

## CHAPTER – 5

## ANNUAL REVENUE REQUIREMENT FOR FY20-22

## 5.0 Annual Revenue Requirement (ARR) for FY20-22:

GESCOM in its application dated 30<sup>th</sup> November, 2018, has sought approval of the Commission for the ARR for the fifth control period for FY20-22 and the revision of retail supply tariff for FY-20. The summary of the proposed ARR of FY20-22 is as follows:

**TABLE – 5.1**  
**Proposed ARR for FY20-22**

Particulars	Amount in Rs. Crores		
	FY 20	FY 21	FY 22
Energy at Energy at Generating Bus- in MU	9,268.17	10,007.75	10,837.47
Transmission Losses in %	3.19%	3.17%	3.15%
Energy at Interface in MU	8,972.52	9,690.50	10,496.09
Distribution Losses in %	14.89%	14.84%	14.79%
<b>Sales in MU:</b>			
Sales to other than IP & BJ/KJ	3,815.58	4,083.83	4,413.32
Sales to BJ/KJ	351.65	456.47	654.29
Sales to IP	3,469.28	3,712.13	3,876.11
<b>Total Sales</b>	<b>7,636.51</b>	<b>8,252.43</b>	<b>8,943.72</b>
<b>Revenue at existing tariff and Misc. Charges:</b>			
Revenue from tariff and Misc. Charges	2,907.51	3,057.35	3,279.34
Tariff Subsidy to BJ/KJ	237.01	307.66	440.99
Tariff Subsidy to IP	1,980.96	2,119.62	2,213.26
<b>Total Existing Revenue including Miscellaneous Revenue</b>	<b>5,125.48</b>	<b>5,484.63</b>	<b>5,933.59</b>
<b>Expenditure :</b>			
Power Purchase Cost	3,843.88	4,193.19	4,604.80
Transmission charges of KPTCL	594.00	611.28	648.36
SLDC Charges	3.84	4.19	4.60
<b>Power Purchase Cost including cost of transmission</b>	<b>4,441.72</b>	<b>4,808.66</b>	<b>5,257.76</b>
Employee Cost	594.86	622.22	656.89
Repairs & Maintenance	44.15	51.11	59.19
Admin & General Expenses	128.44	144.40	162.25
<b>Total O&amp;M Expenses</b>	<b>767.45</b>	<b>817.73</b>	<b>878.33</b>
Depreciation	193.75	209.99	223.95
Interest & Finance charges			
Interest on Capital Loans	154.72	179.99	198.04
Interest on Working capital loans	106.37	113.07	128.34

Particulars	FY 20	FY 21	FY 22
Interest on belated payment on PP Cost	0.00	0.00	0.00
Interest on consumer security deposits	0.00	0.00	0.00
Other Interest & Finance charges	0.00	0.00	0.00
Less: interest & other expenses capitalized	-5.50	-10.00	-10.00
<b>Total Interest &amp; Finance charges</b>	<b>255.59</b>	<b>283.06</b>	<b>316.38</b>
Other Debits	88.66	90.46	92.33
Net Prior Period Debit/Credit	0.00	0.00	0.00
Return on Equity	82.92	0.00	0.00
Funds towards Consumer Relations/Consumer Education	0.50	0.00	0.00
Other Income	-88.28	-96.26	-105.03
<b>ARR</b>	<b>5,742.31</b>	<b>6,113.64</b>	<b>6,663.72</b>
Deficit for FY18 carried forward	351.58	0.00	0.00
<b>Net ARR</b>	<b>6,093.89</b>	<b>6,113.64</b>	<b>6,663.72</b>

GESCOM has requested the Commission to approve the Annual Revenue Requirement of Rs. 6,093.89 Crores for FY20, including FY18 deficit of Rs.351.58 Crores and Rs.6113.64 Crores for FY21 and Rs. 6,663.72 Crores for FY22.

Considering the estimated revenue of Rs. 5,125.48 Crores from sale of power to the consumers, at the existing retail supply tariff, including the miscellaneous revenue, GESCOM has projected a revenue gap of Rs. 968.41 Crores for FY20. In order to bridge the revenue gap of Rs.968.41 Crores for FY20, the GESCOM has proposed the average increase in retail supply tariff by 127 paise per unit in respect of all the category of consumers, including BJ/KJ and IP set consumers for FY20.

### 5.1 Annual Performance Review for FY18 & FY19:

As discussed in the preceding chapter of this Order, the Commission has carried out the Annual Performance Review for FY18 based on the audited accounts and other relevant records furnished by GESCOM. Accordingly, a deficit of Rs. 126.43 Crores of FY18, is required to be carried forward to the ARR of FY20.

As regards APR for FY19, it is noted that the audited accounts for FY19 are yet to be finalized, hence, the Commission decides to take up the APR of FY19, while taking up the revision of ARR / Retail Tariff, if any, for FY21.

## 5.2 Annual Revenue Requirement for FY20-22:

### 5.2.1 Capital Investments for FY20-22:

#### GESCOM Proposal:

The GESCOM has proposed capex of Rs.1032.75 Crores, Rs.663.53 Crores and 659.95 crores for FY20, FY21 and FY22 respectively. Some of the important works proposed for the control period are as follows:

- a) E & I Works;
- b) Govt. of Karnataka sponsored schemes like SCSP, TSP, etc
- c) Govt. of India sponsored schemes like DDUGVY, IPDS, etc
- d) Replacement of Faulty distribution transformers;
- e) Metering Programme;
- f) Energization of IP sets;
- g) Model Villages
- h) Civil Engineering Works;

The details of capex under various heads proposed for FY20 to FY22 are shown in the following Table:

**TABLE – 5.2**  
**GESCOM's Capex Proposal**

Sl. No.	Particulars	Rs. in Crores		
		Capex proposed for FY 2019-20	Capex proposed for FY 2020-21	Capex proposed for FY 2021-22
1	GKS-SC	114.23	135.00	135.00
2	GKS-ST			
3	GKS-BC			
4	GKS-Min			
5	GKS-Vishwakarma			

Sl. No.	Particulars	Capex proposed for FY 2019-20	Capex proposed for FY 2020-21	Capex proposed for FY 2021-22
6	Rehabilitation of Flood affected villages (Special Programme).	1.00	1.00	1.00
7	Water Works.	30.00	35.00	37.00
8	25 kVA Additional DTCs.	30.00	28.00	26.00
9	63 kVA Additional DTCs.			
10	100 kVA Additional DTCs.			
11	250KVA Additional DTCs.			
12	25kVA to 63kVA DTC Enhancement.	15.00	16.50	17.82
13	63kVA to 100kVA DTC Enhancement.			
14	100KVA to 250KVA DTC Enhancement.			
15	Shifting of existing DTC to load center.	1.55	1.55	1.55
16	LT Line Conversion of 1 Phase- 2 wire or 1 Phase- 3 wire to 3Ph 5 Wire (Including providing ABC,UG cable etc).	16.56	16.40	16.50
17	Providing SMC Box to DTCs.			
18	Replacement of Damaged poles	10.00	10.00	10.00
19	Energisation of IP Sets under General category	6.41	6.41	6.41
20	Energisation of IP Sets under General category (Shigra Samparka Yojane)	5.00	5.00	0.50
21	Service Connection works other than IP/BJ/KJ/Water works.	8.50	9.00	9.30
22	Sub Stations.	70.00	50.00	40.00
23	Stations Augmentation			
24	Providing 33kV new link Lines for bifurcation load and Express Feeder			
25	Providing 11kV new link Lines for bifurcation load and Express Feeder	30.00	34.80	34.24
26	Nirantara Jyoti Yojana	9.00	0.00	0.00
27	RAPDRP Part-A	0.00	0.00	0.00
28	RAPDRP Part-B	0.00	0.00	0.00
29	Un Authorized IP Sets	50.00	40.00	35.00
30	Providing meters to IP Sets above 10 HP	1.73	1.73	1.73
31	Providing meters to BJ/KJ	2.00	2.00	2.00
32	Providing meters to Street Lights and Water Supply.	1.50	1.00	0.50

Sl. No.	Particulars	Capex proposed for FY 2019-20	Capex proposed for FY 2020-21	Capex proposed for FY 2021-22
33	Replacement of Faulty / MNR energy meters other than BJ/KJ/ Street Light.	4.00	4.00	4.00
34	Replacement of EM meters by Static meters	7.74	7.74	7.74
35	DTC Metering of RAPDRP	1.00	1.25	1.25
36	DTC Metering of non RAPDRP	1.50	1.75	1.75
37	Replacement of 33kV Line Rabbit Conductor by Coyote Conductor	5.00	6.00	4.00
38	11kV Re-Conductoring	20.00	25.00	30.00
39	LT Re- Conductoring			
40	IT Initiatives, Automation and Call Centers	15.00	17.00	19.00
41	Establishing ALDC & SCADA	1.00	1.50	2.00
42	Distribution Automation System (DAS)	0.00	0.00	0.00
43	DSM	6.00	8.00	10.00
44	Replacement of failed Distribution Transformers by New Transformer by Scraping failed Transformer which is beyond Repair.	26.00	26.00	26.00
45	Replacement of Power Transformers	4.00	4.00	4.00
46	Replacement of Old and failed equipment and other works of existing 33kV Stations & Lines.	6.00	6.00	4.00
47	Preventive measures to reduce the accidents (Providing intermediate poles, Re-stringing of sagging lines, providing guy and stud, guarding, shifting of lines, fencing of DTCs)	16.00	20.00	30.00
48	Safety Materials	1.55	1.50	1.50
49	Civil works	15.00	12.00	12.00
50	SCP/TSP	20.00	25.00	28.00
51	SDP works	24.00	26.40	26.16
52	DDUGJY	250.00	1.00	0.00
53	IPDS	50.00	0.50	0.00
54	HT Conductor by 11KV AB Cable	2.00	2.50	3.00
55	T&P Materials i) Furniture	1.90	2.00	2.00
56	Computer and Printers (T & P materials)			
57	Shifting of meter from I to O	20.00	0.00	0.00

Sl. No.	Particulars	Capex proposed for FY 2019-20	Capex proposed for FY 2020-21	Capex proposed for FY 2021-22
58	Creation of Electrical Infrastructures for conversion of Existing various villages to Model villages	47.58	48.00	48.00
59	RGGVY	0.00	0.00	0.00
60	DDUGJY	0.00	0.00	0.00
61	Refurbishment of 11KV lines	0.00	12.00	15.00
62	Providing OLP relays to stations	0.00	0.00	0.00
63	R & M to stations	5.00	6.00	3.00
64	Soubhagya scheme	80.00	5.00	3.00
<b>Total</b>		<b>1032.75</b>	<b>663.53</b>	<b>659.95</b>

### Commission's Analysis and Decision:

In the preliminary observations, besides other things, GESCOM was directed to provide necessary justification on each of the works in terms of its purpose, requirement, physical progress, cost and timelines for completion along with the number of works to be taken in each of the year for FY20 to FY-22. The GESCOM has not submitted the same.

The GESCOM's previous years' achievement of capex is shown in the table below:

**TABLE – 5.3**  
**Approved and Actual Capex incurred**

Particulars	FY13	FY14	FY15	FY16	FY17	FY18
Capital investment filed Rs. Crs.	466.67	552.50	515.00	545.81	1810.00	698.00
Capital investment approved by the Commission Rs. Crs.	466.67	552.50	515.00	376.00	500.00	698.00
Actual capital investment incurred as per audited accounts * Rs. Crs.	293.17	364.19	330.28	299.70	437.77	304.75
Percentage of actual capital investment to the approved capital investment	<b>62.82%</b>	<b>65.92%</b>	<b>64.13%</b>	<b>79.71%</b>	<b>87.55%</b>	<b>43.66%</b>
<b>*without considering capital investment disallowed under prudence check</b>						

It is seen from the above Table that GESCOM has not achieved the target for capex during any of the last six years.

GESCOM, in its tariff application, has stated that the expected capital expenditure to be booked/ accounted during FY 20, FY21 and FY22 is likely to be Rs. 833.17 Crores, Rs. 531.33 Crores and Rs. 530.051 Crores respectively.

**The Commission, based on the previous year's achievements and the breakup of capex furnished by the GESCOM, for the purpose of tariff determination has reckoned the capex of Rs 700.00 Crores, Rs 531.33 Crores and Rs 530.05 Crores for FY20, FY21 and FY22 respectively, subject to prudence check and also subject to the following directions:**

- i. GESCOM shall prioritize the works and incur expenditure within the Commission approved capex. It shall not incur the capex over and above the approved amount and shall not approach the Commission for approval of additional capex in the middle of the financial year.
- ii. While prioritizing the works, GESCOM shall take up such work which relate to system improvement, to enable quality and reliable power to the consumers besides ensuring reduction of distribution losses in order to reduce the burden of losses to the consumers.
- iii. GESCOM is directed to maintain 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. These details shall be furnished to the Commission as and when Commission directs.
- iv. The Commission directs the GESCOM to put its sincere efforts towards achieving the following objectives, of the proposed schemes:
  1. Reducing distribution losses,
  2. Reducing the HT:LT Ratio
  3. Reduce Transformer failures

4. Segregate the loads in the feeders.
5. Reduce Power theft
6. Bring programs for the awareness among the people on usage and conservation of energy.
7. Improve the sales to metered category and
8. Improve the Power factor of the IP set loads by installing switched capacitors of suitable capacity to the secondary of the transformers.

Further, GESCOM is directed to comply with the directives regarding implementation of HVDS works.

### **5.2.2 Energy Sales for FY20-22:**

#### **I. Sales- Other than IP sets:**

##### **GESCOM Approach:**

#### **1. Category-wise estimates of number of installations and sales by GESCOM for the control period FY20 to FY22**

GESCOM in its filing has estimated sales for FY20, FY21 and FY22 as 7636.51MU, 8252.43 MU and 8943.72 MU respectively.

The Commission's preliminary observations on the sales forecast for the control period, the replies furnished by the GESCOM and the Commission's view thereon are discussed below:

##### **LT (1) – BJ/KJ Category:**

The Commission, in its preliminary observation, directed GESCOM to submit the breakup of BJ/KJ installations consuming less than or equal 40 units and above 40 units for FY18 to FY-22.

GESCOM has submitted the details in the format prescribed by the Commission.



## 2. Category-wise sales for the control period:

The Commission's observations and GESCOM's replies are discussed below:

i) The Commission, in its preliminary observation had:

a. Directed GESCOM to furnish the working details explaining the methodology adopted for forecasting and the growth rates considered for estimation of number of installations and sales for FY20-22.

GESCOM in its replies has stated that it has adopted CAGR method and that the estimates submitted for FY 20-22 are correct.

The Commission notes that, the GESCOM has not furnished satisfactory replies in the matter and the approach of the Commission regarding estimation of number of installations and sales is discussed in the subsequent paragraphs.

b. It was observed that growth rate for the number of installations considered for LT-2b & LT-6 (Street Lights) is higher and is lower for LT-6 (Water Supply) as compared with normal growth rates.

GESCOM has stated that it has considered preceding 3-year average for estimating the sales for above categories.

c. It was observed that the growth rate for energy sales considered for LT-3, LT-5, HT-2a and HT-4, is higher when compared to normal growth rates. Further, even though GESCOM has considered positive growth rate for number of installations in case HT-3 category, the sales growth is considered as zero and in the case of HT-4, even though no addition in installations is considered, sales growth is considered at 37.34%.

GESCOM has stated that it has considered preceding 3-year average for estimating the sales for above categories.

d. Further, it is stated that in case of HT-2a, there is no scope for HT industries in Hyderabad Karnataka region and in case of HT-3, no

registration for new electrical connection to Lift Irrigation Scheme (LIS) is envisaged. Since, there is no growth in Industries, no new residential apartments have been considered in HT-4.

The Commission notes that, if there is no growth in industries, LIS and apartments, considering higher growth rates is not justified. Thus, the GESCOM has not satisfactory replied in the matter.

The approach of the Commission in estimating the number of installations and energy sales is discussed in the following paragraphs:

#### **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 sales to various categories considering the actuals as on 30<sup>th</sup> November, 2018 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 control period
- b. Wherever the number of installations estimated by the GESCOM for the FY 20 is within the range of the estimates based on the CAGR for the period FY13 – FY18 and for the period FY15 - FY18, the estimates of the GESCOM are retained.
- c. Wherever the number of installations estimated by the GESCOM for the FY 20 is lower than the estimates based on the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18, the estimates based on the lower of the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18 are considered.
- d. Wherever the number of installations estimated by GESCOM for the FY 20 is higher than the estimates based on the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18, the estimates based on the higher of the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18 are considered.

- e. For LT-7 and HT-5 categories, the estimates of GESCOM are retained.
- f. The Growth rate considered for FY20 is retained for the estimates for FY 21 and FY 22 also.

**Based on the above approach, the total number of installations (excluding BJ/KJ consuming  $\leq 40$  units /month and IP installations) estimated by the Commission for the control period is indicated in the following table:**

**Approved Number of installations**

FY20		FY21		FY22	
Filed	Approved	Filed	Approved	Filed	Approved
2218748	2203817	2327748	2324351	2446652	2454282

**2. Estimates of Energy Sales:**

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 FY19 as estimated by the GESCOM is validated duly considering the actual sale up to November, 2018 and modified suitably as stated earlier.
- b. Wherever the sale estimated by the GESCOM, for the for FY 20, is within the range of the estimates based on the CAGR for the period FY13 – FY18 and for the period FY15 - FY18, the estimates of the GESCOM are considered.
- c. Wherever the sales estimated by the GESCOM for the FY 20 is lower than the estimates based on the CAGRs for the period FY13 – FY18 and for the period FY15- FY18, the estimates based on the lower of the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18 are considered.
- d. Wherever sale estimated by GESCOM for FY 20 is higher than the estimates based on the CAGRs for the period FY13 – FY18 and for the period FY15 - FY18, the estimates based on the higher CAGRs for the period FY13 – FY18 and for the period FY15 - FY18 are considered.

- e. LT-4b and LT-4c categories, the sales estimates are based on the specific consumption of FY18.
- f. For LT-7 and HT-5, the proposal of GESCOM is retained.
- g. The Growth rate considered for FY20 is retained for the estimates for FY 21 and FY 22 also.

**Based on the above approach, the sales (excluding BJ/KJ consuming < 40 units / month and IP sales), as estimated by the Commission for the control period is indicated in the following Table:**

Million Units

FY20		FY21		FY22	
As Filed	As Approved	As Filed	As Approved	As Filed	As Approved
3825.69	3856.32	4094.01	4081.20	4423.59	4337.45

### 3. Energy Sales to BJ/KJ:

The GESCOM in its replies to preliminary observations (Page-7) had revised the sales to BJ/KJ installations to 294.15 MU from 351.65 MU in FY20, 296.14 MU from 456.47 MU for FY21 and 298.56 MU from 654.29 MU stating that CAGR growth percentage depicted is exorbitant.

The Commission is not satisfied with the above reply, as GESCOM has revised the BJ/KJ sales downwards for FY20 to FY22, without revising either the losses or the power purchase quantum for FY20 to FY22, correspondingly. Also, D-21 format is not revised considering the revised BJ/KJ sales. Thus, the Commission is unable to reckon the revised BJ/KJ sales for the installations consuming less than 40 units per month, as furnished in the replies. However, the number of installations on sales to BJ/KJ installations consuming more than 40 units per month is appropriately considered, while estimating the sales to this sub-category.

The approach of the Commission in estimating the sales of BJ/KJ installations is discussed in the following paragraphs.

The break-up of sales to BJ/KJ installations as filed by GESCOM for FY-18, is as indicated in the following Table:

Particulars	No. of Installations	Consumption in MU	Specific consumption per installation per month (kWh)
Installations consuming less than or equal to 40 units	587276	213.77	30.33
Installations consuming more than 40 units and billed under LT2(a)	10399	42.74	342.50

While specific consumption of 30.33 unit per installations per month for Installations consuming less than or equal to 40 units is reasonable, the specific consumption of 342.50 unit per installation per month for installations consuming more than 40 units and billed under LT2(a) is too high and unreasonable. Hence, for Installations consuming more than 40 units and billed under LT2(a), the Commission has considered a specific consumption of 76.53 units per unit per installation based on FY19 estimate considering the actuals upto November,2018.

Considering the above specific consumption and considering the number of installations as proposed by GESCOM, the sales approved for the control period for BJ/KJ is as indicated below:

Particulars	Million Units		
	FY20	FY21	FY22
Installations consuming less than or equal to 40 units	217.56	217.56	217.56
Installations consuming more than 40 units and billed under LT2(a)	13.91	17.70	22.33

The number of installations consuming less than or equal to 40 units is restricted to the total number of BJ/KJ installations as 30.11.2018, as there is no specific GoK policy.

## II. IP set sales projections for ARR -FY20, FY21 and FY22

The Commission, in its Tariff Order dated 11<sup>th</sup> April, 2017, had approved specific consumption of IP sets as 9,743 units / installation / annum for the FY18. However, based on the revised data of sales to IP sets as reported by the GESCOM, in its Tariff application, the Commission had approved the specific consumption of 8,554.97 units / installation / annum, for the FY18 by considering the mid-year installations of 3,45,633 numbers.

- a) The actual sales to IP sets for FY19, till November 2018, as reported by GESCOM in its tariff filing is 2315.86 MU and the number of installations are 3,70,621. The actual consumption per IP per month works out to 781.07 units / IP / month. As per the approved specific consumption for FY19, the consumption per IP per month works out to 712.91 units / IP / month. The actual monthly average consumption is less than the approved average consumption per month.
- b) It is observed that 18,994 number of installations are added from 1st April 2018 to November 2018 i.e., in a span of eight months.
- c) As it can be seen from FY16 onwards, that the increase in actual number of consumers every years is ranging between 8,000 to 11,000. But, GESCOM is projecting an addition of approximately 36,131 number of installations during FY19, 27,000 installations every year from FY20 to FY22. The Commission unable to accept the irrational number of IP installations being projected by GESCOM and decides to restrict the number of addition of 18,994 IP installations. With this assumption, the projected number of consumers for FY20, FY21 and FY22 would be 3,89,615, 4,08,609 and 4,27,603 respectively.
- d) GESCOM, in its tariff filing, did not submits the methodology for projecting sales to IP sets for the years FY19, and FY 20 to FY22. In view of this, the Commission considered the average of the specific consumption for FY18 and FY19 and projected the sales for FY20 to FY22. Average consumption per month for FY19 till November 2018 is considered i.e., 781.07 units / IP / month is considered for revising the sales to IP sets for FY19. The average of the specific consumption of FY18 and FY19 works out to 8,963.93 units / IP / Annum. Based on the estimated number of installations for FY19 and FY20 to FY22 as reckoned above, the mid-year number of installations are determined and the sales to IP set consumers are as indicated in the following Table:

TABLE – 5.4

## Computation of IP Sets Consumption

Particulars	FY20		FY21		FY22	
	As filed by the GESCOM	As approved by the Commission	As filed by the GESCOM	As approved by the Commission	As filed by the GESCOM	As approved by the Commission
No. of Installations	4,11,517	3,89,615	4,34,580	4,08,609	4,62,203	4,27,603
Mid-year number of Installations	-	3,80,118	-	3,99,112	-	4,18,106
Specific consumption in units/installation/annum	-	8,963.93	-	8,963.93	-	8,963.93
Sales in MU	3,469.28	3,407.35	3,712.13	3,577.61	3,876.11	3,747.87

- e) Accordingly, the Commission approves 3,407.35 MU, 3,577.61 MU, and 3,747.87 MU as energy sales to IP-sets, as against the GESCOM's projections of 3,469.28, 3,712.13 and 3,876.11 MU, respectively for the FY20, FY21 and FY22. The number of installations approved for FY20 is 3,89,615, FY21 is 4,08,609 and for FY22 the number is 4,27,603. This approved IP set consumption for FY20, FY21 and FY22 is with the assumption that the Government of Karnataka would release full subsidy to cover the approved quantum of IP-sales. However, if there is any reduction in the subsidy allocation by the GoK, the quantum of sales to IP sets of 10 HP and below, shall be proportionately regulated. The GESCOM shall therefore, regulate the number of hours of power supply to exclusive agricultural feeders accordingly.
- f) The GESCOM 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 IP-sets from its account, on the basis of GPS survey results. The GESCOM has not submitted the details of GPS survey either in its tariff filing or in the replies to the preliminary observations. The Commission, directs GESCOM to complete the survey at the earliest and submit the details of total number of IP sets existing, defunct / dried up etc.

- g) The GESCOM is directed to complete the GPS survey of IP-sets and compliance thereon shall be submitted to the Commission. In view of GPS survey of IP-sets not completed, the number of installations estimated for FY19 as well as for FY20 onwards are subject to change based on the GPS survey results. Hence, on completion of the GPS survey, the GESCOM shall arrive at correct number of IP-sets in the field duly deducting from its account the number of dried up / defunct wells based on the GPS survey results. Accordingly, any variation in sales due to change in number of installations would be trued up during the Annual Performance Review, for the FY20, FY21 and FY22.
- h) It is noted that the GESCOM has already segregated agriculture feeders from rural loads. Thus, the energy consumed by the IP sets could be more accurately measured at the 11 kV feeder level at the sub-stations in respect of segregated feeders after allowing for distribution system losses in 11 kV line, distribution transformers and LT lines. Hence, the Commission reiterates that the GESCOM shall report the total IP-set consumption on the basis of data from energy meters in respect of agriculture feeders segregated under NJY only, to the Commission, **every month regularly, by working out the actual distribution losses in each of the feeders and applying the specific losses**, 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 control period vis-à-vis the estimates made by GESCOM is indicated in the following Table:**

**TABLE – 5.5**  
**Category wise approved number of installations**

Tariff Category	Description	As Proposed by GESCOM			As Approved by the Commission		
		FY20	FY21	FY22	FY20	FY21	FY22
LT-1 (a)	Bhagya Jyoti < =40 units	603828	607898	612865	597675	597675	597675
LT-1 (a)	Bhagya Jyoti>40	8993	9054	9128	15146	19277	24318
LT-2a	Domestic	1771242	1851366	1937340	1754724	1842759	1935211
LT-2b	Pvt. Institutions	5556	6125	6751	5404	5958	6570



Tariff Category	Description	As Proposed by GESCOM			As Approved by the Commission		
LT-3	Commercial - Applicable to areas coming under VPs	286569	302987	320237	283442	300460	318500
LT-4 (a)	IP sets - Less than 10 HP	411517	434580	462203	389615	408609	427603
LT-4 (b)	Irrigation Pump sets - More than 10 HP	2870	3233	3670	2870	3448	4142
LT-4 (c)	Private Horticulture Nurseries, Coffee & Tea Plantations	544	614	691	498	577	669
LT-5	Lt Industries	68183	71602	74970	66953	70361	73943
LT-6	Water Supply	23610	26054	29024	23669	25125	26671
LT-6	Street Lights	12251	12374	12498	12260	12112	11965
LT-7	Temporary Power Supply	35856	40966	48626	35856	40967	48625
	<b>LT Total</b>	<b>3231019</b>	<b>3366853</b>	<b>3518003</b>	<b>3188112</b>	<b>3327328</b>	<b>3475892</b>
HT-1	HT Water Supply	158	168	179	158	172	188
HT-2 (a)	HT Industries	1677	1788	1902	1653	1771	1897
HT-2 (b)	HT Commercial	417	442	470	412	446	482
HT-2(c)	HT Hospitals and Educational Institutions	263	332	421	238	309	401
HT-3(a) & (b)	HT Irrigation & LI Societies	490	571	667	464	540	627
HT-4	Res. Apartments	29	29	29	29	26	24
HT-5	Temporary	40	43	49	41	43	49
	<b>HT Total</b>	<b>3074</b>	<b>3373</b>	<b>3717</b>	<b>2995</b>	<b>3307</b>	<b>3668</b>
	<b>Grand Total</b>	<b>3234093</b>	<b>3370226</b>	<b>3521720</b>	<b>3191107</b>	<b>3330635</b>	<b>3479560</b>
	*Categories other than IP sets and BJ/KJ consuming less than or equal to 40 units/month./instn.	2218748	2327748	2446652	2203817	2324351	2454282
	IP sets and BJ/KJ consuming less than or equal to 40 units/month./instn.	1015345	1042478	1075068	987290	1006284	1025278

\*Includes BJ/KJ consuming more than 40 units/installation/month

Accordingly, the category wise approved sales for the control period vis-à-vis the estimates made by GESCOM is indicated in the following Table:

**TABLE – 5.6**  
**Category wise approved Energy Sales**

Million Units

Tariff Category	Description	GESCOM FY20	GESCOM FY21	GESCOM FY22	KERC FY20	KERC FY21	KERC FY22
		As Proposed by GESCOM			As Approved by the Commission		
		FY20	FY21	FY22	FY20	FY21	FY22
LT-1 (a)	Bhagya Jyoti < =40 units	341.54	446.29	644.03	217.56	217.56	217.56
LT-1 (a)	Bhagya Jyoti>40	10.11	10.18	10.26	13.91	17.70	22.33
LT-2a	Domestic	1247.69	1309.79	1386.94	1247.13	1334.59	1428.18
LT-2b	Pvt. Institutions	15.11	16.91	19.07	15.19	16.90	18.80
LT-3	Commercial - Applicable to areas coming under VPs	365.78	392.86	428.18	353.80	382.05	412.55
LT-4 (a)	IP sets - Less than 10 HP	3469.28	3712.13	3876.11	3407.35	3577.61	3747.87
LT-4 (b)	Irrigation Pump sets - More than 10 HP	1.46	1.47	1.49	2.00	2.40	2.89
LT-4 (c)	Private Horticulture Nurseries, Coffee & Tea Plantations	0.94	0.95	0.96	1.13	1.31	1.51
LT-5	Lt Industries	183.79	188.42	195.12	171.26	171.68	172.11
LT-6	Water Supply	349.07	410.09	489.89	377.97	436.85	504.92
LT-6	Street Lights	277.91	297.78	323.50	277.91	302.48	329.22
LT-7	Temporary Power Supply	21.09	22.11	23.65	21.09	22.11	23.65
	<b>LT Total</b>	<b>6283.78</b>	<b>6808.99</b>	<b>7399.20</b>	<b>6106.29</b>	<b>6483.24</b>	<b>6881.58</b>
HT-1	HT Water Supply	131.10	146.47	164.17	131.10	145.48	161.44
HT-2 (a)	HT Industries	989.53	1039.00	1090.95	982.38	970.01	957.79
HT-2 (b)	HT Commercial	73.83	74.74	75.77	73.83	76.39	79.04
HT-2(c)	HT Hospitals and Educational Institutions	37.50	48.63	62.29	34.36	44.08	56.56
HT-3(a) & (b)	HT Irrigation & LI Societies	83.82	85.85	85.85	114.78	107.65	100.97
HT-4	Res. Apartments	12.75	12.88	13.01	14.29	13.64	13.02
HT-5	Temporary	24.20	35.87	52.48	24.20	35.87	52.48
	<b>HT Total</b>	<b>1352.74</b>	<b>1443.44</b>	<b>1544.52</b>	<b>1374.94</b>	<b>1393.13</b>	<b>1421.30</b>
	<b>Grand Total</b>	<b>7636.51</b>	<b>8252.43</b>	<b>8943.72</b>	<b>7481.23</b>	<b>7876.37</b>	<b>8302.88</b>
	<b>*Categories other than IP sets and BJ/KJ consuming less than or equal to 40 units/month./instn.</b>	<b>3825.69</b>	<b>4094.01</b>	<b>4423.59</b>	<b>3856.32</b>	<b>4081.20</b>	<b>4337.45</b>
	<b>IP sets and BJ/KJ consuming less than or equal to 40 units/month./instn.</b>	<b>3810.82</b>	<b>4158.42</b>	<b>4520.14</b>	<b>3624.91</b>	<b>3795.17</b>	<b>3965.43</b>

\*Includes BJ/KJ consuming more than 40 units/installation/month

### 5.2.3 Distribution Losses for FY20-22:

#### GESCOM's Submission:

As per the audited accounts for FY18, the GESCOM has reported the distribution loss of 16.39% as against the approved loss level of 16% fixed by the Commission in its Tariff Order dated 11<sup>th</sup> April,2017. GESCOM in its filing has proposed to achieve the following loss levels during FY20-22:

**TABLE – 5.7**

#### Projected Distribution Loss-FY20-22 – GESCOM's Submission

Particulars	Figures in % Losses		
	FY20	FY21	FY22
Projected Distribution losses	14.89	14.84	14.79

#### Commission's Analysis and Decisions:

The performance of GESCOM in achieving the loss targets set by the Commission in the past six 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 losses	19.50	20.00	18.50	16.50	17.00	16.00	15.00
Actual distribution losses	18.97	17.77	18.93	18.10	17.33	16.39	-

The Commission notes that, in FY17 & FY18, the distribution loss for FY18 have decreased by 1.71 percentage point (in the first two years of the control period FY17-19). In the past five years (with base year as FY14), GESCOM has been able to achieve overall loss reduction of 1.38% percentage point.

The Commission notes that the GESCOM in its application, has retained the Commission approved distribution loss of 15.00% for FY19 and it has projected 14.89%,14.84% and 14.79% for FY20-22 respectively. The Commission notes that considering the actual distribution losses of 17.33% for FY17 and 16.39% for FY18 achieved by the GESCOM, the projected losses with the meagre reduction of 0.05 percentage points in each year for FY20-22, even with the substantial

amount of proposed Capex of Rs.911.14 Crores for FY19 and Rs.1032.75 Crores, Rs.663.53 Crores and Rs. 659.95 Crores respectively for FY20-22, is very insignificant.

GESCOM, in its replies, has submitted that as most of the Government funding related works like DDUGJY and IPDs, NJY and Soubhagya scheme are in final stage and only maintenance related works along with Gangakalyana schemes with SCP/SDP will continue. Hence, it has projected the distribution losses with 0.05% reduction for each year of the control period FY20-22.

It is observed that, the Commission has been allowing capital expenditure as incurred by the GESCOM and it has also allowed the substantial capex for the ensuing control period for strengthening of its distribution network aimed at further reduction of loss levels. Most of the capex spent on the works like E&I work, NJY, DTC Metering, RAPDRP system improvement etc., should enable the GESCOM, not only to strengthen its infrastructure, increase in reliability and quality of power supply but also to reduce the distribution losses considerably.

Hence, in view of such investment, the loss reduction of 0.05 percentage point for each year of the control period as proposed by GESCOM is reasonable. In the light of the above discussion and based on the achievement made by the GESCOM in the reduction of losses during the previous years, the capex incurred so far and the approval of the proposed capex for FY20-22, the Commission decides to fix the following distribution loss targets for GESCOM for FY20-22.

**TABLE – 5.9**  
**Approved Distribution Losses for FY20-22**

Particulars	Figures in % Losses		
	FY20	FY21	FY22
Upper limit	15.14	15.09	15.04
<b>Average</b>	<b>14.89</b>	<b>14.84</b>	<b>14.79</b>
Lower limit	14.64	14.59	14.54

**The Commission further directs the GESCOM to make efforts to further reduce the distribution losses during the control period FY20-22 by drawing a**

detailed action plan within two months from the date of this Order and submit the same to the Commission.

#### 5.2.4 Power Purchase for FY20-22:

The ESCOMs, in their Tariff applications, have submitted the D-1 Format indicating the requirement of power purchase for the control period FY20-22. The consolidated statement showing the year-wise energy requirement, is shown hereunder:

**TABLE 5.10**  
**Requirement of Energy as filed by ESCOMs**

Distribution Utilities	Energy (MU)	Energy (MU)	Energy (MU)
	FY20	FY21	FY22
BESCOM	34091.83	35491.68	37009.65
MESCOM	5973.11	6119.44	6270.50
CESC	7496.12	7779.60	8088.33
HESCOM	14808.77	15605.02	16448.87
GESCOM	9268.17	10007.75	10837.47

#### GESCOM's submission:

The GESCOM has submitted its power purchase requirement for the control period FY20 to FY22 based on the projected sales in the following Table:

**TABLE-5.11**  
**Energy Requirement as filed by GESCOM**

Particulars	As filed by GESCOM		
	FY 20	FY21	FY22
Sales (MU)	7636.51	8252.43	8943.72
Distribution losses (%)	14.89	14.84	14.79
Energy at IF point (MU)	8972.52	9690.50	10496.09
Transmission Losses (%)	3.19	3.17	3.15
<b>Energy Required to meet the sales of GESCOM (MU)</b>	<b>9268.17</b>	<b>10007.75</b>	<b>10837.47</b>

### 5.2.5 Sources of Power:

#### GESCOM's submission;

GESCOM has furnished the sources of power available to meet the energy requirement of all the ESCOMs, for the control period FY20 to FY22. The details of the sources of Power and the basis for the availability is indicated below:

- (i) From KPCL Hydel stations the power is procured as per Power Purchase Agreement dated: 22.05.2010, based on Tariff norms approved by the State Commission, vide Commission's Order dated: 03.08.2009.
- (ii) Availability of power from the Central Generating Stations (ex-Bus generation) is based on the details furnished by the Stations to the CEA for preparation of LGBR in respect of CGS Generating Stations.
- (iii) In respect of major IPPs (UPCL), RE and other sources, such as Jurala Power & TB Dam Power, the availability is as per the contracted capacity.

The share of the existing sources and the envisaged additional sources vis-à-vis the energy requirement for the entire State, its fixed charges and variable charges are furnished in the tariff application of GESCOM. The same are shown in the following Table:

**TABLE-5.12**  
**Availability of Energy and the Cost thereon for FY20 to FY22**

SOURCES	FINANCIAL YEAR 19-20			FINANCIAL YEAR 20-21			FINANCIAL YEAR 21-22		
	Energy in MU	Cost in Rs Cr	Per unit Cost	Energy in MU	Cost in Rs Cr	Per unit Cost	Energy in MU	Cost in Rs Cr	Per unit Cost in Rs.
KPCL Hydel Energy	2490.05	256.16	1.02	2490.05	259.70	1.04	2490.05	264.09	1.06
KPCL Thermal Energy	1174.45	734.26	6.25	1258.55	812.19	6.45	1425.02	890.36	6.24
CGS Energy	2500.20	1172.10	4.68	2654.74	1218.22	4.58	2896.86	1315.14	4.53
UPCL	353.60	259.09	7.32	353.60	261.69	7.40	403.64	281.91	6.98
Renewable Energy:	2779.68	1140.31	4.10	2842.77	1158.39	4.07	2842.77	1158.39	4.07
Other State Hydel	26.54	14.72	5.54	26.54	14.72	5.54	26.54	14.72	5.54

SOURCES	FINANCIAL YEAR 19-20			FINANCIAL YEAR 20-21			FINANCIAL YEAR 21-22		
	Energy in MU	Cost in Rs Cr	Per unit Cost	Energy in MU	Cost in Rs Cr	Per unit Cost	Energy in MU	Cost in Rs Cr	Per unit Cost in Rs.
PGCIL & POSOCO Charges	-	275.55	-	-	281.07	-	-	283.82	-
KPTCL Transmission & SLDC	-	597.64	-	-	615.47	-	-	652.96	-
	175.86	88.20	5.00	175.87	91.62	5.21			
Other sources	-232.21	-96.31	4.14	205.63	95.59	4.64	752.59	396.37	5.26
<b>TOTAL</b>	<b>9268.17</b>	<b>4441.72</b>	<b>4.79</b>	<b>10007.75</b>	<b>4808.66</b>	<b>4.80</b>	<b>10837.47</b>	<b>5257.76</b>	<b>4.85</b>

### Commission's analysis and decisions:

The energy requirement of the ESCOMs, including GESCOM, is being met by the following sources through long-term power purchase agreement.

1. Karnataka Power Corporation Limited (KPCL) Generating Stations,
2. Central Generating Stations (CGS),
3. Major Independent Power Producers (IPPs), and
4. RE sources.

The contingent requirement to meet any deficit can be met through short term purchases by calling for bids and also purchases from the Power Exchange. Hence, to arrive at the available quantum of energy and power for the control period FY20 to FY22, the Commission has considered the availability as furnished by KPCL for KPCL Generating Stations and by SRPC/CERC/CEA for Central Government Stations (CGS). The availability of CGS stations is based on the share of Karnataka, as notified from time to time. In the case of RE sources, the actual generation capacity contracted by the ESCOMs, as indicated in D-1 Format, as per the PPAs executed by them, has been considered. The availability from the other sources such as Jurala Hydel Station and TB dam Power Stations of Telangana State is based on the share of the State in the installed capacity of the inter-state projects.

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 BTPS unit-3 has been considered since it has been synchronized and supplying power to the grid. The quantum of energy is restricted to the requirement of ESCOMs and fuel expenses allowed for FY20. For FY21 and FY22, the availability of energy from this unit has been considered as furnished by the KPCL, duly limiting the energy as per the requirement of ESCOMs, to meet the sales targets.

Based on the above availability criteria, the energy for the State has been allowed, for achieving the sales target of the respective years, as given in the following Table:

**TABLE-5.13**

**ABSTRACT OF POWER PURCHASE APPROVED FOR ESCOMs FOR THE CONTROL PERIOD FY20 to FY22**

SOURCES	FINANCIAL YEAR 19-20			FINANCIAL YEAR 20-21			FINANCIAL YEAR 21-22		
	Energy in MU	Cost in Rs Crs.	Avg. Cost Per unit in Rs.	Energy in MU	Cost in Rs Crs.	Avg. Cost Per unit in Rs..	Energy in MU	Cost in Rs Crs.	Avg. Cost Per unit in Rs.
KPCL Hydel Energy	10439.74	985.81	0.94	11008.67	1079.85	0.98	10831.33	1115.53	1.03
KPCL Thermal Energy	15099.19	8645.88	5.73	15552.17	10251.96	5.89	17107.10	11295.27	6.60
CGS Energy	21567.71	8474.65	3.93	22214.74	9063.64	4.08	24439.19	10086.79	4.13
UPCL	4352.26	2681.70	6.16	4648	2911.12	6.26	4800	3096.02	6.45
Renewable Energy:	15445.47	6385.55	4.13	16504.81	6741.06	4.08	17250.17	6965.40	4.04
Other State Hydel	108.64	60.30	5.55	111.90	65.22	7.74	117.96	72.53	6.15
Other Sources	3892.55	1513.43	3.89	3931.65	1531.76	3.89	2646.59	929.07	3.51
PGCIL & POSOCO Charges	-	1823.47	-	-	2050.21	-	-	2184.35	-
KPTCL Transmission & SLDC	-	3524.65	-	-	3670.96	-	-	3939.78	-
<b>TOTAL</b>	<b>70905.56</b>	<b>34095.44</b>	<b>4.8085</b>	<b>73971.94</b>	<b>37365.78</b>	<b>5.0513</b>	<b>77192.34</b>	<b>39684.74</b>	<b>5.1410</b>

**5.2.6 Power Purchase Cost & Transmission charges:**

**GESCOM's Submission**

GESCOM has submitted the Power Purchase requirement along with the cost, including the transmission charges and SLDC charges in D-1 Format. The GESCOM has sought approval of the Commission for purchase of power to an extent of 9268.17 MU, 10007.75 MU and 10837.47 MU at a cost of Rs.4441.72 Rs.4808.66 and Rs.5257.76 for the control period FY20, FY21 and FY22 respectively.



As regards the basis for arriving at the cost of power, the GESCOM has submitted that, the 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:**

The Commission has arrived at the power purchase cost to be allowed in the ARR for the control period, after considering various aspects such as Sales, transmission and distribution losses, tariff rates claimed by the GESCOM.

The basis for computation of power purchase quantum for the control period FY20 to FY22 is indicated below:

1. Considering the approved sales and the allowable transmission and distribution losses, the requirement of Power for the GESCOM, for the control period FY20 to FY22, is worked out as under:

**TABLE-5.14**  
**Power Purchase requirement approved for the**  
**GESCOM for the Control period FY20 to FY22**

Particulars	FY 20	FY21	FY22
Sales (MU)	7481.23	7876.37	8302.88
Distribution losses (%)	14.89	14.84	14.79
Energy at IF point (MU)	8790.07	9248.91	9744.02
Transmission Losses (%)	3.162	3.132	3.102
<b>Energy Required to meet the sales of GESCOM (MU)</b>	<b>9077.089</b>	<b>9547.950</b>	<b>10055.956</b>

2. While approving the cost of power purchase, the Commission has arrived at the quantum of power from various sources, in accordance with the principles of merit order schedule and dispatch, based on the ranking of all approved sources of supply, according to the merit order of the variable cost.
3. The rates considered by the KPCL are based on the Commission's Order dated 03.08.2009 for hydel stations except for Shivasamudram, Shimsha, Munirabad & MGHE stations.

4. The variable costs of State thermal stations and UPCL, are considered based on the recent power purchase bills passed by the BESCO and also reckoned based on the recent landed cost of fuel and other variable components. The Commission is yet to approve the tariff and the Power Purchase agreements in respect of the new KPCL thermal stations/ units and hence the rates now allowed are only provisional and subject to determination of tariff and approval the PPAs.
5. The fixed charges and the variable charges for the Central Generating Stations, UPCL Stations and the DVC Stations have been considered based on the Tariff determined by the CERC as per the CERC norms. 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 dispatch. It is expected that any surplus energy available from tied up sources of energy would be traded by the ESCOMs through PCKL on commercial principles. Similarly, any requirement over and above the quantum approved in this Tariff Order shall be procured from the tied up/ approved sources only.
6. The variations, if any, in the costs allowed, will be considered subject to verification during the FAC determination exercise / Annual Performance Review of FY20.
7. Based on the approved requirement of energy and the power allocation given by the Government of Karnataka, the Power Purchase quantum and costs thereon are approved in the ARR of GESCOM for the control period FY20 to FY22, as shown in Annexure- 1(i to iii) and 2(i to iii).
8. The consolidated power purchase cost allowed by the Commission for the control period FY20 to FY22 is shown in the following Table:

**TABLE-5.15****ABSTRACT OF POWER PURCHASE APPROVED FOR GESCOM FOR THE CONTROL PERIOD FY20 to FY22**

SOURCES	FINANCIAL YEAR 19-20			FINANCIAL YEAR 20-21			FINANCIAL YEAR 21-22		
	Energy in MU	Cost in Rs Crs.	Per unit Cost	Energy in MU	Cost in Rs Crs.	Per unit Cost	Energy in MU	Cost in Rs Crs.	Per unit Cost in Rs.
KPCL Hydel Energy	1598.29	149.52	0.94	1371.97	133.66	0.97	1509.33	147.73	0.98
KPCL Thermal Energy	1238.21	706.11	5.70	1495.02	1060.76	7.10	1604.70	1126.26	7.02
CGS Energy	2595.87	1020	3.93	2726.77	1112.53	4.08	3031.01	1250.99	4.13
UPCL	435.23	268.17	6.16	570.52	357.33	6.26	699.66	451.28	6.45
Renewable Energy:	2622.06	1057.02	4.03	2795.81	1114.30	3.98	2798.35	1115.04	3.98
Other State Hydel	13.08	7.26	5.55	13.74	8.01	5.83	14.63	9.00	6.15
Other Sources	574.35	222.07	3.86	574.12	222.00	3.86	398.27	139.52	3.50
PGCIL & POSOCO Charges	-	250.60	-	-	132.27	-	-	203.3	-
KPTCL Transmission & SLDC	-	423.20	-	-	445.68	-	-	478.67	-
<b>TOTAL</b>	<b>9077.089</b>	<b>4103.95</b>	<b>4.52</b>	<b>9547.95</b>	<b>4586.52</b>	<b>4.80</b>	<b>10055.96</b>	<b>4921.80</b>	<b>4.89</b>

The GESCOM shall regulate the quantum and cost of power as approved above by the Commission.

However, since the power purchase costs are uncontrollable, as per the MYT Regulations, any excess quantum or cost will be trued up subject to verification in Annual Performance Review of the respective years.

**In the light of the above discussion, the Commission hereby approves power purchase quantum and costs as follows:**

**TABLE-5.16****Approved Power Purchase for FY20-22**

Year	Approved Quantum-MU	Approved Cost-Rs. Crores
FY20	9077.089	4103.95
FY21	9547.950	4586.52
FY22	10055.956	4921.80

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

### 5.2.7 Renewable Purchase Obligation (RPO) target for FY20-22

#### a. Non-Solar RPO

The Commission vide the KERC (Procurement of Energy from Renewable Sources) (Sixth Amendment) Regulations, 2018, has notified a Non-Solar RPO target of 8% for FY20, FY21 and FY22.

The Commission, in its preliminary observation, had directed GESCOM to furnish the estimates for complying with solar and non-solar RPOs for FY20-FY22, including cost implication for purchasing RECs, if any.

GESCOM has not furnished satisfactory reply to the Commission's observations and did not furnish the action plan for meeting the RPO.

The Commission directs GESCOM to take all necessary measures to meet the above RPO targets. In case, there is any need to buy RECs to fully meet the RPO, the cost thereon would be factored in the APR of FY20.

#### b. Solar RPO:

The Commission, vide the KERC (Procurement of Energy from Renewable Sources) (Sixth Amendment) Regulations, 2018, has notified a Solar RPO target of 7.25%, 8.50% and 10.50% for FY20, FY21 and FY22 respectively.

The Commission, in its preliminary observation, had directed GESCOM to furnish the estimates for complying with solar and non-solar RPOs for FY20-FY22, including cost implication for purchasing RECs, if any.

As pointed out above, GESCOM has not submitted satisfactory reply to the Commission's observation, which is noted with displeasure.

The Commission directs GESCOM to take all necessary action to meet the above RPO targets. In case, there is any need to buy RECs to fully meet the RPO, the cost thereon would be factored in the APR of FY20.

**5.2.8 O & M Expenses for FY20-22:****GESCOM's Proposal:**

The GESCOM in its application has sought approval of following O & M expenses for FY20-22:

**TABLE-5.17**  
**O&M Expenses for FY20-22**  
**GESCOM's Submission**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
R&M cost	44.15	51.11	59.19
Employee cost	594.86	622.22	656.89
A&G expenses	128.44	144.40	162.25
<b>Total O&amp;M cost</b>	<b>767.45</b>	<b>817.73</b>	<b>878.33</b>

**Commission's analysis & decision:**

The Commission takes note of the O&M expenses of Rs.767.45 Crores, Rs.817.73 Crores and Rs.878.33 Crores, claimed by the GESCOM for FY20-22.

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

The Commission in its preliminary observations had observed that GESCOM its filings of ARR for FY20-22 has claimed Rs.108.56 Crores, Rs.135.70 Crores and Rs.169.63 Crores towards contribution of terminal benefit to P&G Trust for FY20 to FY22 respectively. GESCOM was directed to furnish details of computation along with the copy of Actuarial valuation report.

GESCOM has replied that the same is furnished in the filing itself. The Commission notes that GESCOM has not furnished the required details and hence the Commission has proceeded with the available information.

The Commission has noted the actual O&M expenses as per the audited accounts of GESCOM for FY18. The Commission notes that the actual O&M expenses are Rs.577.16 Crores for FY18, which also include the contribution towards P&G Trust and the amount on account of revision of pay along with

the other employee cost, Repair & Maintenance expenses and A&G expenses.

The Commission, in terms of the provisions of MYT Regulations, has considered the 3 year CAGR towards consumer growth and inflation rate index (CPI) and (WPI) based on the methodology followed by the CERC.

The Commission has computed the O & M expenses for FY20-22, duly considering the actual O & M expenses of FY18 as per the audited accounts (being the latest data available as per the audited accounts) to arrive at the O & M expenses for base year i.e. FY19. The actual O& M expenses for FY18, as submitted by GESCOM are Rs.577.16 Crores. Considering the Wholesale Price Index (WPI) as per the data available from the Ministry of Commerce & Industry, Government of India and Consumer Price Index (CPI), as per the data available from the Labour Bureau, Government of India and adopting the methodology followed by CERC with CPI and WPI in the ratio of 80:20, in line with the methodology followed by the Commission, in its earlier Tariff Order, the allowable inflation rate for FY20-22 is computed as follows:

**TABLE – 5.18**  
**Computation of Inflation Index for FY20-22**

Year	WPI	CPI	Composite Series	Yt/Y1=Rt	Ln Rt	Year (t-1)	Product [(t-1)* (LnRt)]
2006	70.2	122.9	112.36				
2007	73.6	130.8	119.36	1.06	0.06	1	0.06
2008	80.0	141.7	129.36	1.15	0.14	2	0.28
2009	81.9	157.1	142.06	1.26	0.23	3	0.70
2010	89.7	175.9	158.66	1.41	0.35	4	1.38
2011	98.2	191.5	172.84	1.54	0.43	5	2.15
2012	105.7	209.3	188.58	1.68	0.52	6	3.11
2013	111.1	232.2	207.98	1.85	0.62	7	4.31
2014	114.8	246.9	220.48	1.96	0.67	8	5.39
2015	110.3	261.4	231.20	2.06	0.72	9	6.49
2016	110.3	274.3	241.50	2.15	0.77	10	7.65
2017	114.1	281.2	247.78	2.21	0.79	11	8.70
<b>A= Sum of the product column</b>							<b>40.23</b>
<b>B= 6 Times of A</b>							<b>241.40</b>
<b>C= (n-1)*n*(2n-1) where n= No of years of data=12</b>							<b>3036.00</b>
<b>D=B/C</b>							<b>0.08</b>
<b>g(Exponential factor)= Exponential (D)-1</b>							<b>0.0828</b>
<b>e=Annual Escalation Rate (%)=g*100</b>							<b>8.2760</b>

For the purpose of determining the normative O & M expenses for FY20-22, the Commission has considered the following:

- a) The actual O & M expenses incurred as per the audited accounts for FY18 inclusive of pay revision arrears and contribution to the Pension and Gratuity Trust to determine the O & M expenses for the base year FY19.
- 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 FY18 and as projected by the Commission for FY19-22 at 3.93%, 4.18% and 4.43% respectively for FY20-22.
- c) The weighted inflation index (WII) at 8.276% as computed above.
- d) Efficiency factor at 2% as considered in the earlier two control periods.

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

Further, the Commission is of the view that extension of any benefit under revision of pay scales, should reflect in improved productivity and efficiency for the betterment of services rendered by the GESCOM to its consumers in its jurisdiction. As per the decisions of the Commission, in similar situations in the earlier Tariff Orders, the distribution licensees were required to justify any increase in pay scale commensurate with the increase in real employee productivity. Hence, the Commission expects that with the increase in the emoluments, the improved productivity of the employees would be reflected in terms of increased sales, reduction of losses and improved revenue collections.

Accordingly, the normative O & M expenses for FY20-22 are as follows:

TABLE – 5.19

## Approved O &amp; M expenses for FY20-22

Particulars	Amount in Rs. Crores			
	FY19	FY20	FY21	FY22
No. of Installations	-	3191107	3330635	3479560
Consumer growth rate as per actuals / projections (3 Year CAGR) in %	-	3.93%	4.18%	4.43%
Inflation Index in %	-	8.2760%	8.2760%	8.2760%
Base year O&M expenses (Projected as per actuals of Rs.577.16 Crores for FY18)	633.65	-	-	-
O&M Index= O&M (t-1)*(1+WII+CGI-X)	-	698.33	771.34	853.96
<b>Total allowable O&amp;M</b>	-	<b>698.33</b>	<b>771.34</b>	<b>853.96</b>

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

**Thus, the Commission decides to approve O&M expenses of Rs.698.33 Crores for FY20, Rs.771.34 Crores for FY21 and Rs.853.96 Crores for FY22.**

### 5.2.9 Depreciation:

#### GESCOM's Proposal:

The GESCOM has claimed an amount of Rs.193.75 Crores, Rs.209.99 Crores and Rs.223.95 Crores for the control period FY20 to FY22 respectively, as the net depreciation after deducting the amount of depreciation on the assets created out of consumer contributions / grants for the control period for FY20-22, as per the norms specified under the MYT Regulations. The details of the claim are as under:



**TABLE – 5.20**  
**Depreciation-FY20-22- GESCOM's Proposal**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Depreciation	238.11	260.67	281.20
<b>Less:</b> withdrawals of depreciation on assets created out of consumer contribution/grants	44.36	50.68	57.25
<b>Net Depreciation</b>	<b>193.75</b>	<b>209.99</b>	<b>223.95</b>

**Commission's analysis and decision:**

In accordance with the provisions of the MYT Regulations and amendments thereon, the Commission has determined the depreciation for FY20-22 considering the following:

- The actual rate of depreciation of category-wise assets has been determined by considering the amount of depreciation and the gross block of opening and closing balances of fixed assets as per the audited accounts for FY18.
- This actual rate of depreciation is considered on the gross block of average of projections of opening and closing balance of fixed assets considering the capex and the categorization of assets thereon, as approved by the Commission for FY20 to FY22.
- The depreciation on account of assets created out of consumers' contribution / grants has been considered (deducted) based on the opening and closing balance of such assets duly considering the addition of assets and projections made by the Commission for FY 20-22, at the weighted average rate of depreciation, as per actuals in FY18.

Accordingly, the total depreciation for FY20-22 is arrive at as follows:

**TABLE – 5.21**  
**Approved Depreciation for FY20-22**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Buildings	3.04	3.22	3.42
Other Civil works	0.14	0.16	0.19
Plant & Machinery	38.15	40.66	43.31
Line, Cable Network	175.40	195.39	214.66
Vehicles	0.32	0.37	0.45
Furniture	0.33	0.35	0.38

Particulars	FY20	FY21	FY22
Office Equipment	0.45	0.47	0.52
<b>Total Depreciation</b>	<b>217.81</b>	<b>240.64</b>	<b>262.94</b>
Less: Depreciation withdrawn on the assets created out of consumers contribution / Grants	44.86	50.49	55.86
<b>Net Depreciation Allowed</b>	<b>172.94</b>	<b>190.15</b>	<b>207.08</b>

Accordingly, the Commission decides to approve an amount of Rs.172.94 Crores, Rs. 190.15 Crores and Rs. 207.08 Crores towards net depreciation for FY20, FY21 and FY22 respectively.

#### 5.2.10 Interest on Capital Loans:

##### GESCOM's proposal:

GESCOM, in its filing, has claimed the interest on Capital loan for Rs.154.72 Crores, Rs.179.99 Crores and Rs.198.04 Crores for FY20-22 respectively.

GESCOM has furnished the sources of funding, to meet the capex envisaged for FY20-22, as indicated in the following Table:

**Table :5.22**  
**Sources of fund to capex**

Amount in Rs. Crores

Particulars	FY20	FY21	FY22
Capex with GOI / GoK grant	430.47	120.97	266.45
Capex with Internal Resources	155.85	120.07	187.01
Borrowings	375.41	281.39	279.79
Expected Capital Expenditure likely to be incurred	833.17	531.33	530.05
Capex Proposed	1032.75	663.53	659.95

GESCOM in its application as per Format D-9 has requested to approve the interest on capital loans for FY20-22 as follows:

**TABLE – 5.23****Interest on Capital Loans– GESCOM's Submission**

Amount in Rs. Crores

Particulars	FY-20	FY-21	FY-22
Opening Balance of loans	970.58	1276.77	1425.06
Add: New Loans	510.00	357.00	360.40
Less: Repayments	203.81	208.71	214.13
Closing Balance of loans	1276.77	1425.06	1571.33
<b>Interest on Capital Loan</b>	<b>154.72</b>	<b>179.99</b>	<b>198.04</b>

**Commission's analysis and decision:**

The Commission has taken note of the proposed capex and the capital loans proposed by GESCOM for FY20-22, as discussed in the preceding paragraphs of this Chapter.

The Commission in its preliminary Observation, had directed GESCOM to furnish the Bank / Financial Institution-wise details of opening balance, loan amounts received, repayment of loans, term of loan, rate of interest, purpose of loan, interest amount and the closing balance of loans for long term and short term loans, separately, for the projections made for FY20 to FY22. GESCOM in its replies has stated that the loan details are provided under D-9 Format of the filing and did not submit the required information for FY20-22. The Commission also notes that the new loan proposed by GESCOM under Capital expenditure budget is different from the Capital loans proposed under D-9 Format, which is considered for computation of interest on loan amounts for FY20-22.

The Commission notes the various capital works proposed under capex and the source of fund for FY20-22. The Commission further notes that the various works proposed by the GESCOM will be financed through grants from GoI / GoK under various schemes and also takes note of the availability of internal resources and the works to be executed by consumer contributions during the control period for FY20-22.

As per the audited accounts and as per the APR of FY18, the GESCOM had incurred interest on capital loan at the weighted average rate of interest of 11.07% per annum. This rate of interest is considered for the existing loan balances for which interest has to be factored during FY19. Further, for the years FY20 and FY22, the weighted average rate of interest of the preceding year has been considered on the existing loan balances. The Commission has considered the requirement the new capital loan by reckoning the availability of capital grants for the works proposed under various schemes of GOI / GoK, the internal resources and the consumer contributions as estimated by the GESCOM in the proposed capex for FY20-22.

The Commission further notes that GESCOMs has proposed capex amount of Rs.1032.75 Crores for FY20, Rs.663.53 Crores for FY21 and Rs.659.95 Crores for FY22. As against this, the GESCOM has considered the expected capital expenditure of Rs.833.17 Crores, Rs.531.33 Crores and Rs.530.05 Crores for FY20-22 respectively. After deducting the amounts covered under capital grants from the GOI / GoK, and the availability of internal resources and the consumer contributions towards capital works, the expenditure likely to be met by the GESCOM by raising capital loan as per Format D-9 is proposed at Rs.510.00 Crores, Rs.357.00 Crores and Rs.360.40 Crores respectively for FY20-22.

The Commission has observed that GESCOM has not achieved its own proposed capex as indicated in table 5.3 of this chapter. Thus, the Commission after considering all the above aspects and to avoid front loading of the interest on loan component in the retail supply tariff, has decides to reckon the capital expenditure of Rs.700 Crores, Rs.531.33 Crores and Rs.530.05 Crores as capex for FY20-22 respectively, for the purpose of ARR for FY20-22. However, as discussed in pre-para, after considering the availability of GoI / GoK grants internal resources and consumer contribution, the Commission decides to consider the new loans at Rs.250 Crores, Rs.250 Crores and Rs.200 Crores for FY20, FY21 and FY22 respectively,

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.

GESCOM has proposed the interest on the average of both existing loan balances and on the new loans at the rate of 11.77% for FY20, 13.32% for FY21 and 13.22% for FY22. The Commission notes that, the interest rates proposed by GESCOM on the capital loans are comparatively on a higher side as compared with the actual weighted average interest rate of 11.07% for FY18 and 11.15% for FY19. GESCOM needs to initiate financial prudence measures, so as to avail loans at comparatively lower rates and 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 are on the basis of marginal cost of fund based Lending Rates (MCLR). These rates are comparatively lower than the bank rates considered earlier. Further in the current economic conditions favorable for investments, it is observed that there is a downward trend in the MCLR and the interest rates. Hence, in such a situation, the Commission is of the view that, the GESCOM can avail capital loan at a competitive rate, which would be lesser than the interest rate proposed by the GESCOM.

The current SBI MCLR rate for capital loan with a tenure of 3-years is 8.50%. Considering the present MCLR, the Commission, as per the provision of MYT Regulations, decides to allow an interest rate of 11% for the control period FY 20-22, for the new capital loan borrowings. It shall be noted that, the rate of interest now considered by the Commission, on the new capital loans for the control period, is subject to review during the APR and revision of ARR of the relevant years of the control period.

Accordingly, the approved interests on capital loans for FY20-22 are as follows:

**TABLE – 5.24**  
**Approved Interest on Capital Loans for FY20-22**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Opening balance of Long term secured & unsecured loans	819.26	962.41	1090.62
<b>Add:</b> New Loans Borrowed	250.00	250.00	200.00
<b>Less:</b> Repayments of loan	106.85	121.79	133.35
Total loan at the end of the year	962.41	1090.62	1157.27
<b>Average Loan</b>	<b>890.84</b>	<b>1026.52</b>	<b>1123.95</b>
Weighted average rate of interest considered for the existing loans amounts	11.15%	11.20%	11.23%
Interest rate allowed on new loans in %	11.00%	11.00%	11.00%
<b>Allowable Interest on Capital Loan</b>	<b>99.74</b>	<b>115.31</b>	<b>126.52</b>

Accordingly, the Commission decides to approve interest on capital loans of Rs. 99.74 Crores, Rs.115.31 Crores and Rs.126.52 Crores for FY20, FY21 and FY22 respectively.

#### 5.2.11 Interest on Working Capital Loan:

##### GESCOM's proposal:

GESCOM, in its application as per Format D-9, has requested to approve the interest on working capital loan for FY20-22, as follows:

**TABLE – 5.25**  
**Interest on Working Capital loan for FY20-22 – GESCOM's Submission**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
<b>Interest on Working Capital loan</b>	106.37	113.07	128.34

##### Commission's analysis and decision:

As per the norms specified under the MYT Regulations, the Commission has computed the interest on working capital which consists of one months' O & M expenses, 1% of Opening GFA and two month's revenue.

The Commission notes that GESCOM in claiming the interest on working capital, has not submitted the computation sheet for FY 20-22.

The Commission in its preliminary observation has directed GESCOM to submit the details of existing and new loans of short term / overdraft rate of

interest, repayment and the interest amount for FY20-22. GESCOM in its replies has furnished the required details only for FY18.

As per the audited accounts for FY18, GESCOM has availed the working capital loan at the rate of 10.95% to 12.25% from REC and Commercial banks. The Commission notes that the, current interest rates charged by commercial banks and financial institutions are mainly on the basis of MCLR declared from time to time. Hence, the Commission has considered MCLR, depending upon the tenure of the loan. The Commission notes that, GESCOM needs to take up financial prudence measures while availing working capital, so that the interest burden on its consumers is reduced. Thus, the Commission by considering the downward trend in the interest rates and by reckoning the present MCLR rate of 8.55% for short term with tenure of one year and by considering the spread on basis points, and as per the provisions of the MYT Regulations, decides to consider interest on working capital at 11% per annum for FY20-22.

Accordingly, the approved interest on working capital for FY20-22 is computed as follows:

**TABLE – 5.26**

**Approved Interest on Working Capital for FY20-22**

Particulars	Amount in Rs. Crores		
	FY 20	FY 21	FY 22
One-twelfth of the amount of O&M Expenses	58.19	64.28	71.16
Opening balance of Gross Fixed Asset (GFA)	5274.46	5766.41	6246.41
Stores, materials and supplies - 1% of Opening balance of GFA	52.74	57.66	62.46
One-sixth of the Revenue	833.59	920.93	970.79
Total Working Capital	944.53	1042.87	1104.42
Rate of Interest (% p.a.)	11.00%	11.00%	11.00%
<b>Interest on Working Capital</b>	<b>103.90</b>	<b>114.72</b>	<b>121.49</b>

**Thus, the Commission decides to approves interest on working capital of Rs. 103.90 Crores, Rs. 114.72 Crores and Rs. 121.49 Crores for F20, FY21 and FY22 respectively.**

**5.2.12 Interest on Consumer Security Deposit:****GESCOM's proposal:**

GESCOM, in its filing, has not projected any expenditure towards interest on consumer security deposit for FY20-22.

**Commission's analysis and decision:**

In accordance with the KERC (Interest on Security Deposit) Regulations 2005, the interest rate to be allowed is the Bank Rate prevailing on the 1<sup>st</sup> of April of the financial year for which interest is due. As per Reserve Bank of India Notification dated 7<sup>th</sup> February, 2019, the bank rate is 6.50%. This being the latest available bank rate, the Commission has considered the same, for computation of interest on consumer deposits for FY20-22.

The Commission has considered the consumer security deposits as per the audited accounts of FY18. The Commission has taken note of the additional amount of deposits collected from the consumers during the previous years. Based on the additional security deposits collected during the previous year and also in FY18, the Commission has decided to factor Rs.45 Crores, Rs.50 Crores and Rs.55 Crores for FY20-22 respectively, as the additional security deposit likely to be collected for the computation of interest on consumer security deposit for the Control period. Thus, the interest on consumer deposits for FY20-22 is computed in the following Table:

**TABLE – 5.27**  
**Approved Interest on Consumer Security Deposits for FY20-22**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Opening balance of consumer security deposits	537.57	582.57	632.57
Closing Balance of consumer security deposit	582.57	632.57	687.57
Average Consumer Security deposit amount	560.07	607.57	660.08
Rate of Interest at bank rate to be allowed as per Regulations	6.50%	6.50%	6.50%
<b>Allowable Interest on Consumer Security Deposit</b>	<b>36.40</b>	<b>39.49</b>	<b>42.90</b>



Thus, the Commission decides to approve interest on consumer security deposits at Rs.36.40 Crores, Rs.39.49 Crores and Rs.42.90 Crores for FY20, FY21 and FY21 respectively.

#### 5.2.13 Interest and Finance Charges Capitalized:

GESCOM has claimed an amount of Rs. 5.50 Crores, Rs.10.00 Crores and Rs. 10.00 Crores towards capitalization of interest and finance charges during FY20, FY21 and FY22 respectively. Considering the capital expenditure and capitalization thereon in the previous years, the Commission decides to allow capitalization of interest and finance charges as proposed by GESCOM for the control period FY20-22.

The abstract of approved interest and finance charges for FY20-22 is as follows:

**TABLE – 5.28**

#### Approved Interest and finance charges for FY20-22

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Interest on Capital Loan	99.74	115.31	126.52
Interest on Working Capital loan	103.90	114.72	121.49
Interest on Consumers Security Deposit	36.40	39.49	42.90
<b>Less:</b> Interest & Finance charges capitalized	-5.50	-10.00	-10.00
<b>Approved Interest &amp; Finance Charges</b>	<b>234.55</b>	<b>259.52</b>	<b>280.92</b>

#### 5.2.14 Other Debits:

GESCOM in its application has claimed an amount of Rs. 88.66 Crores, Rs. 90.46 Crores and Rs. 92.33 Crores towards other debits during FY20, FY21 & FY22 respectively. The Commission as per the provisions of the MYT Regulations and as amended, has not been considering the projections of other debits for the reason that, the same cannot be estimated beforehand. The Commission therefore, has not allowed the same in the ARR for the control period. However, such expenses would be considered as per the actuals, with reference to the audited accounts for the relevant years at the time of APR.

**5.2.15 Return on Equity(RoE):****GESCOM's proposal:**

GESCOM, in its application as per Format A-1, has claimed Rs. 82.92 Crore towards RoE for FY20. GESCOM has not claimed any RoE amount for FY21 and FY22. Whereas, in Format A-4, GESCOM has indicated Rs. 82.92 Crore, Rs.94.54 Crores and Rs.106.17 Crores towards RoE for FY20, FY21 and FY22, respectively, without taking into account the actual amount of accumulated losses, as at the end of FY18. GESCOM, in its Format A-4, has claimed the RoE for FY20-22 as detailed below:

**TABLE – 5.29****Return on Equity for FY20-22-GESCOM's Proposal**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Paid Up Share Capital	1282.22	1342.22	1402.22
Reserves and Surplus	-854.31	-854.31	-854.31
Total Equity	427.91	487.91	547.91
<b>Return on Equity</b>	<b>82.92</b>	<b>94.54</b>	<b>106.17</b>

**Commission's analysis and decision:**

The Commission notes that GESCOM has claimed Rs.82.92 Crores as RoE for FY20 as per A-1 Format and has not claimed the RoE for FY21 and FY22.

The Commission notes the status of debt equity ratio with reference to the projected gross fixed assets for each year of the control period FY20-22. The Commission has considered the actual closing balance of share capital, share deposits and the accumulated surplus / deficit under Reserves & Surplus as per the audited accounts for FY18 and the additional equity amount received from the GoK during FY19, for arriving at the allowable equity base for the control period FY20-22.

The Commission, in accordance with the provisions of the MYT Regulations, has considered Return on Equity of 15.5% duly grossed up with the applicable Minimum Alternate Tax (MAT) of 21.5488%. This works out to 19.7575 % per annum. Further, as per the decision of the Commission in the Review Petition No.6/2013 and Review Petition 5/2014, and the amended provisions of the MYT Regulations, the Return on Equity shall 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.22.00 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.

Further, in compliance of 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 issued henceforth, the details of GFA, debt and equity (net-worth) for FY20-22 are indicated in the following Table:

**TABLE – 5.30**  
**Status of Debt Equity Ratio for FY20-22**

Amount in Rs. Crores								
Year	Particulars	GFA	Debt	Equity (Net worth)	Normative Debt @ 70% of GFA	Normative Equity @ 30% of GFA	%age of actual debt on GFA	%age of actual equity on GFA
FY20	Opening Balance	5274.46	819.26	-94.60	3692.12	1582.34	15.53	0
	Closing Balance	5766.41	962.41	-94.60	4036.49	1729.92	16.69	0
FY21	Opening Balance	5766.41	962.41	-94.60	4036.49	1729.92	16.69	0
	Closing Balance	6246.41	1090.62	-94.60	4369.69	1876.72	17.46	0
FY22	Opening Balance	6246.41	1090.62	-94.60	4369.69	1876.72	17.46	0
	Closing Balance	6716.41	1157.27	-94.60	4701.49	2014.92	17.23	0

From the above table it is evident that the debt equity lies within the normative debt equity ratio of 70:30 on the opening and closing balances of projected GFA for each year of the control period. Further, the Commission will review the same during the Annual Performance Review for each year, based on the actual data as per the audited accounts.

Accordingly, the Return on Equity that could be approved for FY20-22 works out as follows:

**TABLE – 5.31****Approved Return on Equity for FY20-22**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Opening balance of Share Capital	1114.96	1114.96	1114.96
Opening balance of Share deposit	162.02	162.02	162.02
Opening balance of Accumulated Losses	-1349.58	-1349.58	-1349.58
<b>Less:</b> Recapitalized Security Deposit	-22.00	-22.00	-22.00
<b>Equity</b>	-94.60	-94.60	-94.60
<b>RoE</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>

**Since, the net-worth of the Company is negative during the control period, GESCOM is not entitled to any RoE for FY20-22.**

**5.2.16 Other Income:****GESCOM's proposal:**

GESCOM has claimed other income for the control period as detailed below:

**TABLE – 5.32  
Other Income – GESCOM's Proposal**

Particulars	Amount in Rs. Crores		
	FY20	FY21	FY22
Other Income	88.28	96.26	105.03

**Commission's analysis and decision:**

The Commission has taken note of other income claimed by the GESCOM under as per D-3 Format for the control period-FY20-22.

The Commission notes that the other income earned by the GESCOM mainly includes income from miscellaneous recoveries, interest on bank deposits,

rent from staff quarters, sale of scrap, profit on sale of stores rebate on collection of electricity duty besides incentives for timely payment of power purchase bills. The actual 'other income' earned by GESCOM, as per the audited accounts for FY18 is Rs.74.44 and Rs. 88.02 for FY17.

Based on the other income earned by the GESCOM in the previous years and based on GESCOM's projected amount for FY 20-22, the Commission decides to approve Rs. 88.28 Crores for FY20, Rs. 96.26 Crores for FY21 and Rs. 105.03 Crores, as other income for FY22.

### **5.2.17 Fund towards Consumer Relations / Consumer Education:**

GESCOM in its filing has claimed Rs.0.50 Crores for FY20 and has not claimed the same for FY21-22.

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

The Commission decides to continue providing an amount of Rs.0.50 Crore for each year of the control period FY20-22 towards meeting the expenditure on consumer relations / consumer education.

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

### **5.3 Abstract of ARR for FY20-22:**

In the light of the above analysis and decisions of the Commission, the following is the approved ARR for the control period FY20-22:

TABLE – 5.33

## Approved ARR for FY20-22

Amount in Rs. Crores

Sl. No	Particulars	FY 20	FY 21	FY 22
		Approved ARR	Approved ARR	Approved ARR
1	Energy at Gen Bus in MU	9077.09	9547.95	10055.96
2	Transmission Losses in %	3.162%	3.132%	3.102%
3	Energy at Interface in MU	8790.07	9248.91	9744.02
4	Distribution Losses in %	14.89%	14.84%	14.79%
	<b>Sales in MU:</b>			
5	Sales to other than IP & BJ/KJ	3856.32	4081.20	4337.45
6	Sales to BJ/KJ	217.56	217.56	217.56
7	Sales to IP	3407.35	3577.61	3747.87
	<b>Total Sales</b>	<b>7481.23</b>	<b>7876.37</b>	<b>8302.88</b>
	<b>Revenue at existing and Misc. Charges:</b>			
8	Revenue from tariff and Misc. Charges	2909.24	-	-
9	Tariff Subsidy to BJ/KJ Installation	146.64	-	-
10	Tariff Subsidy to IP Sets	1945.66	-	-
	<b>Total Existing Revenue</b>	<b>5001.54</b>	-	-
	<b>Expenditure:</b>			
10	Power Purchase Cost	3680.75	4140.84	4443.13
11	Transmission charges of KPTCL	420.98	442.55	475.11
12	SLDC Charges	2.22	3.13	3.56
	<b>Power Purchase Cost including cost of transmission</b>	<b>4103.95</b>	<b>4586.52</b>	<b>4921.80</b>
	<b>O&amp;M Expenses</b>	<b>698.33</b>	<b>771.34</b>	<b>853.96</b>
13	Depreciation	172.94	190.15	207.08
	<b>Interest &amp; Finance charges</b>			
14	Interest on Capital Loans	99.74	115.31	126.52
15	Interest on Working capital loans	103.90	114.72	121.49
16	Interest on belated payment on PP Cost	0.00	0.00	0.00
17	Interest on consumer security deposits	36.40	39.49	42.90
18	Other Interest & Finance charges	0.00	0.00	0.00
19	Less: interest & other expenses capitalised	-5.50	-10.00	-10.00
	<b>Total Interest &amp; Finance charges</b>	<b>234.55</b>	<b>259.52</b>	<b>280.92</b>
20	Other Debits	0.00	0.00	0.00
21	Net Prior Period Debit/Credit	0.00	0.00	0.00
22	Return on Equity	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
23	Funds towards Consumer Relations/Consumer Education	0.50	0.50	0.50
24	Less: Other Income	-88.28	-96.26	-105.03
25	<b>ARR</b>	<b>5121.99</b>	<b>5711.78</b>	<b>6159.22</b>
27	Deficit for FY18 carried forward (APR)	126.43	-	-
28	<b>Net ARR</b>	<b>5248.42</b>	<b>5711.78</b>	<b>6159.22</b>

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

GESCOM in its application has not proposed any new ratio for segregation of consolidated ARR into ARR for Distribution Business and ARR for Retail Supply Business.

#### Commission's Analysis and Decisions:

GESCOM in its application has not proposed any new ratio of segregation of consolidated ARR into ARR for Distribution Business and ARR for Retail Supply Business and proposed the same ratio as being adopted during the previous control period. Thus, the Commission decides to continue with the existing ratio of segregation of ARR as detailed below:

**TABLE – 5.34**

#### Approved Segregation of ARR – FY20-22

Particulars	Distribution Business	Retail Supply Business
O&M	70%	30%
Depreciation	84%	16%
Interest on Loans	100%	0%
Interest on Consumer Deposits	0%	100%
RoE	84%	16%
GFA	84%	16%
Non-Tariff Income	7%	93%

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

**TABLE – 5.35**

#### APPROVED REVISED ARR FOR DISTRIBUTION BUSINESS – FY20-22

Amount in Rs. Crores

Sl. No	Particulars	FY20
1	O&M Expenses	488.83
2	Depreciation	145.27
	<b>Interest &amp; Finance Charges</b>	
3	Interest on Capital Loans	99.74

Sl. No	Particulars	FY20
4	Interest on Working capital loans	15.77
5	Interest on consumer security deposits	0.00
6	Other Interest & Finance charges	0.00
7	<b>Less:</b> interest & other expenses capitalized	-5.50
	<b>Total</b>	<b>744.12</b>
8	ROE	0.00
9	<b>Less:</b> Other Income	0.00
10	Provision for taxes	0.00
	<b>NET ARR</b>	<b>744.12</b>

TABLE – 5.36

## APPROVED ARR FOR RETAIL SUPPLY BUSINESS – FY20-22

Amount in Rs. Crores

Sl. No	Particulars	FY20
1	Power Purchase	3680.75
2	Transmission Charges & SLDC Charges	423.20
3	O&M Expenses	209.50
4	Depreciation	27.67
	<b>Interest &amp; Finance Charges</b>	
5	Interest on Capital Loans	0.00
6	Interest on Working capital loans	88.12
7	Interest on consumer security deposits	36.40
8	Other Interest & Finance charges	0.00
9	<b>Less:</b> Interest & other expenses capitalised	0.00
	<b>Total</b>	<b>4465.65</b>
10	ROE	0.00
11	<b>Less:</b> Other Income	-88.28
12	Fund towards Consumer Relations / Consumer Education	0.50
	<b>NET ARR</b>	<b>4377.87</b>

## 5.5 Gap in Revenue for FY20:

As discussed above, the Commission decides to approve the Annual Revenue Requirement (ARR) of GESCOM for its operations in FY20 at Rs.5248.42 Crores as against GESCOM's application proposing an ARR of Rs. 6093.89 Crores. The approved ARR includes an amount of Rs. 126.43



Crores which is determined as the deficit as per APR for FY18 as discussed in Chapter-4.

Based on the existing retail supply tariff, the total realization of revenue will be Rs.5001.54 Crores which is Rs.246.88 Crores less than the projected revenue requirement for FY20.

The Commission also decides to approve to Annual Revenue Requirement (ARR) of GESCOM for its operation at Rs.5711.78 Crores and Rs.6159.22 Crores as against the GESCOM's application proposing an ARR of Rs.6113.64 Crores and Rs.6663.72 Crores for FY21 and FY22.

The net ARR and the gap in revenue for FY20 are shown in the following table:

**TABLE – 5.37**  
**Revenue gap for FY20**

Particulars	FY20
Net ARR including carry forward surplus of FY18 (Rs. Crores)	5248.42
Approved sales (MU)	7481.23
Average cost of supply for FY20 ( Rs./unit)	7.02
Revenue at existing tariff (Rs. Crores)	5001.54
<b>Gap in revenue for FY20 (Rs. Crores) including Revenue Gap of FY18.</b>	<b>246.88</b>

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