1163.19 Crores for FY18 and FY19 respectively. BESCOM by considering the closing balances of capital loans as per the audited accounts for FY17 and new borrowings and repayments of capital loan for FY18 and FY19 has claimed an amount, of Rs.574.32 Crores as gross interest on capital loan. After deducting Rs.80 Crores being the capitalized interest amount the BESCOM has claimed net interest on capital loan of Rs.494.32 Crores at the average interest rate of 10.41% for FY19.

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

TABLE – 5.18
Interest on Capital Loan– BESCOM's Proposal

Rs. Crores

Particulars	Amount
Opening Balance of Capital Loans	4993.03
Add: New Loans	1163.19
Less; Repayments	254.56
Total Loan at the end of the year	5901.66
Average Loan for the year	5447.35
Average rate of Interest on Loan	10.41%
Gross Interest on Capital Loans	574.32
Less: Capitalized interest	80.00
Net interest	494.32

Commission's analysis and decision:

The Commission having recognised the capex of BESCOM for Rs.2837 Crores for FY19 duly considering the capital grants and the internal resources made available to meet the projects envisaged for FY19, has reckoned the requirement of new borrowings of capital loans of Rs.700.00 Crores for FY19, being the 60% of the capital expenditure proposed by excluding the grants, consumers' contribution and internal resources.

Based on the approved capex, the requirement of new capital loan is Rs.700 Crores for the purpose of determination of tariff for FY19. Further, the Commission has considered the repayment of loan at Rs.369.68 Crores for FY19.

As per the audited accounts and as per the APR of FY17, the BESCOM had incurred interest on capital loan at a weighted average rate of interest of 8.51% p.a. This rate of interest is considered for the existing loan balances for which interest has to be factored during FY18. Further, for the year FY19, the weighted average rate of interest of the preceding year has been considered on the existing loan balances. The Commission has considered

new loans, subject to the debt equity ratio of 70:30 as per the MYT Regulations.

The Commission notes that, 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 which would be less than the proposed rates of BESCOM. The Commission notes that, the present SBI MCLR rate for capital loans with a tenure of 3 years is 8.35%. Considering the present MCLR, the Commission decides to allow an interest rate of 11.00% for FY19 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 FY19 is as follows:

TABLE – 5.19
Approved Interest on Loans for FY19

Particulars	Rs. Crores
	Amount
Opening Balance long term loans	4515.84
Add new Loans	700.00
Less: Repayments	369.68
Total loan at the end of the year	4846.16
Average Loan	4681.01
Weighted average rate of interest in % Interest rate on the new borrowings	8.697%
Interest on long term loans	415.16

Thus, the Commission decides to approve an interest amount of Rs.415.16 Crores on Capital loans for FY19.

5.2.9 Interest on Working Capital:**BESCOM's proposal:**

The BESCOM has claimed Rs.375.73 Crores towards interest on working capital, based on the norms prescribed in the MYT Regulations, and considering the rate of interest as per the short term prime lending rate by SBI, at 12.45% p.a. The interest on working capital, computed by BESCOM, is as follows:

TABLE – 5.20**Interest on Working Capital for FY19 – BESCOM's Submission**

Particulars	Rs. Crores
	Amount
1/12th Operation and Maintenance expenses	138.43
1% of Gross fixed assets at the beginning of the year	115.22
2 months' Receivables	2763.00
Estimated Working Capital	3017.90
Rate of Interest	12.45%
Interest on working capital	375.73

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.342.08 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. Further, the claims of BESCOM based on prime lending rate of SBI no more exists. The Banks / Financial institutions who earlier switched over from PLR to base rate, have switched over now from base rate to MCLR. At present these financial entities are offering new loans only on MCLR basis, whereas BESCOM is still insisting applicability of SBI PLR rates for allowing interest on working capital. BESCOM has not considered the amended provisions of the MYT Regulations. As per the audited accounts of BESCOM for FY17, the short

term and over draft facility has been availed at the interest rate of 9.65% to 10.25%. As discussed earlier, the MCLR for loans with tenure of one year is **8.15%**. Therefore, the Commission as per the provisions of MYT Regulations decides to considers interest on working capital at **11%** p.a. for FY19.

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

TABLE – 5.21

Approved Interest on Working Capital for FY19

Particulars	Rs. Crores
	Amount
One-twelfth of the amount of O&M Expenses	137.92
Opening Gross Fixed Assets (GFA)	11505.66
Stores, materials and supplies 1% of Opening balance of GFA	115.06
One-sixth of the Revenue	3026.62
Total Working Capital	3279.59
Rate of Interest (% p.a.)	11.00%
Interest on Working Capital	360.75

Thus, the Commission hereby approves interest on working capital of **Rs.360.75 Crores for FY19.**

5.2.10 Interest on Consumers' Security Deposit:

BESCOM's proposal:

The BESCOM in its application has claimed interest on opening balance of deposit amount as per the audited accounts for FY17 and the consumers' security deposit of Rs.287.74 Crores for FY19 duly considering the addition of deposits of Rs.320 Crores each for FY18 and FY19 based on Bank rate of 6.75% per cent. The interest on consumers' security deposit projected for FY19 is as follows:

TABLE – 5.22

Interest on Consumer Security Deposits- BESCOM's Submission

Particulars	Rs. Crores
	Amount
Opening balance of Consumer Security Deposit	3942.77
Addition during the year	320.00
Closing balance of consumer security deposit	426.77

Commission's analysis and decision:

The Commission notes that, BESCOM has claimed interest on the closing balance of consumer security deposit as at the end of FY19. In accordance with the KERC (Interest on Security Deposit) Regulations, 2005, the interest rate on consumers' 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 the Reserve Bank of India's Notification dated 2nd August, 2017, the applicable bank rate is 6.25%. The Commission has considered the same, for computation of interest on consumers' security deposits for FY19.

The Commission has considered the consumers' security deposits as per the audited accounts of FY17 for onward projection for FY19. Further, the Commission is considering the average of the opening and closing balances of consumers' deposits of the relevant year. Accordingly, the interest on consumers' deposits that could be approved for FY19 works out as follows:

TABLE – 5.23**Approved Interest on Consumers' Security Deposits for FY19**

Particulars	Rs. Crores
	Amount
Opening balance of consumers' security deposits	3801.10
Proposed addition of deposits during FY19	300.00
Closing balance of consumers' security deposits	4101.10
Average Consumers' Security Deposits for FY19	3951.10
Bank rate to be allowed as per Regulations	6.25%
Interest on average Consumers' Security Deposit	246.94

Thus, the Commission decides to approve interest on consumers' security deposits, at Rs.246.94 Crores for FY19.

5.2.11 Other Interest and Finance Charges:

The BESCOM has claimed an amount of Rs.11.63 Crores towards other interest and finance charges for FY19. Considering, the expenditure under this item in the earlier years, the Commission decides to allow an amount of Rs.11.63 Crores towards interest and finance charges for FY19.

5.2.12 Interest and other expenses Capitalized:

The BESCOM has claimed an amount of Rs.80.00 Crores towards capitalization of interest and other expenses during FY19. Considering the capital expenditure incurred and the expenses capitalized in the previous years, the Commission decides to allow capitalization of interest on capital loan and other expenses of Rs.86.00 Crores for FY19.

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

TABLE – 5.24
Approved Interest and finance charges for FY19

Particulars	Rs. Crores
	Amount
Interest on Loan Capital	415.16
Interest on Working Capital	360.77
Interest on Consumers Security Deposit	246.94
Other Interest & Finance Charges	11.63
Less; Interest & other expenses capitalized	(86.00)
Total net Interest & Finance Charges	948.49

5.2.13 Return on Equity:**BESCOM's proposal:**

The BESCOM in its application has claimed Return on Equity of Rs.210.63 Crores without grossing up with MAT for FY19 based on the closing balance of Share Capital, Share deposit and recapitalized amount of security deposit. BESCOM has not considered the accumulated deficit in computation of RoE for FY19. BESCOM has considered the expected receipt of additional equity of Rs.200 Crores each for FY18 and FY19 and computed only the RoE on the closing balance of estimated equity of Rs.1358.88 Crores. The Return on Equity claimed by BESCOM is as detailed below:

TABLE-5.25

Return on Equity- BESCOM's Submission

Particulars	Rs. Crores	
	Amount	
Opening balance of share capital	546.91	
Share deposit	248.10	
Equity addition during FY17	218.68	
Expected additions during FY18 and FY19	400.00	
Less; Recapitalized security deposits	(54.81)	
Total Equity	1358.88	
Return on Equity @ 15.50%	210.63	

Commission's analysis and decision:

The Commission notes that contrary to the provisions of MYT Regulations, BESCOM has claimed the RoE without grossed up MAT on the closing balance of equity amount for FY19. The Commission has considered the actual amount of share capital, share deposits and reserves & surplus as per the audited accounts for FY17 for arriving at the allowable equity base for FY19 of the current control period.

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 19.70556% per annum. Further, as per the decision of the Commission in the Review Petition No.6/2013 and Review Petition No. 5/2014, and the amended provisions of the MYT Regulations, the Return on Equity is to be computed based on the opening balances of share capital, share deposits and accumulated balance of deficit under reserves and surplus account. Further, an amount of Rs.100.00 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. Accordingly, the claims of BESCOM on admissibility of ROE without considering the accumulated deficit amount in computation of equity is not provided for.

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 Orders henceforth, the details of GFA, debt and equity (net-worth) for FY19 are indicated as follows:

TABLE – 5.26**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	11505.66	4515.84	546.92	8053.96	3451.70	39.25%	4.75%
	Closing Balance	12417.31	4846.16	909.02	8692.12	3725.19	39.03%	7.32%

From the above table it is seen that the estimated amounts of debt & equity are within the normative levels with reference to the 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 – 5.27
Return on Equity for FY19

		Rs. Crores
Particulars		Amount
Opening Balance of Paid Up Share Capital		546.915
Share Deposit		656.42
Reserves and Surplus		(194.32)
Less Recapitalised Security Deposit		(100.00)
Total Equity		909.02
Return on Equity with MAT		179.13

Thus, the Commission decides to approve Return on Equity of Rs.179.13 Crores, for FY19.

5.2.14 Other Income:

BESCOM's proposal:

BESCOM in its application has claimed an amount of Rs.75.82 Crores as other income as against the Commission approved amount of Rs.223 Crores for the FY19. BESCOM has proposed this amount considering 5% increase over the actual other income earned in FY17 excluding incentives on prompt payment of power purchase bills.

Commission's analysis and decision:

The other income received by the BESCOM mainly includes income from 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 FY17 is Rs.215.32 Crores. The Commission notes that, the BESCOM, in its projection of other income for the control period has not included estimated incentives likely to be earned on account of timely payment of power purchase bills.

On the basis of other income earned by the BESCOM in the past three years and considering a nominal escalation, **the Commission decides to approve other income of Rs.223.00 Crores for FY19.**

5.2.15 Fund towards Consumer Relations / Consumer Education:

The Commission has been allowing an amount of Rs.1.00 Crore per year for meeting the expenses towards consumer relations / consumer education. This amount is earmarked to conduct consumer awareness and grievance redressal meetings periodically and to 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.1.00 Crore each year of the current control period including FY19, towards meeting the expenditure on consumer relations / consumer education.

The Commission directs BESCO 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 Revised ARR for FY19:

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

TABLE – 5.28
Abstract of Approved ARR of BESCO for FY19

Sl. No	Particulars	Amount		
		As Approved in T.O 30.03.2016	As per the application Filed 30.11.2017	As Revised & Approved ARR
1	Energy at Gen Bus	34647.44	33073.82	33261.05
2	Transmission Losses in %	3.27%	3.27%	3.08%
3	Energy at Interface in MU	33514.47	31992.3	32235.61
4	Distribution Losses in %	12.50%	12.50%	12.25%
5	Sales in MU			
	Sales to other than IP sets & BJ/KJ installations	22054.62	20660.23	21035.86
	Sales to BJ/KJ installations	49.15	127.69	127.68
	Sales to IP-sets	7221.39	7205.35	7123.21
	Total Sales	29325.16	27993.27	28286.75
6	Revenue at existing tariff in Rs. Crores			
	Revenue from tariff and Miscellaneous Charges		14888.08	15697.81
	Tariff Subsidy to BJ/KJ installations		82.74	82.74
	Tariff Subsidy to IP-sets		2406.59	2379.15
	Total Existing Revenue		17377.41	18159.70
	Expenditure in Rs. Crores			
7	Power Purchase Cost	12457.21	13486.7	14457.09
	Transmission charges of KPTCL	1781.99	1781.99	1528.66

	PGCIL Charges			757.10
	SLDC Charges	14.29	14.29	15.03
	Power Purchase Cost including cost of transmission	14253.49	15282.98	16000.78
8	Employee Cost		1200.89	
	Repairs & Maintenance		102.12	
	Admin & General Expenses		331.48	
	Total O&M Expenses	1688.27	1634.49	1654.99
9	Depreciation	314.54	428.65	440.68
10	Interest & Finance charges			
11	Interest on Loans	337.99	574.32	415.16
12	Interest on Working capital	342.08	375.73	360.75
13	Interest on belated payment on PP Cost	0	0	0
14	Interest on consumer deposits	303.95	287.74	246.94
15	Other Interest & Finance charges	10.19	11.63	11.63
16	Less interest & other expenses capitalised	86	80	86
	Total Interest & Finance charges	908.21	1169.42	948.49
17	Other Debits	0	0	0
18	Net Prior Period Debit/Credit	0	0	0
19	Return on Equity with MAT	46.83	210.63	179.13
20	Funds towards Consumer Relations/Consumer Education	1	1	1
21	Other Income	223	75.82	223
	ARR	16989.34	18651.35	19002.05
22	Surplus/Deficit for the year	0	-1273.94	-842.35
23	Deficit for FY17 carried forward		-1028.99	-234.10
	Net ARR	16989.34	19680.34	19236.16

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

BESCOM in its application has proposed the segregation of ARR into ARR for Distribution Business and ARR for Retail Supply Business at the same ratio as proposed in its MYT application for FY17-19. The Commission decides to continue the same ratio of segregation of ARR into ARR for distribution

business and ARR for retail supply business as approved in its Tariff Order dated 30th March, 2016, as detailed below:

TABLE – 5.29
Approved Segregation of ARR – FY19

Particulars	Distribution Business	Retail Supply Business
O & M Expenses	56%	44%
Depreciation	88%	12%
Interest on Loans	100%	0%
Interest on Consumer Deposits	0%	100%
RoE	50%	50%
GFA	88%	12%
Non-Tariff Income	19%	81%
Interest on working capital	12%	88%

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

TABLE – 5.30
APPROVED REVISED ARR FOR DISTRIBUTION BUSINESS – FY19

Rs. Crores		
Sl. No	Particulars	Amount
1	R&M Expenses	
2	Employee Expenses	
3	A&G Expenses	926.79
4	Depreciation	387.79
	Interest & Finance Charges	
5	Interest on Loans	415.16
6	Interest on Working capital	42.94
7	Other Interest & Finance charges	11.63
8	Less; Interest & other expenses capitalised	86.00
9	Total	1698.31
10	Return on Equity	89.56
11	Other Income	42.37
12	NET ARR	1745.51

TABLE – 5.31

APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY19

Rs. Crores		
Sl. No	Particulars	Amount
1	Power Purchase	14457.09
2	Transmission Charges	1543.69
3	R&M Expenses	728.19
4	Employee Expenses	
5	A&G Expenses	
6	Depreciation	52.88
	Interest & Finance Charges	
7	Interest on Loans	0.0
8	Interest on Working capital	317.82
9	Interest on consumer deposits	246.94
	Total	17346.62
10	ROE	89.56
11	Other Income	180.63
12	Fund towards Consumer Relations / Consumer Education	1.00
13	NET ARR	17256.55

5.5 Gap in Revenue for FY19:

As discussed above, the Commission decides to approve the revised Annual Revenue Requirement (ARR) of BESCOM for its operations in FY19 at Rs.19236.16 Crores as against BESCOM's application proposing the revised ARR of Rs.19680.34 Crores by including the revenue deficit of Rs.1028.99 Crores as per the APR filed by BESCOM for FY17. The approved ARR includes an amount of Rs.234.10 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.18159.70 Crores which is Rs.1076.46 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 – 5.32
Revenue gap for FY19

Particulars	Amount
Net ARR including carry forward gap of FY17 (in Rs. Crores)	19236.16
Approved sales (in MU)	28286.75
Average cost of supply (in Rs./unit)	6.80
Revenue at existing tariff (in Rs. Crores)	18159.70
Gap in revenue (in Rs. Crores)	(1076.46)

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