

CHAPTER – 5

ANNUAL REVENUE REQUIREMENT FOR FY21

5.0 Annual Revenue Requirement (ARR) for FY21

BESCOM's Application:

BESCOM in its application dated 28th November, 2019, has sought approval of the Commission for the revised ARR for FY21 and the revision of retail supply tariff for FY21. The summary of the proposed ARR for FY21 is as follows:

TABLE – 5.1

Proposed ARR for FY21 – BESCOM's Submissions

Amount in Rs. Crores		
Sl. No.	Particulars	FY21
1	Energy at Generating Bus (MU)	35120.43
2	Transmission Losses in %	3.13%
3	Energy at Interface in MU	34021.16
4	Distribution Losses in %	12.00%
5	Sales in MU	
	Sales to other than IP & BJ/KJ	22050.15
	Sales to BJ/KJ	177.21
	Sales to IP	7711.25
	Total Sales	29938.61
6	Revenue at existing tariff in Rs. Crores	
	Revenue from tariff and Misc. Charges	20130.98
	Tariff Subsidy to BJ/KJ	130.61
	Tariff Subsidy to IP	3007.39
	Total Existing Revenue	23268.98
	Expenditure in Rs. Crores	
7	Power Purchase Cost	20239.80
	Transmission charges of KPTCL	1821.24
	SLDC Charges	12.90
	Total Power Purchase Cost including cost of transmission	22073.94
8	Employee Cost	1960.83
	Repairs & Maintenance	158.97
	Admin & General Expenses	449.59
	Total O&M Expenses	2569.39
9	Depreciation	884.93

Sl. No.	Particulars	FY21
10	Interest & Finance charges	
11	Interest on Loans	893.23
12	Interest on Working capital	489.24
13	Interest on belated payment on PP Cost	0.00
14	Interest on consumer deposits	283.90
15	Other Interest & Finance charges	12.00
16	Less: interest & other expenses capitalized	-130.37
	Total Interest & Finance charges	1548.00
17	Other Debits	0.00
18	Net Prior Period Debit/Credit	
19	Return on Equity with MAT	231.68
20	Funds towards Consumer Relations/Consumer Education	1.00
21	Less: Other Income	-392.86
22	ARR	26916.08
23	Deficit for FY19 carried forward	2,224.99
	Net ARR	29,141.07

The BESCOM has requested the Commission to approve the revised Annual Revenue Requirement of Rs.29141.07 Crores for FY21, including the revenue gap of Rs.2224.99 Crores of FY19. Considering the estimated revenue of Rs.23268.98 Crores from sale of power to the consumers at the existing retail supply tariff, BESCOM has projected the revenue gap of Rs.5872.09 Crores for FY21. In order to bridge the revenue gap of Rs.5872.09 Crores for FY21, the BESCOM has proposed average increase in retail supply tariff by 196 paise per unit in respect of all the categories of consumers including BJ/KJ and IP set consumers for FY21.

5.1 Annual Performance Review for FY19 and FY20:

As discussed in the preceding chapter of this Order, the Commission has carried out the Annual Performance Review for FY19 based on the audited accounts and other details / documents furnished by BESCOM. Accordingly, the revenue deficit of Rs.1947.34 Crores of FY19 is carried forward to the ARR of FY21.

As regards APR for FY20, it is noted that the Financial year FY20 is yet to be completed and therefore the audited accounts for FY20 are not yet available. Hence, the Commission decides to take up the APR of FY20, while taking up the revision of ARR / Retail Tariff, if any, for FY22.

5.2 Annual Revenue Requirement for FY21:

5.2.1 Capital Expenditure for FY21:

BESCOM Proposal:

The BESCOM, in its Tariff application, has proposed capex of Rs.3173.64 Crores and Rs.6610.61 Crores for FY20 and FY21 respectively as indicated in the following Table:

TABLE – 5.2
BESCOM's Capex Proposal

Sl. No.	Particular of the works under Major / Minor heads	Amount in Rs. Crores	
		FY20	FY21
1	Ganga kalyana Works	82.00	80.00
2	Service connection works	60.00	66.00
3	Water Works	20.00	24.00
4	11 KV Evacuation line	75.00	138.75
5	Providing Additional DTC's /Enhancement of DTCs	60.00	57.75
6	Strengthening of HT network including OH/UG cable, Covered conductor and AB cable	100.00	400.00
7	Strengthening of LT network including OH/UG cable, Covered conductor and AB cable	100.00	397.75
8	SDP Progress	30.00	22.50
9	Local planning, Safety works, Emergency / Calamity Works	70.64	172.46
A	E&I Total	597.64	1359.21
10	Smart grid & EV	20.00	34.47
11	NJY	50.00	18.75
12	DDUGJY	151.00	68.06
13	IPDS	200.00	113.44
14	Civil	60.00	75.00
15	IT initiative	20.00	57.75
16	Meters and Commercial (with relevant accessories)	100.00	1537.50
17	DSM	30.00	1275.00
18	UNIP	100.00	100.00
19	HVDS	50.00	45.75
20	Erection of distribution transformer centres using 11 meters Spun poles	40.00	0.00

Sl. No.	Particular of the works under Major / Minor heads	FY20	FY21
21	Model Sub division/Conversion of overhead lines into UG/AB cable	1500.00	1750.00
22	Technology Innovative Centre	20.00	20.69
23	Corporate reserve fund	50.00	37.50
24	Auto enclosure and sectionalizer	50.00	50.00
25	Model Village	50.00	7.50
26	Smart city	85.00	60.00
B	Projects Total	2576.00	5251.40
C	Grand Total (A+B)	3173.64	6610.61

BESCOM has submitted that, the capital investment plan has increased from FY16 onwards as per the details furnished in the following table. It is further stated that, this is due to technology up-gradations and due to taking up certain approved projects of Government of India/Karnataka. BESCOM has significant capital expenditure plans with respect to investments for infrastructure improvement, feeder separation program, village and household electrification etc. The need to extend and expand its networks is driven by increase in electricity demand. Bengaluru is the most densely populated and expensive part of the State. BESCOM also faces additional operational challenges from the urban environment. The increase in the capex year on year is as given below:

TABLE - 5.3
Increase in BESCOMs Capex Programme

Sl. No.	Year	Amount in Rs.Crores					
		FY14	FY15	FY16	FY17	FY18	FY19
1	Capital Investment Approved	848.00	763.00	1374.31	2000.00	3272.32	2836.44
2	Capital Deployed	1057.00	1495.00	1374.32	1318.25	1979.01	2869.37
3	Assets Categorized	812.00	743.00	1770.27	1370.03	1522.66	2729.00
4	% of Deployment over approved capital Investment	125%	196%	100%	66%	60%	101%
5	% of Assets categorized over Capital Deployed	77%	97%	129%	69%	47%	96%

BESCOM further submitted that, it has to deal with congestion under pavements and roads due to road widening, metro works, White topping of roads, etc. which increases the complexity of BESCOM work. It has to put its equipment into small spaces and often underground to minimize land use.

This leads to higher costs to install and maintain the equipment. BESCOM is also aware of the responsibility to ensure that its electricity network is fit for the purpose and comparable to other urban cities in terms of resilience, quality of supply, and the ability to service new connections. In order to ensure this, Capital Investment plan of Rs.9784.25 Crores of strategic investment including capex for model sub division, Model village from FY20 to FY21 is proposed.

BESCOM has further submitted that, Mandatory capex to be carried out utilizing GoK and Gol grants/Equity is as follows:

Amount in Rs.Crores

Particulars	FY20	FY21
Ganga kalyana Works	82.00	80.00
Water Works	20.00	24.00
SDP Progress	30.00	22.50
DDUGJY	151.00	68.06
IPDS (60% grants)	120.00	68.06
UNIP (50% grants)	50.00	50.00
Smart city	85.00	60.00
Total	538.00	372.63

If any new projects/proposals are approved by GoK/Gol then anticipated budget will be increased accordingly and number of works proposed to be taken in each of the year for the controlling period cannot be ascertained and the number of works under different head of accounts will be planned on priority, based on the field conditions/requirements of new projects.

Commission's Analysis and decision:

As per the Tariff application, BESCOM has proposed capex of Rs.3173.64 Crores and Rs.6610.61 Crores for FY20 and FY21 respectively. In the preliminary observations the BESCOM was directed to explain the rationale behind submitting the proposal for incurring capital expenditure of Rs.3173.64 Crores and Rs.6610.61 Crores for FY20 and FY21 respectively, as against the Commission approved capital expenditure of Rs.2165.58 Crores and Rs.1661.93 Crores respectively for these years in the Tariff Order 2019.

The Commission, in its preliminary observations advised BESCOM to limit its capex for FY20, as per the MYT Order dated 30th May, 2019 and that the Commission would consider the marginal difference between the approved and actual capex for FY20 during the APR of FY20, to be taken during the Tariff Proceedings for FY22. **Hence the question of approval of revised capex for FY20 will not arise in these proceedings.**

The BESCOM, in its compliance has stated that, it has submitted compliance report to the in principle approval accorded by Hon'ble Commission for Conversion of 11kV/LT overhead line into UG/AB cable & laying of OFC along with UG cable in 52 sub-divisions of BMAZ area vide letter dated 05.11.2019 along with the soft copies of DPRs duly indicating the feeder/DTC/sub division wise Energy savings, increase sales due to reduction in losses & other details pertaining to 52 sub-divisions for verification and submitted the copy of the compliance letter already been submitted to the Commission along with abstract showing sub-division-wise expected benefits. On detailed examination it is noted that, the compliance provided by BESCOM is not satisfactory.

Further, BESCOM submitted that, as per the Tender conditions, the executing agency shall complete and commission the entire works in all aspects within 18 months from the date of issue of Rate Contract i.e., 14.01.2021 & Penalty clause is also incorporated in Rate contract for non-completion of works within the stipulated time. The Benefits achieved after implementation of these projects will be submitted to the Commission for consideration for approving CAPEX requirement in future years after achieving the desired results later. BESCOM confirmed that, there will not be any duplication of existing infrastructure, as the existing infrastructure will be upgraded & works executed under different schemes & also BESCOM will ensure that the least cost option and optimum investment under section 61 of the Electricity Act, has been considered while implementing the project of conversion of OH line into UG/AB cable, which shall be justifiable from the consumer's point of view.

The Commission notes that BESCOM cannot seek additional capex as and when it feels convenient. Time and again the Commission has directed BESCOM to refrain from making additional or adhoc proposals beyond the amounts as per the perspective plan/ MYT approved amounts. Hence the Commission hereby directs that the capex proposed in respect of implementation of Grid Connected 1060 MW Hybrid Solar Rooftop plants (With Storage) and Implementation of Advanced Metering Infrastructure, is not approved and that BESCOM shall strictly adhere to the directions issued by the Commission vide its letter dated 07th February 2020.

The Commission notes that the capex proposed for FY21 by the BESCOM is on the higher side when compared with the capex achievements made in completion of the works, during the previous years.

The BESCOM's previous years' achievement of capex vis-à-vis the approved capex is shown in the following table below:

Approved and Actual Capex incurred –BESCOM					
Amount in Rs.Crores					
Particulars	FY15	FY16	FY17	FY18	FY19
Capital investment filed	2199	2050	2000	3272	2836
Capital investment approved by the Commission	763	627	2000	3272	2836
Actual capital investment incurred as per audited accounts	1728	1374	1616	1979	2869
Percentage of actual capital investment to the approved capital investment	226%	219%	81%	60%	101%

Considering the approved and actual capex from FY15 to FY19, the average actual capex incurred works out to about Rs.1913 Crores. In view of this, the capex proposed appears to be on the higher side.

Based on the previous years' achievements and the projected works to be undertaken as per the GoI/ GoK schemes, to be partly met by the capital grants, works to be carried out from consumers' contribution and the available internal resources, **the Commission recognizes the expected capital expenditure of Rs.2450.83 Crores for FY21, as per the original proposal of BESCOM in the MYT Order. BESCOM is directed not to exceed the**

approved capex and there is any excess expenditure in head of account, the same shall be met from the savings in any other head of expenditure.

While incurring the capex, BESCOM shall:

- i) Monitor the physical progress as well as financial progress in respect of the works carried out under Capex indicating timelines of completion, cost to benefit ratio, etc.
- ii) Take concrete measures to complete and capitalize the works like DAS and such other works, which are pending for years so that, the benefits envisaged are realized and passed on to the consumers effectively;
- iii) Follow the guidelines of capital expenditure and not to submit any ad hoc capex proposals.
- iv) Identify the high loss sub-divisions/divisions and priorities its capex specifically to reduce the distribution loss, improve the reliability of the distribution system and improve the voltage regulations. The Commission notes that, BESCOM even with investing the huge amount on the capital works in the previous years, the achievement made in respect of loss reduction is not satisfactory.
- v) Prepare a detailed perspective plan by conducting 11 kV feeder-wise and DTC wise load flow studies to ascertain the present and projected loads on feeder and to arrive at least cost, techno economically feasible improvement method for:
 1. Reducing distribution losses,
 2. Reducing the HT:LT Ratio
 3. Reduce Transformer failures
 4. Segregate the loads in the feeders.
 5. Increase the penetration of HVDS
 6. Reduce Power theft and
 7. Bring programs for the awareness among the people on usage and conservation of energy.
 8. Improve the sales to metered category.
 9. Improve the Power factor of the IP set loads by installing switched capacitors of suitable capacity to the secondary of the transformers.

5.2.2 BESCOM Sales forecast for FY21:

A. Sales to categories other than IP sets:

i. Category-wise estimation of number of installations and sales by BESCOM for the FY21:

BESCOM in its filing has estimated 1,30,05,969 number of installations and energy sales of 28938.62 MU for FY21. The category wise estimates are as discussed below:

BESCOM's Approach:

i) Category-wise estimates of number of installations for FY21:

The number of installations for FY21, has been computed by BESCOM, on the following basis:

- a. First, the number of installations for FY20 has been computed by adding the half yearly growth of consumers to first half of FY20.
- b. Estimation for FY21 based on three-years' CAGR, with few exceptions as shown below:
 - For BJ/KJ, the number of installations as on September, 2019 is retained for FY20 & FY21.
 - For LT4b, FY20 number is retained as CAGR is negative.
 - For HT4, 5-year CAGR is adopted as 3-year CAGR is negative.

ii) Category-wise estimates of energy sales for FY21:

The energy sales for FY21, has been computed by BESCOM, by:

- a. Estimating sales for FY20: The sales for first half of FY20 has been worked out by considering the average of first half years' sales ratio of FY15 to FY19 and similarly for second half;
- b. Applying growth rate as per empirical formula with following modifications to certain categories:
 - Wherever the growth is negative, sales figures for FY20 are retained

- For BJ/KJ, the estimated sales for FY20 based on half-yearly sales is retained for FY21, as no new scheme is announced by the GoK.
- IP set consumption has been computed based on specific consumption of 670 units/IP/month for FY20 and a specific consumption of 7411 units/IP/annum for FY21.

The preliminary observations on sales forecast made by the Commission, for FY21, the replies furnished by BESCOM and the observations of the Commission are discussed in the following paragraphs:

iii) Energy Sales- Other than IP sets:

- a. The Commission noted that, considering the average ratio for estimating future year estimate as stated by BESCOM is not correct, as averages are influenced by data outliers, if any. For FY20, the actual data upto September is available. Therefore, BESCOM should have computed the sales either on pro-rata basis or by estimating second half year sales considering second half-year growth rate of previous year and adding it to first half- year actual sales.

BESCOM has submitted that computing sales as suggested by the Commission would not be commensurate with previous Year's sales for first half and second half, as first half year sales is more than second half year sales.

The Commission has noted the reply furnished. As stated earlier, averages are influenced by data outliers, if any. If the growth rate is different for first half and second half of the year, the better approach for BESCOM is to estimate the second half year sales considering second half-year growth rate of previous years.

- b. The Commission in its Tariff Order 2019 had observed that the PERT chart formula is normally used for evaluating the tendency in project activity estimation, where there is large uncertainty. Further, BESCOM has adopted the above formula for CAGRs, which is not in order, as it amounts to working out average of averages.

BESCOM has submitted that, the CAGR computed for various years differs from each other and requires human intervention for estimation of sales and therefore, PERT formula is adopted.

The Commission while reiterating its stand, directs BESCOM not to adopt such empirical formula in future for estimating sales.

iv) LT (1) – BJ/KJ category:

The Commission observed that, BESCOM shall compute the BJ/KJ sales for FY20 and FY21, based on the specific consumption of FY19, instead of doubling the FY20 half-year consumption.

BESCOM has submitted that the overall specific consumption for FY19 and upto September 2019 for BJ/KJ is 22.57 units/installations/month and the same is adopted to estimate BJ/KJ sales.

The Commission notes that the GoK provides subsidy only to those BJ/KJ installations which consume upto & inclusive of 40 units/installation/ month and others have to be billed under LT-2a. The Specific consumption for BJ/KJ installations consuming less than or equal to 40 units/installation/ month and those consuming more than 40 units/month/installation is quite different. Hence, estimating sales to the BJ/KJ installations based on overall specific consumption would not be correct. **The Commission while estimating the sales to BJ/KJ has considered 17.88 units/month/installation for BJ/KJ installations consuming less than or equal to 40 units/installation/ month and 82.00 units/installation/month for those consuming more than 40 units/month/installation, based on FY19 data.**

- v) In the case of LT-4b installations, though the number of installations is 309 in FY19, for FY20 and FY21, the number of installations has been reduced to 287. The Commission in its preliminary observations sought the reasons for the same.

BESCOM in its reply has stated that there is reduction in number of installations from 454 in FY18 to 298 as on 30.09.2019 and therefore, 287 installations are considered.

The Commission has retained the number of installations as on 30.11.2019 at 296 installations for both FY20 & FY21.

- vi)** In the case of LT-5a category, though the number of installations has increased in FY20, the sales has reduced. The reasons for the same shall be furnished.

BESCOM has attributed the reduced sales to economic slowdown in the Country.

- vii)** In the case of LT-7 installations, though the number of installations has increased in FY21, the sales has been retained at FY20 level. The reasons for the same shall be furnished.

BESCOM has submitted that the growth rate for sales to this category since 2016 is negative in spite of increase in number of installations and therefore, the sales is retained at FY20 level.

- viii)** In the case of HT-2(a)(i) & (ii), HT-2(b) (i) & (ii) even though the number of installations has increased in comparison to FY19, the sales estimated for FY20 and FY21 is lower than that of FY19. Reasons for the same shall be furnished.

BESCOM has submitted that the growth rate for sales to this category since 2015 is negative in spite of increase in number of installations, due to consumers opting for open access/wheeling.

- ix)** In case of HT-3(a)(ii), though the number of installations for FY19 & FY20 are same, the sales are not retained at FY19 level. Reasons for the same shall be furnished.

It is stated that, based on FY19 sales, the sales to this category is estimated.

- x)** In case of HT4a, additions to installations considered for FY20 is almost double than that of FY19 and the energy sales has marginally increased. Reasons for the same shall be furnished.

It is stated that as there is increasing trend in the number of installations since FY18 and therefore, the number of installations is doubled for FY20.

- xi)** Growth rate for installations considered by BESCOM for HT-2c, is lower as compared with the normal growth rates.

BESCOM has replied that it has considered 3-year CAGR.

- xii)** The sales growth rate considered for LT5, HT1 and HT-3 is higher as compared with the CAGR and is lower for LT2b and HT2c.

BESCOM has stated that the estimates are based on empirical formula, on which the views of the Commission are already stated.

The Commission has taken note of the replies furnished by BESCOM and the Commission's approach in estimating the number of installations and the energy sales is discussed in the following paragraphs:

a) Commission's approach for estimating the number of installations and energy sales for FY21:

1) No. of Installations:

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

- a. The Commission has validated both the number of installations and energy sales to various categories considering the actuals as on 30th November, 2019 and has estimated the number of installations and sales for the remaining period reasonably. Accordingly, the base year estimation has been revised which has an impact on the estimates on the number of installations and sales for the FY21.
- b. Wherever the number of installations estimated by the BESCOM for the FY21 is within the range of the estimates based on the CAGR for the period FY14 – FY19 and for the period FY16 - FY19, the estimates of the BESCOM are retained.
- c. Wherever the number of installations estimated by the BESCOM for the FY21 is lower than the estimates based on the CAGRs for the

period FY14 – FY19 and for the period FY16 - FY19, the estimates based on the lower of the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19 are considered.

- d. Wherever the number of installations estimated by BESCOM for the FY21 is higher than the estimates based on the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19, the estimates based on the higher of the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19 are considered.
- e. For LT-4b, the number of installations as on 30.11.2019 is retained, as there is negative growth.
- f. For LT-7 and HT-5 categories, the estimates of BESCOM are retained.

Based on the above approach, the total number of installations (excluding BJ/KJ consuming \leq 40 units/month and IP-set installations) estimated by the Commission for FY21 is indicated in the table below:

Approved Number of installations

FY21	
Filed	Approved
11240098	11240197

2) Energy Sales:

- (i) For categories other than BJ/KJ and IP sets, generally the sales are being estimated, considering the following approach:
- a. The base year sale for FY20 as estimated by the BESCOM has been validated, duly considering the actual sale upto November, 2019 and modified suitably as stated earlier.
- b. Wherever the sale estimated by the BESCOM, for the for FY21, is within the range of the estimates based on the CAGR for the period FY14 – FY19 and for the period FY16 - FY19, the estimates of the BESCOM are considered.
- c. Wherever the sales estimated by the BESCOM for the FY21 is lower than the estimates based on the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19, the estimates based on the lower

of the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19 are considered.

- d. Wherever sale estimated by BESCOM for FY21 is higher than the estimates based on the CAGRs for the period FY14 – FY19 and for the period FY16 - FY19, the estimates based on the higher CAGRs for the period FY14 – FY19 and for the period FY16 - FY19 are considered.
- e. LT-4b and LT-4c, the sales are estimated based on FY19 specific consumption and for LT-7 based on specific consumption of FY20.
- f. For HT-2(a), 0.9% growth considered as growth in FY18 is 0.32% and in FY19 it is 0.95%.
- g. For HT-2(b), the sales are retained at FY19 level, as CAGR as well as previous year growth is negative.
- h. HT-4 sales are estimated based on FY20 estimates, on pro-rata basis.

Based on the above approach, the sales (excluding BJ/KJ consuming ≤ 40 units/month and IP sales) estimated by the Commission, for FY21, is indicated in the following table:

Approved Energy Sales

in Million Units

FY21	
Filed	Approved
22050.15	22742.78

(ii) Sales to BJ/KJ:

The break-up of sales to BJ/KJ installations considered for FY19 is as indicated below:

Particulars	No. of Installations	Consumption in MU	Specific consumption per installation per month (kWh)
Installations consuming less than or equal to 40 units	798305	171.29	17.88
Installations consuming more than 40 units and billed under LT2(a)	46198	45.46	82.00

The Commission notes that, the specific consumption works out to 17.88 units /installation/month for BJ/KJ installations consuming less than or equal to 40 units per month and 82 units /installation/month for BJ/KJ installations consuming more than 40 units per month.

Since, the BESCOM has not proposed any additional installations during the FY21, as there is no GoK policy to extend the benefit of free power to any new BJ/KJ installation, the number of BJ/KJ installations consuming less than or equal to 40 units per month and more than 40 units per month is retained as proposed by BESCOM for FY21. The sales worked out as per the above specific consumption for FY21 is as indicated in the following Table:

Particulars	No. of Installations	Million Units
		Sales-MU
Installations consuming less than or equal to 40 units	796666	170.94
Installations consuming more than 40 units and billed under LT2(a)	47693	46.93

iii) Sales to IP sets – projections for ARR FY21

- a) The Commission, in its Tariff Order dated 14th May, 2018, had approved specific consumption of IP sets as 8,037 units per installation per annum, while approving the revised ARR for the FY19. However, based on the revised data of sales to IP sets as per audited accounts submitted by BESCOM in its application for APR of FY19, the Commission, in this Order, has approved 8,108 units per installation per annum as the specific consumption for FY19, by considering the mid-year installations of 8,88,346 numbers.
- b) BESCOM, in its replies to preliminary observations has furnished the details of number of installations added from FY15 to FY19. From the data, it could be seen that, the number of installations added varies between 31,001 to 76,731, with an average of 42,000 installations getting added every year. BESCOM has informed that, it has

considered addition of an average of 30,000 installations while projecting the number of IP installations for FY21. The Commission notes that the proposal of BESCOM is reasonable and based on the proposal, the projected number of installations for FY21 are as follows:

The number of installations for FY20 - 9,34,463 (9,04,463 + 30,000)

The number of installations for FY21 - 9,64,463 (9,34,463 + 30,000).

- c)** BESCOM has also informed that it has deducted 6,513 number IP installations towards disconnected installations, for arriving at the specific consumption, while projecting the consumption for FY20 and FY21.
- d)** The actual sale to IP sets for FY20, till November 2019, as reported by BESCOM, in its replies to preliminary observations, is 4,319.47 MU and the number of installations is 9,26,266. The number of installations as on November 2018 are 8,90,385 and the sales during the same period i.e., April 2018 to November 2018 is 4,499.17 MU. Based on the actual figures of FY19, the specific consumption is 8,108 units per IP set per annum and the same works out to 676 units per IP set per month and the same is rounded off to 670 units per IP set per month. The mid-year number of installations for FY20 was arrived at by considering the projected number of installations and the number of installations as on 31.03.2019.

e) Projected Sales for FY20:

Consumption upto November, 2019=4319.47 MU...**A**

Mid-year No. of installations= (904463+934463)/2= 919463

Specific Consumption for FY19= 8108 units per IP set per annum

Per month specific consumption= 8108/12= 670 (676 rounded off as 670)

Consumption for December, 2019 to March, 2020= Mid year No. (919463-6513)*670*4 months=2446.706 MU...**B**

Total Consumption for FY20= **A+B**= 4319.47+2446.706=6766.18

Thus, the projected sales to IP set for FY20 is 6766.18 MU.

Specific consumption for FY20 with this sale quantity is = $((6766.18/(919463-6513)) \times 1000000) = 7411$ units per IP set per annum.

- f) With the above methodology, the specific consumption for FY20 works out to 7411 units per IP set per annum for FY20. Considering this specific consumption, and based on the estimated number of installations for FY20 and FY21 as reckoned above, the mid-year number of installations for FY21 are determined and the sales to IP set consumers is computed as follows:

TABLE – 5.4
Computation of IP Sets Consumption

Particulars	FY21		
	As approved by the Commission in Tariff Order 2019	As submitted by BESCOM in its Tariff Application	As approved by the Commission (Revised)
No. of Installations	9,50,047	9,69,204	9,64,463
Mid-year number of Installations	9,37,547	-	949463
Specific consumption in units/installation/annum	7,260	-	7411
Sales in MU	6,806.59	7,711.25	7036.79

- g) Accordingly, the Commission approves 7036.79 MU as energy sales to IP-sets as against the BESCOM's projections of 7,711.25 MU, for the FY21. The number of installations approved for FY21 is 9,64,463.

The IP set consumption for FY21 has been approved by the Commission 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, accordingly regulate the number of hours of power supply to exclusive agricultural feeders.

- h)** The Commission notes that, the sales to all other category of consumers except BJ/KJ and IP Set categories are on the reducing trend, whereas the sales to IP set is on the increasing trend. The Commission took note of the sales figure of BESCOM and the methodology followed in arriving the figure therein. Even after segregation of the IP feeders with huge investment the Commission observed that the power supply to the IP Set category is not being arranged as per the hours of supply stipulated in the Government Orders and thus the sales under IP sets category is increasing year on year. By considering all these aspects, the Commission decides that, if discrepancies are continued in computation of IP set sales figures submitted by the ESCOMs, the Commission may take up third party verification of the DTC meter readings and the meter reading of the IP set feeders for establishing the correctness of computation of IP Set sales figures.
- i)** The Commission notes that the sales and subsidy amount to IP Set is on the increasing trend year on year than the approved figures, and also the amount of subsidy receivable from the GoK. This will affect the finances of ESCOMs. Thus, the Commission directs the BESCOM to restrict its total sales to IP Set installations to the level of approved sales only. For the power supply made to IP Set installations beyond the approved level, unless other wise there is an increase in the number of installations than the approved numbers or the consent from the GoK in providing additional subsidy to that extent, will not be considered as sales and subsidy payable by GoK, besides levying penalty for the increased distribution losses also.
- j)** The Commission notes that BESCOM has taken 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 defunct / dried up installations IP-sets from its account, on the basis of GPS survey results. The BESCOM, in its replies to preliminary observations, has submitted that it has completed the GPS survey of around 9.02 lakh IP sets i.e., during July, 2019. While furnishing the data for the

Review Meeting of the ESCOMs, BESCOM has furnished the number of IP installations in DCB as at the end of July 2019 as 9,02,541 and the number of IP sets surveyed as 8,02,923. Further, while submitting the data for Advisory Committee Meeting, BESCOM has furnished the number as 9,30,444 as per DCB as at the end of December 2019 and the number as per the survey IP as 8,85,678 Nos. Thus there is inconsistency in the GPS survey data furnished by BESCOM and hence the Commission is unable to accept the same.

- k) In view of fact that the GPS survey of IP-sets is incomplete, the number of installations reckoned for FY19 and estimates for FY21 are subject to change based on the GPS survey results. Accordingly, after completion of the survey and finalisation of the report, BESCOM shall furnish the correct number of IP set installations duly deducting the number of dried up / defunct IP sets from the total number. 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 FY20.
- l) The feeder-wise data of assessment of IP sets for the period from April 2019 to November 2019 has been considered provisionally for the purpose of projecting the sales for FY20 and FY21. The Commission would consider revision of the same, based on the GPS survey data. **Hence, BESCOM is directed to submit the final survey Report within 3 (three) months from the date of this Order. The survey data should be reconciled with the DCB Statement data and thereafter report the total IP-set consumption to the Commission, month-on month regularly, as per the format prescribed in the previous tariff orders of the Commission.**

Based on the above discussions, the category-wise approved number of installations for the FY21 vis-à-vis the estimates made by the BESCOM is indicated below:

TABLE – 5.5

Category wise approved number of installations

Tariff Category	Consumer category	No. of Installations	
		Proposed by BESCOM FY21	Approved by Commission FY21
LT-1 (a)	Bhagya Jyoti <=40 units	796666	796666
LT-1 (a)	Bhagya Jyoti>40	47693	47693
LT-2a	Domestic AEH	8709095	8709095
LT-2b	Pvt. Institutions	12634	12636
LT-3	Commercial -	1200540	1200540
LT-4 (a)	IP sets - Less than 10 HP - General	969204	964463
LT-4 (b)	Irrigation Pump sets - More than 10 HP	287	296
LT-4 (c)	Private Horticulture Nurseries, Coffee & Tea Plantations	1801	1807
LT-5	Lt Industries	226682	226861
LT-6	Water Supply	91847	91744
LT-6	Street Lights	70234	70234
LT-7	Temporary Power Supply	859875	859875
	LT Total	12986558	12981910
HT-1	HT Water Supply	281	286
HT-2 (a)	HT Industries	7707	7707
HT-2 (b)	HT Commercial	8018	8018
HT-2(c)	Hospitals run by Govt./ charitable Insttns etc.	926	927
HT-3(a) & (b)	HT Irrigation & LI Societies	65	65
HT-4	Res. Apartments –	479	479
HT-5	Temporary	1934	1934
	HT Total	19410	19416
	Grand Total	13005968	13001326
	Categories other than BJ/KJ consuming</=40units/instln. /month & IP sets.	11240098	11240197
	BJ/KJ consuming</=40units/instn. /month & IP sets.	1765870	1761129

Accordingly, the category wise approved sales for FY21 vis-à-vis the estimates made by the BESCOM are indicated below:

TABLE – 5.6
Category wise approved energy sales

Tariff Category	Consumer Category	Million Units	
		Proposed by BESCOM	Approved by Commission
		FY21	FY21
LT-1 (a)	Bhagya Jyoti <=40 units	177.21	170.94
LT-1 (a)	Bhagya Jyoti>40 units	51.49	46.93
LT-2a	Domestic AEH	7815.71	7815.71
LT-2b	Pvt. Institutions	58.88	59.71
LT-3	Commercial	2426.36	2426.36
LT-4 (a)	IP sets - Less than 10 HP -	7711.25	7036.79
LT-4 (b)	Irrigation Pump sets - More than 10 HP	1.02	1.47
LT-4 (c)	Private Horticulture Nurseries, Coffee & Tea Plantations	6.87	5.56
LT-5	LT Industries	1272.82	1297.11
LT-6	Water Supply	1848.63	1848.63
LT-6	Street Lights	586.06	583.55
LT-7	Temporary Power Supply	190.53	214.62
	LT Total	22146.83	21507.38
HT-1	HT Water Supply	783.18	783.18
HT-2 (a)	HT Industries	4159.14	4576.34
HT-2 (b)	HT Commercial	2243.56	2448.41
HT-2(c)	Hospitals run by Govt.Charitable Insttns. etc	371.96	381.94
HT-3(a) & (b)	HT Irrigation & LI Societies	79.60	77.82
HT-4	Res. Apartments -	71.22	80.58
HT-5	Temporary	83.12	94.86
	HT Total	7791.78	8443.13
	Grand Total	29938.62	29950.51
	Categories other than BJ/KJ consuming<=40units/instl./month & IP sets.	22050.15	22742.78
	BJ/KJ consuming <=40units/instl./month & IP sets.	7888.46	7207.73

5.2.3 Distribution Losses for FY21:

BESCOM's Submission:

As per the audited accounts for FY19, the BESCOM has reported distribution loss of 12.54% as against an upper limit of approved loss level of 12.50%, for which the Commission, has imposed penalty as discussed in the previous chapter. The Commission in its Tariff Order dated 30th May, 2019 had fixed

an average target level of loss for FY21 at 12.00%. BESCOM in its filing, has proposed to achieve the target distribution loss levels during FY21 as fixed by the Commission in its order dated 30.05.2019, as indicated below:

TABLE – 5.7
Projected Distribution Loss-FY21 – BESCOM's Submission

Figures in percentage	
Projected Distribution loss	FY21
Upper limit	12.25
Average	12.00
Lower Limit	11.75

Commission's Analysis and Decisions:

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

TABLE – 5.8
Approved & Actual Distribution Loss-FY13 to FY19

Particulars	Figures in Percentage						
	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Approved Distribution loss	14.00	13.80	13.60	13.40	13.25	12.50	12.25
Actual distribution loss	14.20	13.89	14.78	13.51	13.19	13.17	12.54

**Actual loss for FY15 is reported as 13.53%. As per Commission's APR the loss for FY15 is 14.78% after validation of sales.*

The Commission notes that, as compared to distribution loss of 13.51% during FY16, the distribution loss has come down by 0.97 percentage point by FY19 (after completion of the control period FY17 - 19). Overall, in the past six years (with base year as FY13), BESCOM has been able to achieve distribution loss reduction of 1.66% percentage point.

BESCOM, in its filing, has submitted that, it shall be able to achieve the target in distribution loss levels as fixed by the Commission for FY21. It is observed that the Commission has been allowing capital expenditure as incurred by the BESCOM and it has also allowed substantial capex for strengthening of its distribution network aimed at further reduction of loss levels. Most of the capex spent on the works like HVDS, E&I work, NJY, metering, DDUGJY & IPDS should enable the BESCOM, not only to strengthen its infrastructure for

improved reliability and quality of power supply but also to reduce the distribution loss considerably.

Hence, in view of the substantial investment, the loss reduction proposed for the FY21 by BESCOM is meager, as compared to the current loss levels. In the light of the above observation and based on the achievement made by the BESCOM in the reduction of losses during the previous years and the capex incurred so far along with the proposed capex for FY21, the Commission decides to fix the following distribution loss targets for FY21:

TABLE – 5.9
Approved Distribution Losses for FY21

Particulars	Figures in Percentage	
	FY21	
Upper limit	11.90	
Average	11.65	
Lower limit	11.40	

5.2.4 Power Purchase for FY21

The ESCOMs, in their tariff applications have submitted the D-1 Format, wherein the requirement of power purchase for the FY21 has been furnished. The consolidated statement showing the energy requirement for FY21, is shown hereunder:

TABLE – 5.10
Requirement of Energy as filed by ESCOMs

ESCOMs	Energy requirement for FY21 (in MU)
BESCOM	35120.40
MESCOM	6453.45
CESC	8151.00
HESCOM	16312.64
GESCOM	9328.34
Total	75365.83

BESCOM's submission:

The BESCOM has submitted its power purchase requirement for the year FY21 based on the projected sales, as follows:

TABLE – 5.11

Energy Requirement as filed by BESCOM

Particulars	FY21
Sales (MU)	29,938.60
Distribution losses	12.00%
Energy at IF point (MU)	34,021.20
Transmission Losses	3.129%
Energy Required to meet the sales of BESCOM (MU)	35120.40

5.2.5 Sources of Power:**BESCOM's submission;**

The BESCOM, in its tariff application, has furnished the sources of power to meet the requirement of Power for FY21. Also BESCOM has submitted the basis for considering the availability of power, from different sources, as follows:

- (i) The availability/ power procurement from KPCL Thermal and Hydel stations is on the basis of Power Purchase Agreement dated 22.05.2010, based on norms approved by the State Commission vide its order dated 03.08.2009.
- (ii) Availability of power from Central Generating Stations (CGS) is as per the Ex-Bus generation details furnished by the CGS to the CEA, for preparation of LGBR. The quantum of energy to be drawn by Karnataka is based on the percentage of allocation to the State.
- (iii) In respect of Major IPPS, RE and other sources such as UPCL, RE generators and others sources such as Jurala Power & TB Dam Power etc., the availability is reckoned based on the contracted capacity.
- (iv) The Capacity of the existing sources and the envisaged additional sources vis-à-vis the energy requirement for the entire State, the fixed charges and variable charges are indicated in the tariff application of BESCOM. The same are shown in the following Tables.

TABLE - 5.12

Power purchase requirement of BESCOM for FY21

SOURCES	FINANCIAL YEAR 20-21		
	Energy in MU	Cost in Rs Crs.	Avg. cost Per unit Rs./unit
KPCL Hydel Energy	827.50	91.66	1.11
KPCL Thermal Energy	11591.53	8128.81	7.01
CGS Energy	10746.12	5241.29	4.88
UPCL	2527.87	1760.39	6.96
Renewable Energy/Bundled power	9376.75	3739.14	3.99
Other State Hydel	98.55	33.11	3.36
Medium Term	593.04	309.04	5.21
PGCIL & POSOCO Charges		1305.75	
KPTCL Transmission & SLDC		1834.136	
Allocation to other ESCOMs	-640.97	-369.39	5.76
TOTAL	35120.40	22073.94	6.29

Commission's analysis and decisions

The energy requirement of the ESCOMs, including BESCOM, is being met by the following sources, through long-term Power Purchase Agreement (PPAs) with:

- a) Karnataka Power Corporation Limited (KPCL) Generating stations;
- b) Central Generating Stations (CGS);
- c) Major Independent Power producers (IPPs) and
- d) Renewable Energy (RE) sources.

To arrive at the available quantum of energy and power for the year FY 21, the Commission has considered the availability as furnished by KPCL for KPCL Generating Stations and availability as furnished by the SRPC for Central Generating Stations. The availability of CGS stations is based on the share of Karnataka, as notified from time to time.

In the case of availability from the Renewable Energy sources and Medium Term Power Purchases, the actual generation capacity contracted by the ESCOMs, as indicated in D-1 Format and as per the contracted PPAs, has

been considered. The availability from the other sources such as Jurala Hydel Station and TB dam Power Stations of Telangana State has been considered based on Karnataka's share in the installed capacity and as per the contracts executed with these generators.

The availability as furnished by the KPCL in respect of Yelahanka Combined Cycle Power Plant (YCCPP), having a capacity of 350 MW respectively has not been considered, as the said generating station is yet to be synchronized with the grid and the CoD is yet to be declared.

The availability of New NLC Plant Thermal Power Project has been considered based on Karnataka's share, as furnished by the PCKL, duly limiting the quantum of energy as per the requirement of ESCOMs, to meet the sales targets. The plant has since been synchronized and supplying power to the grid.

Based on the above availability criteria, the energy requirement for the State, with reference to the sales target approved for FY21, is given in the following Table.

TABLE - 5.13
ABSTRACT OF POWER PURCHASE REQUIREMENT OF THE STATE
FOR THE YEAR FY21

SOURCES	FINANCIAL YEAR 20-21		
	Energy in MU	Total Cost in Rs Crs.	Avg. cost per unit Rs./unit
KPCL Hydel Energy	11567.04	992.71	0.86
KPCL Thermal Energy	15193.60	9462.99	6.23
CGS Energy	19948.10	9339.82	4.68
UPCL	3600.00	2448.00	6.80
Renewable Energy:	17628.37	6700.75	3.80
Other State Hydel	183.60	61.70	3.36
Bundled Power	3698.57	1459.31	3.95
Medium Term (Co Gen)	1285.06	669.52	5.21
PGCIL & POSOCO Charges		1774.37	
KPTCL Transmission & SLDC		4318.30	
TOTAL	73104.34	37227.47	5.092

5.2.6 BESCOM's Power Purchase Cost & Transmission charges for FY21:

BESCOM's Submission

BESCOM has submitted the Power Purchase requirement along with the cost including the transmission charges and SLDC charges, in D-1 Format. BESCOM has sought approval of the Commission for purchase of power to an extent of 35,120.43 MU at a cost of Rs.22,073.94 Crores, which includes transmission and SLDC charges, for the year FY21.

As regards the cost of power, the BESCOM has submitted that, same is considered as per the norms defined in contracts (PPAs)/ Regulations and based on the tariff indicated by KPCL for its Stations and the tariff determined by the CERC in respect of Central Generating Stations, DVC Stations and UPCL stations.

Commission's analysis and decisions

After a detailed analysis of the power purchase costs claimed by the BESCOM, the Commission has arrived at the power purchase quantum and cost, to be allowed in the ARR for FY21. The basis for computation of power purchase quantum and cost for the year FY21 is as indicated below:

1. Quantum of Power: Based on the approved sales and the allowable distribution losses, the requirement of Power for the BESCOM, for the year FY21, is worked out as detailed below:

TABLE – 5.14

**Power Purchase requirement for the
BESCOM for the year FY21**

Particulars	FY21
Sales (MU)	29950.51
Distribution losses (%)	11.65
Energy at IF point (MU)	33899.84
Transmission Losses (%)	3.039
Energy at generation bus Required to meet the sales target of BESCOM (MU)	34962.347

2. 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 dispatch based on the ranking of all approved sources of supply.
3. The rates considered in respect of the KPCL stations are based on the Commission's order dated 03.08.2009 for hydel stations, except for Shivasamudram, Shimsha, Munirabad & MGHE for which separate rates, as per Order dated 25th February 2015, are applicable.
4. The variable costs of State thermal stations and UPCL, are considered based on the recent power purchase bills passed by the BESCOM and also based on the recent landed cost of fuel and other variable components.
5. The fixed charges and the variable charges in respect of 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. 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 contracted/ tied up sources only.
6. The variations, if any, in the costs allowed now will be considered during the FAC exercise / Annual Performance Review of FY21.
7. The Commission has allowed the KPTCL transmission charges and SLDC charges to be paid by the ESCOMs in the Power Purchase Cost and is as detailed below:

Transmission Charges & SLDC Charges payable by ESCOMs

Name of ESCOM	KPTCL Transmission Charges in Rs. Crores	SLDC Charges in Rs. Crores
BESCOM	2179.288	11.923
MESCOM	319.224	1.996
CESC	466.272	2.815
HESCOM	806.902	5.032
GESCOM	521.183	3.665
Total	4292.869	25.430

8. In reply to the Commission's observation that the ESCOMs are paying the PGCIL transmission charges at exorbitant rates, BESCOM has stated that the transmission charges of PGCIL may be reduced after issue of new CERC (Sharing of Inter State Transmission Charges and Losses) Regulations. In this regard, the Commission notes that the draft Regulations issued by the CERC does not specify the POC charges applicable for Karnataka State. Further the Commission notes that the final notification of the Regulation has been issued by the CERC. **The BESCOM shall intimate the Commission any changes in the existing POC charges and the applicability of period along with the POC charges.**
9. Based on the requirement of energy allowed and the power allocation given by the Government of Karnataka, the source wise Power Purchase quantum and costs as approved in the ARR of BESCOM for the year FY21 as shown in Annexures - 1 & 2.
10. The consolidated power purchase cost for the year FY21, as approved by the Commission, is shown the following Table:

TABLE - 5.15
ABSTRACT OF POWER PURCHASE APPROVED
FOR BESCOM FOR THE YEAR FY21

SOURCES	FINANCIAL YEAR 20-21		
	Energy in MU	Cost in Rs. Crores	Cost Per unit In Rs.
KPCL Hydel Energy	4296.83	326.65	0.76
KPCL Thermal Energy	8279.05	5229.364	6.32
CGS Energy	10524.49	4893.24	4.65
UPCL	1800.00	1224.00	6.80
Renewable Energy:	7660.67	2900.33	3.79
Other State Hydel	91.41	30.72	4.87
Total Bundled Power	1716.85	677.61	3.95
Medium Term (Co Gen)	593.04	308.97	5.21
PGCIL & POSOCO Charges	-	752.80	-
KPTCL Transmission & SLDC and PGCIL POSOCO Charges	-	2191.21	-
TOTAL	34962.35	18534.89	5.30

Thus, the Commission hereby approves power purchase quantum of 34962.35 MU at a cost of Rs.18534.89 Crores, for FY21. The breakup of

source-wise Power and the cost thereon, is shown in Annexure- 1 and 2 of this Order.

BESCOM shall regulate the quantum and cost of power, as per the above approval of the Commission. However, since the power purchase costs are uncontrollable, any excess quantum or cost will be trued up in Annual Performance Review for FY21.

5.2.7 RPO target for FY21:

The Commission vide the KERC (Procurement of Energy from Renewable Sources) (Sixth Amendment) Regulations, 2018, has notified a Non-Solar RPO target of 12% and Solar RPO target of 8.50% for FY21.

The Commission in its preliminary observation directed BESCOM to furnish the estimates for complying with the Solar and Non-Solar RPO for FY20 & FY21, including any cost implication for purchasing RECs, if any.

BESCOM has not furnished any reply to the above observation of the Commission. However, as per the source-wise power purchase approved by the Commission, BESCOM would be able to meet both Solar and Non-Solar RPO for FY21.

5.2.8 O & M Expenses for FY21:

BESCOM's Proposal:

The BESCOM, in its application, has computed normative O&M expenses as Rs.2542.24 Crores in addition to additional employee cost of Rs.27.15 Crores due to the proposed recruitment of 479 employees during FY21. BESCOM, in order to compute the normative O&M expenses, has estimated Weighted Inflation Index (WII) for FY21 as 7.22%, considering 80% weightage for CPI and 20% for WPI, by reckoning the actual for the financial year 2008 to 2017 as considered by CERC and for FY 2019 to FY 2021 on the 6 years moving average basis, consumer growth rate of 4.94% based on four year CAGR and efficiency factor of 1%.

Based on the above indices and the base year O&M expenses of Rs.2286.97 Crores for FY20, by including an amount of Rs.68.28 Crores of additional employee cost on account of increase in contribution rates to P&G Trust and Rs.27.18 Crores as on additional employee cost for the proposed recruitment of 479 new employees during FY21, BESCOM has claimed Rs.2569.39 Crores towards O&M expenses for FY21 as detailed below:

TABLE - 5.16**Inflation Considered by BESCOM for FY21**

Sl. No.	Particulars	FY21
1	Inflation index in%	7.22
2	Consumer Growth Index in %	4.94
3	Efficiency Factor in %	1%
4	Base year O&M Cost in Rs. Crores	2286.97
5	O&M expenses t-year= O&M (t-1)*(1+WII+CGI-X) (Rs. Crores)	2542.24
6	Additional employee cost on account of recruiting 479 employees during FY21	27.15
	Total	2569.39

Therefore, BESCOM has requested the Commission to consider the O&M cost of Rs.2569.39 Crores for FY21.

Commission Analysis & Decisions:

The Commission, in its preliminary observations had observed that BESCOM, in its filing of revised ARR for FY21, had claimed an amount of Rs.296.72 Crores towards contribution to P&G Trust for FY21. BESCOM was directed to furnish the computation sheet for factoring Rs.296.72 Crores, duly considering the contribution to the employees recruited up to 31.03.2006 and employees recruited after 31.03.2006 separately for FY21. BESCOM has not submitted the details for FY21.

Further, as per the provisions of MYT Regulations, the O&M expenses are controllable expenditure and every ESCOM need to control the O & M expenses by utilizing the available resources within its control, in a prudent manner. Hence, BESCOM was directed to re-examine and revise the amount of A&G expenses proposed for FY21.

BESCOM, in its reply to the preliminary observation, has submitted that it has computed O&M expenses for FY21 on normative basis and has worked out the O&M expenses by apportioning 76% of the normative O&M expenses of Rs.1960.83 Crores as employee expenses, 6% of O&M expenses being Rs.158.97 Crores as R&M expenses and 18% of O&M expenses being Rs.449.59 Crores as A&G expenses.

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

The Commission has noted the actual O&M expenses as per the audited accounts of BESCOM for FY19 and that the actual O&M expenditure including the P&G contribution and pay revision amount is Rs.1809.80 Crores for FY19. In addition to the above an amount of Rs.68.28 Crores arrears on account of revision of pension contribution rates from 42.53% to 57.30% w.e.f. 01.04.2017, as per KPTCL P&G Trust Order No.KEPTG/KCO/P7/2019-20/CYS - 13 dated 30.10.2019, as estimated by BESCOM for FY19 has been included in arriving at the base year O&M expenses for FY19. Hence, the Commission has decided to consider the O&M expenses of Rs.1879.50 Crores as the base year O&M expenses for FY19 to determine the O&M expenses for FY20 and FY21.

Regarding BESCOM's claim for the consideration of weighted inflation index based on the actual CPI and WPI data for the years 2008 to 2017 as considered by the CERC, and for the year 2019 to 2021 based on the 6 year moving average to arrive at the inflation index of 7.22%, the same is not in line with the computation as notified by the CERC in its Notification No.ECO11/2019 CERC dated 02.04.2019. The Commission notes that, the inflation index rate computed by BESCOM by adopting the 6 years moving average for 2019 to 2021, as against the CPI and WPI actual data to be reckoned from 2007 to 2018, as considered by CERC in its Notification dated 02.04.2019, may not represent the true inflation rate and it has not been adopted hitherto by the Commission, in its earlier tariff Orders. Thus, the

Commission has not considered the same, while allowing the O&M expenses for FY21.

The Commission, as per the norms specified in the MYT Regulations in respect of computation of O&M expenses, has considered the consumer growth rate (CPI) based 3 year CAGR and inflation rate index based on the methodology followed by the CERC. The allowable annual escalation rate for FY21 is computed by 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 in line with the methodology followed by the Commission, in its Tariff Order issued earlier, as follows:

TABLE – 5.17
Computation of Inflation Index for FY21

Year	WPI	CPI	Composite Series	Yt/Y1=Rt	Ln Rt	Year (t-1)	Product [(t-1)* (LnRt)]
2007	73.6	130.8	119.36				
2008	80.0	141.7	129.36	1.08	0.08	1	0.08
2009	81.9	157.1	142.06	1.19	0.17	2	0.35
2010	89.7	175.9	158.66	1.33	0.28	3	0.85
2011	98.2	191.5	172.84	1.45	0.37	4	1.48
2012	105.7	209.3	188.58	1.58	0.46	5	2.29
2013	111.1	232.2	207.98	1.74	0.56	6	3.33
2014	114.8	246.9	220.48	1.85	0.61	7	4.30
2015	110.3	261.4	231.196	1.94	0.66	8	5.29
2016	110.3	274.3	241.5	2.02	0.70	9	6.34
2017	114.1	281.2	247.78	2.08	0.73	10	7.30
2018	118.9	294.8	259.62	2.18	0.78	11	8.55
A= Sum of the product column							40.16
B= 6 Times of A							240.97
C= (n-1) *n*(2n-1) where n= No of years of data=12							3036.00
D=B/C							0.08
g (Exponential factor) = Exponential (D)-1							0.0826
e=Annual Escalation Rate (%) =g*100							8.2604

For the purpose of determining the normative O & M expenses for FY21, the Commission has considered the following:

- a) The actual O & M expenses incurred as per the audited accounts for FY19 inclusive of pay revision amount and contribution to the Pension and Gratuity Trust plus the additional employee cost on account of additional contribution to P&G Trust consequent to the revision of contribution rates to determine the O & M expenses for the base year FY20.
- 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 FY19 and as projected by the Commission for FY21 at 4.96%.
- c) The weighted inflation index (WII) at 8.2604% as computed above.
- d) Efficiency factor at 1% as considered in the earlier Tariff Orders.

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

Regarding the additional O&M expenses of Rs.27.15 Crores projected by BESCOM on account of proposed recruitment of 479 new employees during FY21, the Commission notes the present position of the recruitment process and decide to consider the same based on the actual expenditure during the year in which APR for FY21 is undertaken.

Accordingly, the normative O & M expenses for FY21 are computed as follows:

TABLE – 5.18
Approved O & M expenses for FY21

Particulars	FY21
No. Of Installations	1,30,01,326
CGI based on 3 Year CAGR	4.96%
Inflation index in %	8.2604%
Base Year O&M Cost with P&G contribution (FY19 as per actuals) plus additional P&G contribution of Rs.68.28 Crores on account of revision of contributory rates	1878.08
Normative O&M Index= O&M (t-1)*(1+WII+CGI-X) Rs. in Crores	2365.61
Total allowable O&M Expenses. Rs in Crores	2365.61

Since, the base year data of the O & M expenses is inclusive of contribution to the P & G Trust amount and pay revision amount, the Commission has not considered allowing contribution to the P & G Trust and additional employee cost on account of revision of pay separately.

Thus, the Commission decides to approve O&M expenses of Rs.2365.61 Crores for FY21.

5.2.9 Depreciation:

BESCOM's Proposal:

The BESCOM, in its filing has claimed an amount of Rs.884.93 Crores towards the depreciation for FY21, as per the norms specified under the MYT Regulations based on the following assumptions:

- 1) Actual closing Gross Fixed Assets (GFA) as per the audited accounts of FY19.
- 2) Estimated Retirement of assets for FY20 and for FY21 are based on the average for the past three years.
- 3) Capitalisation of 90% of the book cost by considering 75% of the capex envisaged during each year plus 25% of previous year spill over works.
- 4) Capital work in progress at the end of previous year being categorized in the succeeding year.
- 5) Depreciation rates as specified by the CERC is applied on 90% of the Closing Gross fixed Asset of each year.

Government grants/subsidies received from the government or other authorities towards capital expenditure as well as consumer's contribution to capital works, are treated initially under deferred income and taken to fixed assets based on commissioning of the assets and depreciation is charged in accordance with the class of assets it belongs to as per the Accounting Standard (INDAS).

Accordingly, BESCOM has claimed the depreciation for FY21 considering average depreciation rate of 5.28% as detailed below:

TABLE – 5.19

Depreciation FY21: BESCOM's Submission

Particulars	Amount in Rs. Crores	
	FY21	
Opening Gross Fixed Asset (GFA)	18060.25	
Add: Additions during the year	4803.66	
Less: Retirement benefits	-257.88	
Add. Consumer Contribution	513.82	
Closing GFA	23119.86	
90% of GFA	20807.87	
Average Dep. Rate (In %)	5.28%	
Depreciation	1098.66	
Less: Depreciation withdrawn from Consumer contribution/subsidies plus withdrawal of depreciation	-213.73	
Net Depreciation	884.93	

Commission's analysis and decision:

In accordance with the provisions of the MYT Regulations and amendments issued thereon, the Commission has determined the depreciation for FY21 considering the following:

- a) The actual rate of depreciation of category-wise assets has been determined considering the depreciation, gross block of opening and closing balances of fixed assets, as per the audited accounts for FY19.
- b) The actual rate of depreciation, so arrived at, is considered, to allow the depreciation on the gross block of average of opening and closing balance of fixed assets projections made on the approved capex and categorization of asset thereon by the Commission for FY21.
- c) Considering the various works proposed to be carried out with substantial amount of GoI / GoK capital grants along with the consumer contribution and the assets likely to be created thereon, 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 considered and projected by the Commission for FY21, at the weighted average rate of depreciation as per actuals in FY19.

Accordingly, the depreciation for FY21 is arrived at as follows:

TABLE – 5.20
Approved Depreciation for FY21
Amount in Rs. Crores

Particulars	Depreciation
Buildings	14.34
Civil	0.34
Other Civil	0.15
Plant & M/c	203.44
Line, Cable Network	635.27
Vehicles	2.18
Furniture	1.065
Office Equipments	0.96
Intangible assets	0.00
Released Assets Re used	2.48
Sub Total	860.23
Less: Depreciation withdrawn on the assets created out of consumers contribution / grants as per INDAS-12	-253.88
Total	606.35

Thus, the Commission decides to approve an amount of Rs.606.35 Crores towards net depreciation for FY21.

5.2.10 Interest on Term- Loans:

BESCOM's proposal:

BESCOM, in its application has claimed Rs.893.23 Crores for FY21 as the Interest on capital loan, computed on the basis of the following assumptions:

- Loan outstanding as on 31st March, 2019 as per the audited accounts duly considering the rate of interest and terms of repayment.
- For FY20, loan existing as on 30th September, 2019 and the estimation for the next half year is considered for computation of interest.
- For financing of future capital cost of the projects, a Debt: Equity ratio of 70:30 is adopted as per the norms specified by the Commission, under Clause 3.7.1 of the MYT Regulations.

BESCOM has claimed the interest rate of 9.94% on the existing capital loan balances and 11.45% for new borrowings. BESCOM in its filing has stated that in the recent years, it was difficult to borrow capital loan from the commercial banks and proposes to borrow the capital loans from the financial institutions. BESCOM, in its application has furnished the following details of sources of fund to meet the capex envisaged for FY21:

TABLE - 5.21
Sources of fund to capex
Amount in Rs. Crores

Particulars	FY21
Capex after removing GoK grant	4804.00
Internal Reserves	1441.00
New Borrowings	3363.00

BESCOM has requested to approve the interest on existing loan for FY21 as follows:

TABLE - 5.22
Interest on Capital Loan – BESCOM's submissions

Particulars	Amount in Rs. Crores	
	FY21	
Opening balance of Capital Loan	5654.00	
Average Repayments	668.00	
Closing Balance	4986.00	
Interest	495.62	
Rate of Interest on Capital loan	9.94%	

Further, The BESCOM has requested the Commission to approve the interest on fresh loan for FY21 as follows:

TABLE - 5.23
Interest on Fresh Loan – BESCOM's submissions

Particulars	Amount in Rs. Crores	
	FY21	
Fresh borrowings envisaged	3362.56	
50% of the borrowings	1681.28	
Borrowings considered for interest Computation	3472.60	
Interest (RBI declared interest rate 9.45+200 base points)	397.61	
Rate of Interest on Fresh loan	11.45%	

Commission's analysis and decision:

1. The Commission notes the capital loan portfolios of BESCOM for FY19 and upto September, 2019, and the new loans availed during the previous year and upto September, 2019 during FY20 towards approved capex, as per the audited accounts and the details submitted by BESCOM.
2. The Commission has noted the loan proposals of the BESCOM. The Commission, by considering the capital grants, consumer contributions and internal resources likely to be available for the execution of the

approved capex, as brought out in pre-paras, to avoid front loading of the interest on loan in the retail supply tariff to the consumers, decides to consider the requirement of loan of Rs.1000 Crores for FY21 towards capital expenditure. Further, the Commission has considered the repayment of loan at Rs.487.35 Crores for FY21.

3. As per the audited accounts and as per the APR for FY19, the BESCOM had incurred interest on capital loan at a weighted average rate of interest of 8.28% per annum. Further, the estimated weighted average interest rate for FY20 has been considered for the existing loan balances for which interest has to be factored during FY21. The Commission has considered the new loans to be drawn during FY21, duly factoring in the availability of capital grants from Gol / GoK, consumer contributions and the internal resources on the proposed works as indicated by the BESCOM, in its filing at 11%.

BESCOM, has proposed capex amount of Rs.6,610.61 Crores for FY21. This includes new proposals to take up Smart Meters / AMIs Rs.1537.50 Crores, DSM Rs.1275.00 Crores and Model Sub-division Rs.1750.00 Crores Total Rs.4562.50 Crores which were not included in the MYT Order:

The Commission, in its letter dated 07.02.2020 addressed to BESCOM has communicated that the Commission is unable to approve the above capex in view of the present financial status, its current borrowing capacity and the huge financial implications of the proposed capex on the consumer's tariff. Therefore, BESCOM was directed to limit its capex within the capex approved in the MYT Order dated 30th May, 2019.

The Commission, in its MYT Order dated 30.05.2019, has recognised a capex of Rs.1661.00 Crores and reckoned the capital loan of Rs.700.00 Crores for FY21. Now based on the capex proposal of BESCOM, the Commission by considering the capital grants from Gol / GoK and the availability of internal resources and consumer contributions on various works proposed by BESCOM, decides to reckon the capex of Rs.2450.83 Crores as proposed by BESCOM in its earlier MYT filing. Considering the

previous performance of BESCOM, the likely capex for FY21 is estimated at 75% of the above at Rs.1838.12 Crores. **After considering the GoK / Gol capital grants, consumer contribution and the internal resource likely to be available for the execution of the approved capex as made out in pre-para, to avoid front loading of interest on loans in determination of revised ARR and retail supply tariff to the consumers, the Commission decides to reckon the requirement of new loans to an extent of Rs.1000 Crores for FY21 against the approved capex. The Commission has considered new loans, in accordance with the debt equity ratio of 70:30 as per the MYT Regulations.**

As per the data furnished by the BESCOM, the interest on new loans is proposed at a rate of 11.45%.

The Commission notes that, the interest rates proposed by BESCOM are comparatively on the higher side. BESCOM needs to adopt financial prudence measures so as to avail loans at comparatively lower interest rates and thereby reduce the interest burden on the consumers. The Commission further notes that the present interest rate being charged by the commercial banks and financial institutions is 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 favorable economic condition for investments, it is observed that there is a downward trend in the MCLR interest rates. Hence, in such a situation, the Commission is of the view that, the ESCOMs can avail capital loan at competitive rates, which would be relatively lesser than the interest rate proposed by the BESCOM.

The Commission notes that, the present SBI MCLR rate for capital loan with tenure of 3 years is 8.15%. Considering the present MCLR and the admissible base points, the Commission for new capital loan borrowings decides to allow the interest rate of 11% for FY21, Hence the Commission has considered the weighted average rate of interest for the existing loan and 11% for the new loans. It shall be noted that, the rate of interest now

considered by the Commission on the new capital loans for FY21 is subject to review during the APR of FY21.

Accordingly, the approved interest on loans for FY21 are as follows:

TABLE – 5.24
Approved Interest on Loans for FY21

Amount in Rs. Crores	
Particulars	FY21
Opening Balance of Capital Loans	5333.61
Add: New Loans borrowed	1000.00
Less: Repayments of loan	-487.35
Total loan at the end of the year	5846.26
Average Loan	5589.94
Interest on long term loans	488.65
Weighted average rate of interest based on the actual interest paid on long term loans in %	8.74%
Interest Rate allowed on the new loans in %	11%
Allowable Interest on Capital Loan	488.65

Thus, the Commission decides to approve interest of Rs.488.65 Crores on long term capital loans for FY21.

5.2.11 Interest on Working Capital:

BESCOM's proposal:

BESCOM has claimed the interest on working capital of Rs.489.24 Crores based on the norms prescribed in the MYT Regulations and considering the modified GFA, one-month O&M Expenditure and 2 months' receivable and considering the interest on working capital at RBI base rate of 9.45% plus 200 basis points at 11.45% per annum for FY21. The interest on working capital computed by BESCOM is as follows:

TABLE – 5.25
Interest on Working Capital – BESCOM's Submission

Amount in Rs. Crores	
Particulars	FY21
1/12th Operation and Maintenance	214.12
1% of Gross fixed assets at the beginning of the year	180.60
2 months Receivables	3,878.00
Estimated Working Capital	4272.88
Rate of Interest (9.45%+200)	11.45%
Interest on working capital (RBI base rate as on Oct 2019 is between 8.45 to 9.45 plus 200 basis points)	489.25

Commission's analysis and decision:

The Commission has been computing the interest working capital as per the norms specified under the MYT Regulations, which consist of one month's O&M expenses, 1% of Opening Balance of Gross Fixed Assets and two months' revenue as receivables.

The Commission notes that BESCOM has claimed the interest on working capital at a rate of 11.45%, on the basis of RBI base rate prevailing as on October, 2019 ranging between 8.45% to 9.45% plus 200 base points. This system is no more existing now, for availing new loans.

The commercial banks and financial institutions are charging the interest rates mainly on the basis of MCLR declared from time to time. Hence, the Commission would consider MCLR, depending upon the tenure of the loan.

The Commission notes that, BESCOM needs to take financial prudence measures while availing short term loans, so that the interest burden on its consumers is reduced. As per the audited accounts for FY19, BESCOM has availed the working capital loan at an interest rate of 8.50% to 10.50% from Commercial banks / financial institutions.

As discussed earlier, the MCLR for loan with short tenure of upto One year is 7.60% to 7.85%. Therefore, the Commission, by considering the existing short term loans availed, the downward trend in the interest rates, and also considering the present MCLR rates with an addition of appropriate basis points, as per the provisions of the MYT Regulations, decides to consider interest on working capital at 11.00% per annum for FY21.

Accordingly, the approved interest on working capital for FY21 is as follows:

TABLE – 5.26
Approved Interest on Working Capital for FY21

Amount in Rs. Crores	
Computation of Interest on Working Capital	
Particulars	FY 21
One-twelfth of the amount of O&M Exp.	197.28
Opening GFA	16221.13
Stores, materials and supplies 1% of Opening balance of GFA	162.21
One-sixth of the Revenue	3862.31

Total Working Capital	4221.65
Rate of Interest (% p.a.)	11.00%
Interest on Working Capital	464.38

Thus, the Commission decides to approves interest on working capital of Rs.464.38 Crores for FY21.

5.2.12 Interest on Consumer Deposit:

BESCOM's proposal:

BESCOM in its application has claimed Rs.283.90 Crores towards interest on consumer security deposit at the bank rate of 6.40% for FY21. BESCOM, in its application has, submitted that it has assumed that an average amount of Rs.300 Crores will be collected in each year of the control period FY20-22, on the basis of an average security deposit of Rs.240 Crores collected in the past three years. Further, BESCOM has considered a bank rate of 6.40% per annum for computing the interest on security deposit for FY21.

The interest on consumer deposit projected for FY21 is as follows:

TABLE – 5.27
Interest on Consumer Deposits – BESCOM's Submission
Amount in Rs. Crores

Particulars	FY21
Opening balance of Consumer Security Deposit	4435.89
Rate of Interest	6.40%
Interest on consumer security deposit	283.90

Commission's analysis and decision:

In accordance with the KERC (Interest on Security Deposit) Regulations 2005, the rate of interest on consumer security deposits 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 notification dated 4th October, 2019, the Bank Rate is 5.40%. This being the latest available bank rate, the Commission has considered the same, for computation of interest on consumer deposits for FY21.

The Commission has considered the consumer security deposits as per the audited accounts of FY19 and half yearly accounts of FY20 and noted the additional amount of deposit collected from the consumers during the previous years. Based on the additional security deposits collected during FY19, the Commission has decided to factor Rs.300 Crores and Rs.350 Crores as the additional security deposit likely to be collected for FY20 and FY21. Thus, the interest on consumer deposits for FY21 are as follows:

TABLE – 5.28**Approved Interest on Consumer Security Deposits for FY21**

Particulars	Amount in Rs. Crores	
	FY21	
Opening balance of consumer deposits	4214.69	
Additional deposit to be received during the year.	300.00	
Closing balance of consumer deposits	4514.69	
Average consumer security deposits	4364.69	
Rate of Interest at bank rate to be allowed as per Regulations	5.40%	
Allowable Interest on Consumer Security Deposit.	235.69	

Thus, the Commission decides to approve interest on consumer security deposits at Rs.235.69 Crores for FY21.

5.2.13 Other Interest and Finance Charges:

BESCOM in its filing has submitted the other interest and finance charges incurred during FY19 is Rs.11.52 Crores. As such BESCOM has claimed Rs.12.00 Crores towards other interest and Finance charges for FY21.

Commission's analysis and decision:

The Commission takes note of the other amount of interest and finance charges incurred by the BESCOM as per the audited accounts for the previous years and the amount as approved in the APR of the relevant year.

Considering the expenditure on this item in the earlier years, the Commission decides to allow an amount of Rs.12.00 Crores, towards interest and finance charges for FY21.

5.2.14 Interest and other expenses Capitalized:

BESCOM has indicated an amount of Rs.130.37 Crores towards capitalization of interest on capital loan and other expenses for FY21.

Commission's analysis and decision:

Considering, the capital expenditure incurred and capitalized interest on capital loans and other expenses in the previous years, the Commission decides to allow Rs.130.37 Crores towards capitalization of expenses, as proposed by BESCOM for FY21.

The abstract of approved interest and finance charges for FY21 are as follows:

TABLE – 5.29
Approved Interest and finance charges for FY21

Particulars	Amount in Rs. Crores	
	FY21	
Interest on Loan Capital	488.65	
Interest on Working Capital	464.38	
Interest on Consumers Security Deposit	235.69	
Other Interest & Finance Charges	12.00	
Less: Interest & other expenses capitalized	-130.37	
Total Interest & Finance Charges	1070.35	

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

BESCOM in its filing has submitted that it has computed RoE based on the normative allowable equity as per the MYT Regulations and claimed Rs.231.68 Crores for FY21 as detailed below:

TABLE – 5.30
Return on Equity for FY21 – BESCOM's Submission

Particulars	Amount in Rs. Crores	
	FY21	
Opening balance of paid up share capital	546.92	
Share deposit	930.76	
Average Equity addition during the year	133.67	
Reserve and surplus	-61.83	
Less: Meter security deposit capitalized	-54.81	
Profit for the year	84.77	
Total Equity	1494.71	
Return on equity@15.5%	231.68	

Commission's analysis and decision:

The Commission has considered the actual amount of share capital, share deposits and the accumulated surplus / deficit under reserves and surplus account as per the audited accounts for FY19 and the additional equity amount received from the GoK during FY20 for arriving at the allowable equity base for FY21.

The Commission, in accordance with the provisions of the MYT Regulations, has considered 15.50% of Return on Equity duly grossed up with the applicable Minimum Alternate Tax (MAT) of 17.94%. Thus, the RoE grossed up with MAT works out to 18.8886% per annum. Further, as per the provisions of the MYT Regulations, the Return on Equity is to be computed based on the opening balances of share capital, share deposits and the accumulated balances of surplus / deficit under reserves and surplus account. Further an amount of Rs.100 Crores of recapitalized consumer deposit as net worth is also considered as per the Orders of the Hon'ble ATE in Appeal No.46/2014. Also, the Commission by considering the actual profit / loss earned by BESCOM during the previous years as per the audited account, in order to avoid front-loading of the allowable RoE in the retail supply tariff has not carried forward the allowable RoE of FY20 to FY21 as the additional equity infused during the year for computation of RoE for the subsequent year. The Commission has considered the additional capital grant infused by the GoK during FY20 in the form of equity of Rs.260.08 Crores in computation of RoE for FY21.

Further, in compliance with the Orders of the Hon'ble ATE in Appeal No.46/2014, wherein it was 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 FY21 is indicated as follows:

TABLE – 5.31
Status of Debt Equity Ratio for FY21

Year	Particulars	Amount in Rs. Crores						
		GFA (GFA – Intangible asset)	Debt	Equity (Net-worth)	Normative Debt @ 70% of GFA	Normative Equity @ 30% of GFA	Percentage of actual debt on GFA	% of actual equity on GFA
FY21	Opening Balance	16012.73	5333.61	1525.80	11208.91	4803.82	33.31	9.53
	Closing Balance	17667.39	5846.26	1525.80	12367.17	5300.22	33.09	8.64

Accordingly, from the above, it is observed that the estimated amount of debt and equity are within the normative levels with reference to the opening and closing balance of GFA for FY21. Further, the Commission would review the same during the APR for FY21 based on the actual data as per the audited accounts. The Return on Equity that could be allowed for FY21, is worked out as under:

TABLE – 5.32
Approved Return on Equity for FY21

Amount in Rs. Crores	
Particulars	FY21
OB: Paid Up Share Capital	546.92
OB: Share Deposit	1056.70
OB: Accumulated surplus / deficit under Reserves and Surplus account	22.19
Less: Recapitalized Security Deposit	-100.00
Total opening balance of Equity	1525.80
RoE at 15.5% Grossed up with applicable MAT (MAT 17.94%) in %	18.8886%
Approved ROE with MAT	288.20

Thus, the Commission decides to approve Return on Equity of Rs.288.20 Crores grossed up with MAT at 18.8886% for FY21, subject to truing up as per the actual tax paid by the BESCOM for the relevant year during APR.

5.2.16 Tax:

The BESCOM, in its application, has requested the Commission to allow income tax as per actuals.

Since, the RoE has been allowed by allowing a grossed-up with applicable MAT of 18.8886%, the question of allowing Income Tax separately will not arise.

5.2.17 Other Income:**BESCOM's proposal:**

BESCOM in its filing has claimed other income for FY21 on the basis of the other income earned by BESCOM in the past five years and considering nominal escalation as detailed below:

**TABLE – 5.33
Other Income - BESCOM's Proposal**

Amount in Rs. Crores	
Particulars	FY21
Interest on Income	7.97
Rental from Staff quarters	3.50
Value of materials found excess during physical verification	0.12
Rebate for collection of Electricity duty	6.90
Incentives received	117.90
Interest Subsidy under NEF Scheme	30.00
Miscellaneous recoveries	126.44
Revenue from sale of power through Indian Energy Exchange (IEX)	100.00
Total	392.86

Commission's analysis and decision:

The Commission notes that the other income earned by the BESCOM mainly consists of income from miscellaneous recoveries, interest on bank deposits, rent from staff quarters / others and sale of scrap, profit on sale of stores, rebate on collection of electricity duty besides incentives for timely payment of power purchase bills etc. The actual 'other income' earned by BESCOM as per the audited accounts is Rs.316.93 Crores and Rs.584.65 Crores for FY18 and FY19 respectively.

Based on the other income earned by the BESCOM in the previous year, the Commission decides to consider an amount of Rs.441.89 Crores as the other income for the FY21.

Thus, the Commission decides to approve other income of Rs.441.89 Crores for FY21.

5.2.18 Fund towards Consumer Relations / Consumer Education:

The Commission has been allowing an amount of Rs.1.00 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 to provide an amount of Rs.1.00 Crore for FY21, towards meeting the expenditure on consumer relations / consumer education.

The Commission reiterates that BESCOM shall 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.

5.3 Abstract of ARR for FY21:

In the light of the above analysis and decisions of the Commission, the following is the approved ARR for FY21:

TABLE – 5.34
Approved ARR of BESCOM for FY21

Amount in Rs. Crores		
Sl. No.	Particulars	FY21
1	Energy at Gen Bus in MU	34962.35
2	Transmission Losses in %	3.039%
3	Energy at Interface in MU	33899.84
4	Distribution Losses in %	11.65%
	Sales in MU	
5	Sales to other than IP & BJ/KJ	22742.78
6	Sales to BJ/KJ	170.94
7	Sales to IP	7036.79
8	Total Sales	29950.51
	Revenue at existing tariff and Misc. Charges in Rs. Crs.	
9	Revenue from tariff and Misc Charges	20303.51
10	Tariff Subsidy to BJ/KJ	125.98
11	Tariff Subsidy to IP	2744.35
12	Total Existing Revenue	23173.84
	Expenditure in Rs. Crs.	
13	Power Purchase Cost	16343.68

Sl. No.	Particulars	FY21
14	Transmission charges of KPTCL	2179.288
15	SLDC Charges	11.923
16	Total Power Purchase Cost (Rs. in Crores)	18534.89
17	Total O&M Expenses (Rs. in Crores)	2365.61
18	Depreciation (Rs. in Crores)	606.35
	Interest & Finance charges: (Rs. in Crores)	
19	Interest on Loans	488.65
20	Interest on Working capital	464.38
21	Interest on belated payment on PP Cost	0.00
22	Interest on consumer deposits	235.69
23	Other Interest & Finance charges	12.00
24	Less: Net interest & other expenses capitalised	-130.37
25	Total Interest & Finance charges	1070.35
26	Return on Equity with MAT	288.20
27	Funds towards Consumer Relations/Consumer Education	1.00
28	Less:Other Income	-441.89
29	Net ARR for FY21(Rs. in Crores)	22424.52
30	Deficit for FY19 carried forward	-1947.34
31	Total Net ARR (Rs. in Crores)	24371.86

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

BESCOM in its application has proposed the following segregation of consolidated ARR into ARR for Distribution Business and ARR for Retail Supply Business based on its Internal Committee Report:

TABLE – 5.35
Segregation of ARR – BESCOM's Submission

Particulars	Distribution Business	Retail Supply Business
Power purchase cost	-	100%
R&M Expenses	62%	38%
Employee Expenses	52%	48%
A&G Expenses	62%	38%
Depreciation	71%	29%
Interest & Finance Charges	16%	84%
Other Debits (incl. Prov. for Bad debts)	53%	47%
Other (Misc.)-net prior period credit	19%	81%
Other Income	51%	49%

ROE	100%	-
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Commission's Analysis and Decisions:

BESCOM in its application has proposed the segregation of ARR into ARR for Distribution Business and ARR for Retail Supply Business based on its Internal Committee Report. The Commission notes that, BESCOM has proposed the same segregation as proposed in its previous filings.

Since no new proposal with justification has been furnished by BESCOM, the Commission decides to continue with the existing ratio of segregation of ARR as detailed below:

TABLE – 5.36
Approved Segregation of ARR – FY21

Particulars	Distribution Business	Retail Supply Business
O&M	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 – 5.37
APPROVED REVISED ARR FOR DISTRIBUTION BUSINESS – FY21

Amount in Rs. Crores

Sl. No	Particulars	FY21
1	R&M Expenses	
2	Employee Expenses	
3	A&G Expenses	1324.74
4	Depreciation	533.59
	Interest & Finance Charges	
5	Interest on Loans	488.65
6	Interest on Working capital	57.59
7	Interest on consumer deposits	0.00
8	Other Interest & Finance charges	12.00
9	Less: interest & other expenses capitalised	-130.37
	Total Expenses	2286.20
10	RoE	144.10

11	Less: Other Income	-83.96
	NET ARR	2346.34

TABLE – 5.38**APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY21**

Amount in Rs. Crores

Sl. No	Particulars	FY21
1	Power Purchase & SLDC Charges	16355.60
2	Transmission Charges	2179.29
3	R&M Expenses	
4	Employee Expenses	
5	A&G Expenses	1040.87
6	Depreciation	72.76
	Interest & Finance Charges	
7	Interest on Loans	0.00
8	Interest on Working capital	406.80
9	Interest on consumer deposits	235.69
10	Other Interest & Finance charges	0.00
11	Less: interest & other expenses capitalised	0.00
	Total Expenses	20291.01
12	RoE	144.10
13	Less: Other Income	-357.93
14	Fund towards Consumer Relations / Consumer Education	1.00
	NET ARR	20078.18

5.5 Gap in Revenue for FY21:

As discussed above, the Commission decides to approve the revised Annual Revenue Requirement (ARR) of Rs.24371.86 Crores as against BESCOM's proposal for approving ARR of Rs.29141.07 Crores for FY21. The approved ARR includes an amount of Rs.1947.34 Crores, which is approved as the deficit as per APR for FY19, as discussed in Chapter-4 of this Order. As seen from the detailed analysis in Chapter – 4 of the Order the revenue gap in FY19 is mainly on account of steep increase in the estimated power purchase cost from Rs.4.81 per unit to Rs.5.63 per unit, as per actuals.

Based on the existing retail supply tariff, the total revenue as per the approved sales for FY21, will be Rs.23173.84 Crores. Considering the approved ARR of Rs.24371.86 Crores, there will be a revenue gap of

Rs.1198.02 Crores, for FY21. The above deficit was supposed to be recovered through revision of retail supply tariff for FY21, with effect from the 1st metering date falling on or after 1st April 2020.

However, the Commission was unable to issue the Tariff Orders for FY21 till October 2020 for the following reasons:

- a) Due to total lock down declared by the Government of India / Government of Karnataka on account of Covid-19 pandemic and pendency
- b) Pendency of Appeal No.97/2020 filed by the KPTCL before the Hon'ble Tribunal against the Commission's Order dated 16.01.2020 and disposal of the said Appeal by the Hon'ble Tribunal vide Order dated 05.10.2020.
- c) Applicability of the Code of Conduct on account of announcement of bye-Election to Assembly Constituency No.136-Sira and 154-Rajajageswari Nagar scheduled on 03.11.2020, by the Election Commission of India, vide Gazette Notification dated 09.10.2020.

The Commission has taken note of the various restriction and measures initiated and enforced by the Gol/Gok during lock down period, to prevent the spread of Corona Virus which has been declared as a Pandemic (COVID-19). This has resulted in setback to all the economic activities, hugely affecting all the sections of the Society, socially and economically. Hence, the consumers could not be burdened with tariff increase from 01.04.2020. However, the tariff increase is imminent due to substantial increase in power purchase cost and other costs to be incurred by the ESCOMs.

In order to tide over the present adverse financial situation, the Commission has decided to give effect to the Order to increase the Tariff from 1st November, 2020. This, in effect, would give relief on account of increased tariff for seven months to the consumers and the Commission hopes that due to gradual relaxation of lockdown conditions, the economic activities would resume and the consumers have to bear the revised tariff from 1st November 2020 onwards.

Due to the postponement of the recovery of the revised tariff, out of the projected revenue gap of Rs.1198.02 Crores, the Commission decides to create the unrecovered portion of the revenue gap of seven months amounting to Rs.698.85 Crores of FY21 as Regulatory Asset to be recovered in the tariff over the next two years (FY22 and FY23). The Commission also decides to allow carrying cost at 10% per annum (based on the current MCLR plus reasonable Basis points) on the amount of Regulatory Asset which will be assessed at the time of the Annual Performance Review (APR) of FY22 and FY23. The balance amount of Rs.499.18 Crores in gap in revenue for FY21 is proposed to be realized as additional revenue through the revision of tariff for the different category of consumers during FY21.

The net ARR and the gap in revenue for FY21 is shown in the following table:

TABLE – 5.39
Revenue gap for FY21

Particulars	FY21
Net ARR including carry forward gap of FY19 (in Rs. Crores)	24371.86
Approved sales (in MU)	29950.51
Revenue at existing tariff (in Rs. Crores)	23173.84
Gap in revenue for FY21 (in Rs. Crores)	1198.02
Regulatory Asset to be recovered over next two years (in Rs.Crores) in FY22 & FY23	698.85
Balance revenue gap to be collected over a period of five months during FY21 by revision of tariff (Rs.in Crores)	499.18

The details of revised retail supply tariff, on the basis of the above approved ARR, is discussed and approved in Chapter-6 of this Order.