

**REVISED SALES FORECAST FOR FY-21 AND FY-22**

**No. of Installations:**

As per Regulation No. 2.5.2, the ARR for Retail Supply Business shall be expected revenue from charges at the existing tariff. In order to estimate ERC, the accurate sale forecast is necessary. The energy sale for control period depends upon the population, policies of the Government, the various schemes under implementation, the No. of hours of supply available to consumers etc. These facts have an impact on growth of installations. Hence, HESCOM has analyzed the growth of installations in the area of supply for the period from FY-15 to FY-20. Due to various reasons, some of the installations across the categories are being dismantled. This fact is also considered in estimation of sale forecast. In order to have accurate sale forecast, year-end number of installations and total energy sold across the categories during respective year is reviewed to ascertain the growth.

**Projection for FY-21 & FY-22 based on the lower of the CAGRs for the period FY 15-FY 20 and for the period FY 17-FY 20:**

**No. of installations from FY-15 to FY-20:**

Tariff	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
LT1 - 18/40 units	6,18,729	5,94,773	6,22,737	7,20,063	718179	715523
LT1 above 18/40 units	1,42,905	1,67,789	1,40,645	39,871	42349	44160
Total B  K	7,61,634	7,62,562	7,63,382	7,59,934	760528	759683
LT-2a (i)	10,65,830	11,30,060	12,04,845	12,53,329	1305596	1362524
LT-2a (ii)	11,65,916	11,93,193	12,21,446	12,84,018	1376517	1485178
LT-2(b)(i)	3,258	3,650	4,061	4,434	4629	4644
LT-2(b)(ii)	1,941	2,008	2,148	2,219	2378	2489
LT-3(i)	2,04,085	2,18,641	2,33,475	2,46,372	258052	269607
LT-3(ii)	99,032	1,00,194	1,03,375	1,08,631	113655	120034
LT-4(a)	6,01,939	6,37,907	6,63,011	6,96,647	930551	957838
LT - 4b	813	832	1,276	856	842	849
LT- 4c(i)	172	236	249	273	302	325
LT- 4c(ii)	60	72	78	83	92	107
LT-5	96,255	1,01,446	1,07,801	1,13,582	117989	120661
LT-6	31,354	33,051	38,229	42,618	46004	49941
LT-6	19,665	20,206	21,545	22,823	23831	24952
LT-7	35,739	40,371	43,369	66,658	85289	127166
<b>LT Total</b>	<b>40,87,693</b>	<b>42,44,429</b>	<b>44,08,290</b>	<b>46,02,477</b>	<b>50,26,255</b>	<b>52,85,998</b>
HT-1	224	245	275	318	364	384
HT-2(a)	1,187	1,287	1,421	1,586	1760	1902
HT - 2(b)	464	486	514	578	629	675
HT-2 (C ) (i)	144	168	190	190	208	222
HT-2 (C ) (ii)	69	77	83	109	111	133
HT - 3 (a) (i)	103	108	114	126	140	158
HT - 3 (a) (ii)	71	92	100	121	124	137
HT - 3 (a) (iii)	12	10	10	10	10	10
HT-3(b)	2	2	2	2	2	2
HT-4	33	31	30	32	30	32
HT-5	47	55	52	49	52	52
<b>HT</b>	<b>2,356</b>	<b>2,561</b>	<b>2,791</b>	<b>3,121</b>	<b>3,445</b>	<b>3,722</b>
<b>LT+HT</b>	<b>40,90,049</b>	<b>42,46,990</b>	<b>44,11,081</b>	<b>46,05,598</b>	<b>50,29,700</b>	<b>52,89,720</b>

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Navanagar, Hubballi - 580 025



The Hon'ble KERC has approved total No of installations of 54,95.773 for FY-22 vide Tariff Order Dtd 30-05-2019.

Number of installations is worked out for FY-22 based on CAGR for the period FY 15-FY 20 and for the period FY 17-FY 20. The estimates based on the lower of the CAGRs for the period FY 15-FY 20 and for the period FY 17-FY 20 is considered for projection.

CAGR is calculated as under:

$$\text{CAGR} = \left\{ \left( \frac{Y_n}{Y_i} \right)^{\frac{1}{(n-1)}} - 1 \right\} * 100$$

For estimating CAGR for the period FY-15 to FY-20.

Y<sub>n</sub> is the data pertaining to FY-20.

Y<sub>i</sub> is the data pertaining to FY-15 and n=6.

For estimating CAGR for the period FY-17 to FY-20.

Y<sub>n</sub> is the data pertaining to FY-20.

Y<sub>i</sub> is the data pertaining to FY-17 and n=4.

**The details of Projection are as follows:**

**LT-1 Bhagya Jyothi/Kuteer Jyothi (Up to 40 units):**

Sl No.	Particulars	No. of Installations
1	Total No. of installations in FY-20	715523
2	Total No. of installations in FY-15	618729
3	Increase in no of installations	96794
4	Total No. of installations in FY-17	622737
5	Increase in no of installations	92786
6	No. of installations projected for FY-21	715523
7	No. of installations projected for FY-22	715523

**LT-1 Bhagya Jyothi/Kuteer Jyothi (Above 40 units):**

Sl No.	Particulars	No. of Installations
1	Total No. of installations in FY-20	44160
2	Total No. of installations in FY-15	142905
3	Increase in no of installations	(-)98745
4	Total No. of installations in FY-17	140645
5	Increase in no of installations	(-)96485
6	No. of installations projected for FY-21	44160
7	No. of installations projected for FY-22	44160

Note: As there is no new scheme for BJ/KJ proposed by GOK, the growth is not projected.

  
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RA Section  
Corporate Office, Hescorn  
Navanagar, Hubballi - 580 025

**LT-2(a) Domestic installations**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	2847702
2	Number of installations in FY-15	2231746
3	Increase in number of installations	615956
4	Increase in growth as per CAGR FY-15 to FY-20	5.00%
5	Number of installations in FY-17	2426291
6	Increase in number of installations	421411
7	Increase in growth as per CAGR FY-17 to FY-20	5.48%
8	Number of installations projected for FY-21	2989953
9	Number of installations projected for FY-22	3139312

**LT-2(b) Private & Professional Educational Institutions, Private Hospitals and Nursing Homes:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	7133
2	Number of installations in FY-15	5199
3	Increase in number of installations	1934
4	Increase in growth as per CAGR FY-15 to FY-20	6.53%
5	Number of installations in FY-17	6209
6	Increase in number of installations	924
7	Increase in growth as per CAGR FY-17 to FY-20	4.73%
8	Number of installations projected for FY-21	7471
9	Number of installations projected for FY-22	7824

**LT-3 Commercial Installations:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	389641
2	Number of installations in FY-15	303117
3	Increase in number of installations	86524
4	Increase in growth as per CAGR FY-15 to FY-20	5.15%
5	Number of installations in FY-17	336850
6	Increase in number of installations	52791
7	Increase in growth as per CAGR FY-17 to FY-20	4.97%
8	Number of installations projected for FY-21	409017
9	Number of installations projected for FY-22	429555

**LT-4(a) IP Sets up to and inclusive of 10 HP :**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	601939
2	Number of installations in FY-15	559899
3	Increase in number of installations	45049
4	Increase in growth as per CAGR FY-15 to FY-20	9.74%
5	Number of installations in FY-17	663011
6	Increase in number of installations	294827
7	Increase in growth as per CAGR FY-17 to FY-20	13.05%
8	Number of installations projected for FY-21	985125
9	Number of installations projected for FY-22	1012412



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**Note:** As per CAGR for FY-15 to FY-20, the growth rate is 9.74%, which is very huge compared to previous years. 27287 number of installations are added from 1st April 2019 to 31st March 2020. Considering, approximately, the same number of installations that may be serviced for FY-21 and FY-22, projection is made for FY-21 and FY-22.

The Hon'ble KERC has approved total No of installations of 805775 & 842151 under LT-4(a) for FY-21 & FY-22 respectively, vide Tariff Order Dtd 30.05.2019. The projections made by HESCOM is more than the Approved by KERC, HESCOM due to regularisation of unauthorised IP sets and desires to retain the No. of installations as projected by HESCOM in view of enumeration of IP Sets and on-going works under NJY, creating infrastructure to Un authorised IP Sets.

**LT-4(b) IP Sets - Above 10 HP:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	849
2	Number of installations in FY-15	813
3	Increase in number of installations FY-15 to FY-20	36
4	Increase in growth as per CAGR FY-15 to FY-20	0.87%
5	Number of installations in FY-17	1276
6	Increase in number of installations FY-17 to FY-20	(-) 427
7	Increase in growth as per CAGR FY-17 to FY-20	(-)12.70%
8	Number of installations projected for FY-21	856
9	Number of installations projected for FY-22	864

Note : As the growth rate is negative as per CAGR FY-17 to FY-20, growth rate as per CAGR FY-15 to FY-20, is considered for projection.

**LT-4(c) IP Sets - Pvt Horticultural. Nurseries, Coffee, Tea & Rubber plantations**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	432
2	Number of installations in FY-15	232
3	Increase in number of installations FY-15 to FY-20	200
4	Increase in growth as per CAGR FY-15 to FY-20	13.24%
5	Number of installations in FY-17	327
6	Increase in number of installations FY-17 to FY-20	105
7	Increase in growth as per CAGR FY-17 to FY-20	9.73%
8	Number of installations projected for FY-21	474
9	Number of installations projected for FY-22	520

**LT-5 LT Industries**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	120661
2	Number of installations in FY-15	96255
3	Increase in number of installations FY-15 to FY-20	24406
4	Increase in growth as per CAGR FY-15 to FY-20	4.62%
5	Number of installations in FY-17	107801
6	Increase in number of installations FY-17 to FY-20	12860
7	Increase in growth as per CAGR FY-17 to FY-20	3.83%
8	Number of installations projected for FY-21	125280
9	Number of installations projected for FY-22	130076

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**LT-6 (a) Water Supply:**

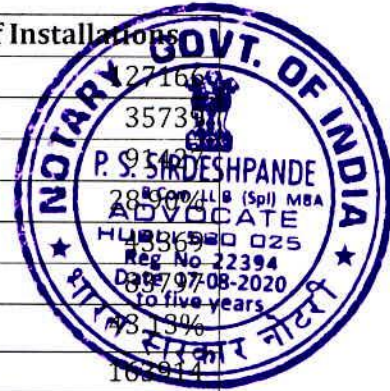
Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	49941
2	Number of installations in FY-15	31354
3	Increase in number of installations FY-15 to FY-20	18587
4	Increase in growth as per CAGR FY-15 to FY-20	9.76%
5	Number of installations in FY-17	38229
6	Increase in number of installations FY-17 to FY-20	11712
7	Increase in growth as per CAGR FY-17 to FY-20	9.32%
8	Number of installations projected for FY-21	54594
9	Number of installations projected for FY-22	59681

**LT-6 (b) Public Lighting:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	24952
2	Number of installations in FY-15	19665
3	Increase in number of installations FY-15 to FY-20	5287
4	Increase in growth as per CAGR FY-15 to FY-20	4.88%
5	Number of installations in FY-17	21545
6	Increase in number of installations FY-17 to FY-20	3407
7	Increase in growth as per CAGR FY-17 to FY-20	5.02%
8	Number of installations projected for FY-21	26169
9	Number of installations projected for FY-22	27445

**LT-7 Temporary Supply & Permanent supply to Advertising Hoardings:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	27166
2	Number of installations in FY-15	35739
3	Increase in number of installations FY-15 to FY-20	8573
4	Increase in growth as per CAGR FY-15 to FY-20	23.97%
5	Number of installations in FY-17	43650
6	Increase in number of installations FY-17 to FY-20	13816
7	Increase in growth as per CAGR FY-17 to FY-20	31.43%
8	Number of installations projected for FY-21	16881
9	Number of installations projected for FY-22	211282



**HT-1 Water Supply, Sewerage Installations:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	384
2	Number of installations in FY-15	224
3	Increase in number of installations FY-15 to FY-20	160
4	Increase in growth as per CAGR FY-15 to FY-20	11.38%
5	Number of installations in FY-17	275
6	Increase in number of installations FY-17 to FY-20	109
7	Increase in growth as per CAGR FY-17 to FY-20	11.77%
8	Number of installations projected for FY-21	428
9	Number of installations projected for FY-22	476

Executive Engineer (EI)

RA Section

**HT-2 (a) Industrial:**

SI No.	Particulars	No. of Installations
1	Number of installations in FY-20	1902
2	Number of installations in FY-15	1187
3	Increase in number of installations FY-15 to FY-20	715
4	Increase in growth as per CAGR FY-15 to FY-20	9.89%
5	Number of installations in FY-17	1421
6	Increase in number of installations FY-17 to FY-20	481
7	Increase in growth as per CAGR FY-17 to FY-20	10.21%
8	Number of installations projected for FY-21	2090
9	Number of installations projected for FY-22	2297

**HT-2 (b) Commercial:**

SI No.	Particulars	No. of Installations
1	Number of installations in FY-20	675
2	Number of installations in FY-15	464
3	Increase in number of installations FY-15 to FY-20	211
4	Increase in growth as per CAGR FY-15 to FY-20	7.78%
5	Number of installations in FY-17	514
6	Increase in number of installations FY-17 to FY-20	161
7	Increase in growth as per CAGR FY-17 to FY-20	9.51%
8	Number of installations projected for FY-21	728
9	Number of installations projected for FY-22	784

**HT-2 (c) Hospitals and Educational Institutions:**

SI No.	Particulars	No. of Installations
1	Number of installations in FY-20	355
2	Number of installations in FY-15	213
3	Increase in number of installations FY-15 to FY-20	142
4	Increase in growth as per CAGR FY-15 to FY-20	10.76%
5	Number of installations in FY-17	273
6	Increase in number of installations FY-17 to FY-20	82
7	Increase in growth as per CAGR FY-17 to FY-20	9.15%
8	Number of installations projected for FY-21	387
9	Number of installations projected for FY-22	422

**HT-3 Lift Irrigation Schemes under Govt. Departments/Govt. owned Corporations/ Pvt. Societies:**

SI No.	Particulars	No. of Installations
1	Number of installations in FY-20	309
2	Number of installations in FY-15	188
3	Increase in number of installations FY-15 to FY-20	121
4	Increase in growth as per CAGR FY-15 to FY-20	10.45%
5	Number of installations in FY-17	226
6	Increase in number of installations FY-17 to FY-20	83
7	Increase in growth as per CAGR FY-17 to FY-20	10.99%
8	Number of installations projected for FY-21	341
9	Number of installations projected for FY-22	377

**HT-4 Resident. Apartments/Colonies:**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	32
2	Number of installations in FY-15	33
3	Increase in number of installations FY-15 to FY-20	(-)1
4	Increase in growth as per CAGR FY-15 to FY-20	(-)0.61%
5	Number of installations in FY-17	30
6	Increase in number of installations FY-17 to FY-20	2
7	Increase in growth as per CAGR FY-17 to FY-20	2.17%
8	Number of installations projected for FY-21	33
9	Number of installations projected for FY-22	33

Note : As the growth rate is negative as per CAGR FY-15 to FY-20, growth rate as per CAGR FY-17 to FY-20, is considered for projection.

**HT- 5 Temporary Supply (above 67 HP):**

Sl No.	Particulars	No. of Installations
1	Number of installations in FY-20	65
2	Number of installations in FY-15	47
3	Increase in number of installations FY-15 to FY-20	18
4	Increase in growth as per CAGR FY-15 to FY-20	6.70%
5	Number of installations in FY-17	52
6	Increase in number of installations FY-17 to FY-20	13
7	Increase in growth as per CAGR FY-17 to FY-20	7.72%
8	Number of installations projected for FY-21	69
9	Number of installations projected for FY-22	74

  
Executive Engineer (EI)  
RA Section  
Corporate Office, Hescom  
Navanagar, Hubballi - 580 025



**Details of growth of Installations as per CAGR for the period FY 15-FY 20**

Tariff	FY-15	FY-20	Yn= FY-20	Yi=FY-15	n=6	CAGR	FY-21	FY-22
			$1/(n-1)$	$Y_n/Y_i$	$Y_n/Y_i^{1/(n-1)}$	$[(Y_n/Y_i^{1/(n-1)})-1]*100$		
LT1 - 18/40 units	618729	715523	0.20	1.156	1.029	2.95	715523	715523
LT1 above 18/40 units	142905	44160	0.20	0.309	0.791	-20.93	44160	44160
<b>BJ KJ</b>	<b>761634</b>	<b>759683</b>					<b>759683</b>	<b>759683</b>
LT-2a	2231746	2847702	0.20	1.276	1.050	5.00	2989954	3139312
LT-2(b)	5199	7133	0.20	1.372	1.065	6.53	7599	8095
LT-3	303117	389641	0.20	1.285	1.052	5.15	409709	430811
LT-4(a)	601939	957838	0.20	1.591	1.097	9.74	1051090	1153421
LT - 4b	813	849	0.20	1.044	1.009	0.87	856	864
LT- 4c	232	432	0.20	1.862	1.132	13.24	489	554
LT-5	96255	120661	0.20	1.254	1.046	4.62	126240	132076
LT-6(a)	31354	49941	0.20	1.593	1.098	9.76	54814	60162
LT-6(b)	19665	24952	0.20	1.269	1.049	4.88	26169	27445
LT-7	35739	127166	0.20	3.558	1.289	28.90	163914	211282
<b>LT Total</b>	<b>4087693</b>	<b>5285998</b>	0.20	1.293	1.053	5.28	<b>5590517</b>	<b>5923705</b>
HT-1	224	384	0.20	1.714	1.114	11.38	428	476
HT-2(a)	1187	1902	0.20	1.602	1.099	9.89	2090	2297
HT - 2(b)	464	675	0.20	1.455	1.078	7.78	728	784
HT-2 (C)	213	355	0.20	1.667	1.108	10.76	393	435
HT - 3	188	309	0.20	1.644	1.104	10.45	341	377
HT-4	33	32	0.20	0.970	0.994	-0.61	32	32
HT-5	47	65	0.20	1.383	1.067	6.70	69	74
<b>HT</b>	<b>2356</b>	<b>3722</b>	0.20	1.580	1.096	9.58	<b>4081</b>	<b>4475</b>
<b>LT+HT</b>	<b>4090049</b>	<b>5289720</b>	0.20	1.293	1.053	5.28	<b>5594598</b>	<b>5928180</b>

  
**Executive Engineer (E)**  
 RA Section  
 Corporate Office, Hubballi  
 Navanagar, Hubballi - 580 005





**Details of growth of Installations as per CAGR for the period FY 17-FY 20**

Tariff	FY-17	FY-20	Yn= FY-20	Yi= FY-17	n=4	CAGR	FY-21	FY-22
			$1/(n-1)$	$Y_n/Y_i$	$Y_n/Y_i^{1/(n-1)}$	$[(Y_n/Y_i^{1/(n-1)})-1]*100$		
LT1 - 18/40 units	622737	715523	0.33	1.149	1.047	4.74	715523	715523
LT1 above 18/40 units	140645	44160	0.33	0.314	0.680	-32.03	44160	44160
<b>BJ KJ</b>	<b>763382</b>	<b>759683</b>					<b>759683</b>	<b>759683</b>
LT-2a	2426291	2847702	0.33	1.174	1.055	5.48	3003851	3168563
LT-2(b)	6209	7133	0.33	1.149	1.047	4.73	7471	7824
LT-3	336850	389641	0.33	1.157	1.050	4.97	409016	429355
LT-4(a)	663011	957838	0.33	1.445	1.130	13.05	1082802	1224070
LT - 4b	1276	849	0.33	0.665	0.873	-12.70	741	647
LT- 4c	327	432	0.33	1.321	1.097	9.73	474	520
LT-5	107801	120661	0.33	1.119	1.038	3.83	125280	130076
LT-6(a)	38229	49941	0.33	1.306	1.093	9.32	54594	59681
LT-6(b)	21545	24952	0.33	1.158	1.050	5.02	26203	27518
LT-7	43369	127166	0.33	2.932	1.431	43.13	182013	260515
<b>LT Total</b>	<b>4408290</b>	<b>5285998</b>	<b>0.33</b>	<b>1.199</b>	<b>1.062</b>	<b>6.24</b>	<b>5652129</b>	<b>6068451</b>
HT-1	275	384	0.33	1.396	1.118	11.77	429	480
HT-2(a)	1421	1902	0.33	1.338	1.102	10.21	2096	2310
HT - 2(b)	514	675	0.33	1.313	1.095	9.51	739	809
HT-2 (C)	273	355	0.33	1.300	1.091	9.15	387	422
HT - 3	226	309	0.33	1.367	1.110	10.99	343	381
HT-4	30	32	0.33	1.067	1.022	2.17	33	33
HT-5	52	65	0.33	1.250	1.077	7.72	70	75
<b>HT</b>	<b>2791</b>	<b>3722</b>	<b>0.33</b>	<b>1.334</b>	<b>1.101</b>	<b>10.07</b>	<b>4098</b>	<b>4511</b>
<b>LT+HT</b>	<b>4418081</b>	<b>5289720</b>	<b>0.33</b>	<b>1.199</b>	<b>1.062</b>	<b>6.24</b>	<b>5656226</b>	<b>6072961</b>

  
**Executive Engineer (EI)**  
 RA Section  
 Corporate Office, Hesco  
 Navanagar, Hubballi - 580 025



**Details of Mid-Year Installations for FY-22 is as noted below :**

Tariff	FY-20	FY-21	FY-22 Projected
LT1 - 18 units	718179	715523	715523
LT1 above 18 units	42349	44160	44160
<b>Total BJ KJ</b>	<b>760528</b>	<b>759683</b>	<b>759683</b>
LT-2a (i)	1339564	1396555	1466318
LT-2a (ii)	1405690	1522273	1598315
LT-2(b)(i)	4841	4754	4979
LT-2(b)(ii)	2440	2548	2668
LT-3(i)	265847	276310	290050
LT-3(ii)	115646	123018	129136
LT-4(a)	959041	971482	998769
LT - 4b	846	853	860
LT- 4c(i)	325	341	374
LT- 4c(ii)	97	112	123
LT-5	121069	122970	127678
LT-6	48318	52268	57137
LT-6	24417	25561	26807
LT-7	95648	145540	187598
<b>LT Total</b>	<b>5144317</b>	<b>5404268</b>	<b>5650495</b>
HT-1	387	406	452
HT-2(a)	1851	1996	2193
HT - 2(b)	654	701	756
HT-2 (C)(i)	218	232	253
HT-2 (C) (ii)	125	139	152
HT - 3 (a)(i)	146	166	184
HT - 3 (a)(ii)	133	144	159
HT - 3 (a)(iii)	12	13	14
HT-3(b)	2	2	2
HT-4	30	32	33
HT-5	61	67	72
<b>HT</b>	<b>3619</b>	<b>3899</b>	<b>4270</b>
<b>LT+HT</b>	<b>5147936</b>	<b>5408167</b>	<b>5654766</b>



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**RA Section**  
**Corporate Office, Hrcsom**  
**Navanagar, Hubballi - 580 025**

The power supply during FY 20 & FY-21-22 is generally arranged as noted below.

Feeder Category	Urban	NJY	EIP		Industrial/HT/EHT/Water Supply
			3ph	open delta	
FY-20	24	24	07	04	24
Hours of power supply assumed to be arranged in hrs					
FY-21	24	24	07	04	24
FY-22	24	24	07	04	24

**Sales from FY-15 to FY-20 :**

Tariff	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
LT1 - 18 / 40 units	91.92	090.41	87.01	201.2	199.94	194.55
LT1 above 18 / 40 units	72.12	86.7	85.12	44.28	43.91	50.23
<b>Total B  K </b>	<b>164.04</b>	<b>177.11</b>	<b>172.13</b>	<b>245.48</b>	<b>243.85</b>	<b>244.78</b>
LT-2a (i)	852.71	914.05	938.45	966.06	976.86	1,011.22
LT-2a (ii)	390.53	431.32	446.11	446.27	467.03	501.02
LT-2(b)(i)	10.66	11.22	13.23	14.61	14.99	16.56
LT-2(b)(ii)	3.02	3.38	3.58	3.88	4.34	4.90
LT-3(i)	265.74	291.41	303.3	318.33	322.27	340.33
LT-3(ii)	105.37	122.27	122.41	129.4	142.60	152.56
LT-4(a)	5,289.92	5,927.78	5,981.13	6,054.12	6729.14	5,985.90
LT- 4(b)	17.02	16.47	16.01	17.43	16.27	15.62
LT- 4c(i)	0.88	0.65	0.6	0.69	0.54	0.58
LT- 4c(ii)	0.19	0.12	0.18	0.15	0.18	0.24
LT-5	315.81	313.34	316.34	320.43	328.55	324.29
LT-6 Ws	203.28	216.19	271.86	277.19	311.69	328.33
LT-6 St	133.13	128.84	146.73	149.38	149.79	148.53
LT-7	22.61	24.28	26.03	28.25	32.74	33.08
<b>LT Total</b>	<b>7,774.90</b>	<b>8,578.45</b>	<b>8,758.09</b>	<b>8,971.68</b>	<b>9,740.81</b>	<b>9,107.94</b>
2 HT-1	195.96	210.62	215.44	234.01	270.96	280.39
HT-2(a)	926.07	930.32	843.88	1,005.39	1160.05	1,102.46
HT - 2(b)	114.55	119.56	120.62	121.8	129.88	130.12
HT-2 (C)(i)	23.13	28.39	47.51	53.45	56.27	64.93
HT-2 (C) (ii)	24.18	29.58	18.81	20.69	27.87	28.25
HT - 3 (a)(i)	120.65	107.52	141.15	171.09	209.40	187.85
HT - 3 (a)(ii)	11.44	52.46	71.09	81.65	123.68	123.68
HT - 3 (a)(iii)	5.15	3.69	2.7	3.09	3.75	3.75
HT-3(b)	0.14	0.23	0.09	0.05	0.07	0.07
HT-4	15.7	14.63	14.5	14.59	14.59	14.59
HT-5	19.67	16.58	31.67	21.81	29.07	26.80
<b>HT</b>	<b>1,456.65</b>	<b>1,513.58</b>	<b>1,507.46</b>	<b>1,727.60</b>	<b>2,019.18</b>	<b>1,915.40</b>
<b>LT+HT</b>	<b>9,231.54</b>	<b>10,092.02</b>	<b>10,265.54</b>	<b>10,699.28</b>	<b>11,759.99</b>	<b>11,023.34</b>



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**Energy sales :**

**Energy sales to BJ KJ -LT-1 (Up to 40 Units):**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	91.92
2	Energy sold in FY-20	194.55
3	Increase in the Sales FY-15 to FY-20	102.63
4	Energy sold in FY-17	87.01
5	Increase in the Sales FY-17 to FY-20	107.54
6	Energy projected for FY-21	194.55
7	Energy projected for FY-22	194.55

**Energy sales to BJ KJ -LT-1 (Above 40 Units):**

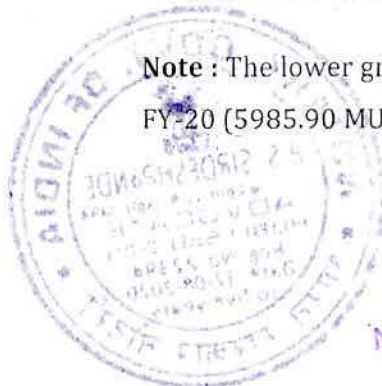
Sl No.	Particulars	In MU
1	Energy sold in FY-15	72.12
2	Energy sold in FY-20	50.23
3	Increase in the Sales FY-15 to FY-20	(-)21.89
4	Energy sold in FY-17	85.12
5	Increase in the Sales FY-17 to FY-20	(-)34.89
6	Energy projected for FY-21	50.23
7	Energy projected for FY-22	50.23

Note: As there is no new scheme for BJ/KJ proposed by GOK, the growth is not projected.

**Energy sales to IP Sets 10 HP & below -LT-4(a) :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	5266.70
2	Energy sold in FY-20	5985.90
3	Increase in the Sales FY-15 to FY-20	719.20
4	Increase in growth as per CAGR FY-15 to FY-20	2.59%
5	Energy sold in FY-17	5981.13
6	Increase in the Sales FY-17 to FY-20	4.77
7	Increase in growth as per CAGR FY-17 to FY-20	0.03%
8	Energy projected for FY-21	6156.43
9	Energy projected for FY-22	6326.96

Note : The lower growth rate is only 0.03% (CAGR for FY 17 to FY 20), hence the specific consumption of FY-20 (5985.90 MU/957838 installations =6249 b/installation) is considered for projection.



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**Actual Consumption for previous 5 years and projection for FY-21 and FY-22:**

Tariff	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
LT-4(a)	5,927.78	5,981.13	6,054.12	6729.14	5985.90	6156.43	6326.96

**Other than BJ KJ & IP Sets (10 HP & Below.)**

**LT-2a Domestic installations :**

SI No.	Particulars	In MU
1	Energy sold in FY-15	1243.24
2	Energy sold in FY-20	1512.23
3	Increase in the Sales FY-15 to FY-20	268.99
4	Increase in growth as per CAGR FY-15 to FY-20	4.00%
5	Energy sold in FY-17	1384.56
6	Increase in the Sales FY-17 to FY-20	127.67
7	Increase in growth as per CAGR FY-17 to FY-20	2.98%
8	Energy projected for FY-21	1557.35
9	Energy projected for FY-22	1603.82

**LT-2(b) Private & Professional Educational Institutions, Private Hospitals and Nursing Homes:**

SI No.	Particulars	In MU
1	Energy sold in FY-15	13.68
2	Energy sold in FY-20	21.47
3	Increase in the Sales FY-15 to FY-20	7.79
4	Increase in growth as per CAGR FY-15 to FY-20	9.43%
5	Energy sold in FY-17	16.81
6	Increase in the Sales FY-17 to FY-20	4.66
7	Increase in growth as per CAGR FY-17 to FY-20	8.50%
8	Energy projected for FY-21	23.29
9	Energy projected for FY-22	25.27

**LT-3 Commercial Installations :**

SI No.	Particulars	In MU
1	Energy sold in FY-15	492.90
2	Energy sold in FY-20	492.90
3	Increase in the Sales FY-15 to FY-20	0.00%
4	Increase in growth as per CAGR FY-15 to FY-20	0.00%
5	Energy sold in FY-17	425.71
6	Increase in the Sales FY-17 to FY-20	67.19
7	Increase in growth as per CAGR FY-17 to FY-20	5.01%
8	Energy projected for FY-21	517.57
9	Energy projected for FY-22	543.48



  
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**LT-4(b) IP Sets - Above 10 HP:**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	17.02
2	Energy sold in FY-20	15.62
3	Increase in the Sales FY-15 to FY-20	(-)1.40
4	Increase in growth as per CAGR FY-15 to FY-20	(-)1.70%
5	Energy sold in FY-17	16.01
6	Increase in the Sales FY-17 to FY-20	(-)0.39
7	Increase in growth as per CAGR FY-17 to FY-20	(-)0.82%
8	Energy projected for FY-21	15.76
9	Energy projected for FY-22	15.89

Note : As the growth rate is negative as per CAGR FY-17 to FY-20 and also as per CAGR FY-15 to FY-20 specific consumption is considered for projection.

**LT-4(c) IP Sets - Pvt Horticultural, Nurseries, Coffee, Tea & Rubber plantations**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	1.07
2	Energy sold in FY-20	0.82
3	Increase in the Sales FY-15 to FY-20	(-)0.25
4	Increase in growth as per CAGR FY-15 to FY-20	(-)5.20%
5	Energy sold in FY-17	0.78
6	Increase in the Sales FY-17 to FY-20	0.04
7	Increase in growth as per CAGR FY-17 to FY-20	1.65%
8	Energy projected for FY-21	0.83
9	Energy projected for FY-22	0.85

Note : As the growth rate is negative as per CAGR FY-15 to FY-20, growth rate as per CAGR FY-17 to FY-20 is considered for projection.

**LT-5 LT Industries :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	315.81
2	Energy sold in FY-20	324.29
3	Increase in the Sales FY-15 to FY-20	8.48
4	Increase in growth as per CAGR FY-15 to FY-20	0.53%
5	Energy sold in FY-17	316.34
6	Increase in the Sales FY-17 to FY-20	7.95
7	Increase in growth as per CAGR FY-17 to FY-20	0.83%
8	Energy projected for FY-21	326.01
9	Energy projected for FY-22	327.75

  
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**LT-6 (a) Water Supply :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	203.28
2	Energy sold in FY-20	328.33
3	Increase in the Sales FY-15 to FY-20	125.05
4	Increase in growth as per CAGR FY-15 to FY-20	10.06%
5	Energy sold in FY-17	271.86
6	Increase in the Sales FY-17 to FY-20	56.47
7	Increase in growth as per CAGR FY-17 to FY-20	6.49%
8	Energy projected for FY-21	349.64
9	Energy projected for FY-22	372.34

**LT-6 (b) Public Lighting :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	133.13
2	Energy sold in FY-20	148.53
3	Increase in the Sales FY-15 to FY-20	15.40
4	Increase in growth as per CAGR FY-15 to FY-20	2.21%
5	Energy sold in FY-17	146.73
6	Increase in the Sales FY-17 to FY-20	1.80
7	Increase in growth as per CAGR FY-17 to FY-20	0.41%
8	Energy projected for FY-21	149.14
9	Energy projected for FY-22	149.74

**LT-7 Temporary Supply & Permanent supply to Advertising Hoardings:**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	22.61
2	Energy sold in FY-20	33.08
3	Increase in the Sales FY-15 to FY-20	10.47
4	Increase in growth as per CAGR FY-15 to FY-20	7.91%
5	Energy sold in FY-17	26.03
6	Increase in the Sales FY-17 to FY-20	7.05
7	Increase in growth as per CAGR FY-17 to FY-20	8.31%
8	Energy projected for FY-21	35.69
9	Energy projected for FY-22	38.51

  
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**HT-1 Water Supply, Sewerage Installations:**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	195.96
2	Energy sold in FY-20	280.39
3	Increase in the Sales FY-15 to FY-20	84.43
4	Increase in growth as per CAGR FY-15 to FY-20	7.43%
5	Energy sold in FY-17	215.44
6	Increase in the Sales FY-17 to FY-20	64.95
7	Increase in growth as per CAGR FY-17 to FY-20	9.18%
8	Energy projected for FY-21	301.22
9	Energy projected for FY-22	323.60

**HT-2 (a) Industrial:**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	926.07
2	Energy sold in FY-20	1102.46
3	Increase in the Sales FY-15 to FY-20	176.39
4	Increase in growth as per CAGR FY-15 to FY-20	3.55%
5	Energy sold in FY-17	843.88
6	Increase in the Sales FY-17 to FY-20	258.58
7	Increase in growth as per CAGR FY-17 to FY-20	9.32%
8	Energy projected for FY-21	1141.58
9	Energy projected for FY-22	1182.09

**HT-2 (b) Commercial :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	114.55
2	Energy sold in FY-20	130.12
3	Increase in the Sales FY-15 to FY-20	15.57
4	Increase in growth as per CAGR FY-15 to FY-20	2.58%
5	Energy sold in FY-17	120.62
6	Increase in the Sales FY-17 to FY-20	9.50
7	Increase in growth as per CAGR FY-17 to FY-20	2.56%
8	Energy projected for FY-21	133.45
9	Energy projected for FY-22	136.87

**HT-2 (c) Hospitals and Educational Institutions.**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	47.37
2	Energy sold in FY-20	77.19
3	Increase in the Sales FY-15 to FY-20	29.82
4	Increase in growth as per CAGR FY-15 to FY-20	10.26%
5	Energy sold in FY-17	66.32
6	Increase in the Sales FY-17 to FY-20	10.87
7	Increase in growth as per CAGR FY-17 to FY-20	5.19%
8	Energy projected for FY-21	81.20
9	Energy projected for FY-22	85.41

Executive Engineer (E)



**HT-3 Lift Irrigation Schemes under Govt. Departments/Govt. owned Corporations/ Pvt. Societies:**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	137.38
2	Energy sold in FY-20	282.51
3	Increase in the Sales FY-15 to FY-20	145.13
4	Increase in growth as per CAGR FY-15 to FY-20	15.51%
5	Energy sold in FY-17	215.03
6	Increase in the Sales FY-17 to FY-20	67.48
7	Increase in growth as per CAGR FY-17 to FY-20	9.52%
8	Energy projected for FY-21	309.41
9	Energy projected for FY-22	338.88


**HT-4 Resident. Apartments/Colonies :**

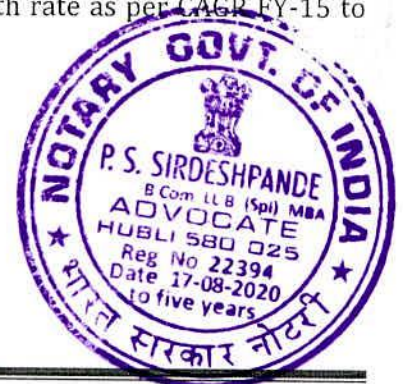
Sl No.	Particulars	In MU
1	Energy sold in FY-15	15.70
2	Energy sold in FY-20	15.93
3	Increase in the Sales FY-15 to FY-20	0.23
4	Increase in growth as per CAGR FY-15 to FY-20	0.29%
5	Energy sold in FY-17	14.50
6	Increase in the Sales FY-17 to FY-20	1.43
7	Increase in growth as per CAGR FY-17 to FY-20	3.17%
8	Energy projected for FY-21	15.97
9	Energy projected for FY-22	16.02

**HT- 5 Temporary Supply (above 67 HP) :**

Sl No.	Particulars	In MU
1	Energy sold in FY-15	19.67
2	Energy sold in FY-20	26.80
3	Increase in the Sales FY-15 to FY-20	7.13
4	Increase in growth as per CAGR FY-15 to FY-20	6.38%
5	Energy sold in FY-17	31.67
6	Increase in the Sales FY-17 to FY-20	(-)4.87
7	Increase in growth as per CAGR FY-17 to FY-20	(-)5.41%
8	Energy projected for FY-21	28.51
9	Energy projected for FY-22	30.33

Note : As the growth rate is negative as per CAGR FY-17 to FY-20, growth rate as per CAGR FY-15 to FY-20 is considered for projection.

  
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RA Section  
Corporate Office, Hescam  
Navanagar, Hubballi - 580 025



**Details of growth of Sales as per CAGR for the period FY 15-FY 20**

Tariff	FY-15	FY-20	Yn= FY-20	Yi=FY- 15	n=6	CAGR	FY-21	FY-22
			$1/(n-1)$	$Yn/Yi$	$Yn/Yi^{1/(n-1)}$	$[(Yn/Yi)^{1/(n-1)}-1]*100$		
LT1 - 18/40 units	91.92	194.55	0.20	2.12	1.16	16.18	194.55	194.55
LT1 above 18/40 units	72.12	50.23	0.20	0.70	0.93	-6.98	50.23	50.23
<b>BJ KJ</b>	<b>164.04</b>	<b>244.78</b>					<b>244.78</b>	<b>244.78</b>
LT-2 (a)	1243.24	1512.23	0.20	1.22	1.04	4.00	1572.65	1635.48
LT-2(b)	13.68	21.47	0.20	1.57	1.09	9.43	23.49	25.70
LT-3	371.11	492.90	0.20	1.33	1.06	5.84	521.68	552.14
LT-4(a)	5266.70	5985.90	0.20	1.14	1.03	2.59	6141.12	6300.37
LT - 4b	17.02	15.62	0.20	0.92	0.98	-1.70	15.36	15.10
LT- 4c	1.07	0.82	0.20	0.77	0.95	-5.20	0.78	0.74
LT-5	315.81	324.29	0.20	1.03	1.01	0.53	326.01	327.75
LT-6a	203.28	328.33	0.20	1.62	1.10	10.06	361.36	397.73
LT-6b	133.13	148.53	0.20	1.12	1.02	2.21	151.82	155.18
LT-7	22.61	33.08	0.20	1.46	1.08	7.91	35.69	38.51
<b>LT Total</b>	<b>7751.68</b>	<b>9107.94</b>	<b>0.20</b>	<b>1.17</b>	<b>1.03</b>	<b>3.28</b>	<b>9394.74</b>	<b>9693.47</b>
HT-1	195.96	280.39	0.20	1.43	1.07	7.43	301.22	323.60
HT-2(a)	926.07	1102.46	0.20	1.19	1.04	3.55	1141.58	1182.09
HT - 2(b)	114.55	130.12	0.20	1.14	1.03	2.58	133.48	136.93
HT-2 (C)	47.37	77.19	0.20	1.63	1.10	10.26	85.11	93.84
HT - 3	137.38	282.51	0.20	2.06	1.16	15.51	326.32	376.93
HT-4	15.70	15.93	0.20	1.01	1.00	0.29	15.97	16.02
HT-5	19.67	26.80	0.20	1.36	1.06	6.38	28.51	30.33
<b>HT</b>	<b>1456.71</b>	<b>1915.40</b>	<b>0.20</b>	<b>1.31</b>	<b>1.06</b>	<b>5.63</b>	<b>2032.19</b>	<b>2159.73</b>
<b>LT+HT</b>	<b>9208.39</b>	<b>11023.34</b>	<b>0.20</b>	<b>1.20</b>	<b>1.04</b>	<b>3.66</b>	<b>11426.93</b>	<b>11853.21</b>

**Details of growth of Sales as per CAGR for the period FY 17-FY 20**

Tariff	FY-17	FY-20	Yn= FY-20	Yi=FY- 17	n=4	CAGR	FY-21	FY-22
			$1/(n-1)$	$Yn/Yi$	$Yn/Yi^{1/(n-1)}$	$[(Yn/Yi)^{1/(n-1)}-1]*100$		
LT1 - 18/40 units	87.01	194.55	0.33	2.24	1.31	30.76	194.55	194.55
LT1 above 18/40 units	85.12	50.23	0.33	0.59	0.84	-16.12	50.23	50.23
<b>BJ KJ</b>	<b>172.13</b>	<b>244.78</b>					<b>244.78</b>	<b>244.78</b>
LT-2 (a)	1384.56	1512.23	0.33	1.09	1.03	2.98	1557.35	1603.82
LT-2(b)	16.81	21.47	0.33	1.28	1.08	8.50	23.29	25.27
LT-3	425.71	492.90	0.33	1.16	1.05	5.01	517.57	543.48
LT-4(a)	5987.13	5985.90	0.33	1.00	1.00	0.03	5987.49	5989.08
LT-4b	16.01	15.62	0.33	0.98	0.99	-0.82	15.75	15.88
LT-4c	0.78	0.82	0.33	1.05	1.02	1.65	0.83	0.85
LT-5	316.34	324.29	0.33	1.03	1.01	0.83	326.98	329.70
LT-6a	271.86	328.33	0.33	1.21	1.06	6.49	349.64	372.34
LT-6b	146.73	148.53	0.33	1.01	1.00	0.41	149.14	149.74
LT-7	26.03	33.08	0.33	1.27	1.08	8.31	35.83	38.80
<b>LT Total</b>	<b>8758.09</b>	<b>9107.94</b>	<b>0.33</b>	<b>1.04</b>	<b>1.01</b>	<b>1.31</b>	<b>9200.56</b>	<b>9305.65</b>
HT-1	215.44	280.39	0.33	1.30	1.09	9.18	306.14	334.24
HT-2(a)	843.88	1102.46	0.33	1.31	1.09	9.32	1205.19	1317.50

Application for Approval of Annual Performance Review for FY-20 and Approval for ARR & ERC FY-22 and Tariff Filing for FY-22.

HT - 2(b)	120.62	130.12	0.33	1.08	1.03	2.56	133.45	136.87
HT-2 (C)	66.32	77.19	0.33	1.16	1.05	5.19	81.20	85.41
HT - 3	215.03	282.51	0.33	1.31	1.10	9.52	309.41	338.88
HT-4	14.50	15.93	0.33	1.10	1.03	3.17	16.43	16.95
HT-5	31.67	26.80	0.33	0.85	0.95	-5.41	25.35	23.98
<b>HT</b>	<b>1507.46</b>	<b>1915.40</b>	0.33	1.27	1.08	8.31	<b>2077.17</b>	<b>2253.84</b>
<b>LT+HT</b>	<b>10265.55</b>	<b>11023.34</b>	0.33	1.07	1.02	2.40	<b>11277.73</b>	<b>11599.49</b>

**Distribution Loss :**

HESCOM proposes the Distribution Loss for FY21 and FY 22 as noted below.

Particulars	FY-21 (Revised)	FY-22
Energy Sales (Mus)	11387.84	11762.58
Distribution Loss (%)	14.00	14.00
Energy at interface point (Mus)	13241.67	13677.42
Transmission Loss (%)	3.039	3.102
Energy Required to meet the sales of HESCOM	13656.70	14115.28
HRECS Hukkeri (Including Transmission loss) in MUs)	325.31	344.21
AEQUS (Including Transmission loss) in MUs)	29.80	32.18
<b>Total</b>	<b>14011.81</b>	<b>14491.67</b>

The Hon'ble KERC has approved distribution loss of 14.00% for FY-21 and 14.00% for FY-22 vide Tariff Order Dtd: 30.05.2019 and Tariff Order Dtd: 04.11.2020 respectively .

**Revised Capital Budget Proposal for FY 22:**

The Capital Budget approved by the Hon'ble KERC for HESCOM for FY 22 in Tariff Order 2019 is **Rs. 825 crores.**

However the Budget proposed for FY22 was **Rs. 1329.61 crores** due to inculsion of some vital projects that are going to be taken up

The details of Annual Investment Plan is appended below:

- ❖ Annual Investment Plan includes all the planned and Non Plan works
- ❖ Capital budget provision is made for commissioned works, on going works and works that have been proposed to be taken up:
- ❖ Since most of the schemes such as DDUGJY, IPDS, Replacement of OH by UG cable in Hubli & Belagavi city, Saubhagya are on verge of completion , the entire balance Capital Budget has been allotted in FY 22.
- ❖ The work of replacement of OH by UG cable in Dharwad and Vijayapur cities is intended to take up for which Capital Budget is included for FY 22.



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- ❖ As per new circular from GOK vide: No:EN41/VSC/2014/ P1 Dt:14-07-2014 to arrange power supply to the IP Sets and without in differentiation between regularization of the unauthorised and regular registered applications, tender has been initiated for which budgetary provision has been made is made for execution of all works under this scheme. Also provision for IP Sets under Sheegra Samparaka, and IP sets under plan 75:25 ratio is being made.
- ❖ Provision is made for Replacement of old meters by Static meters which in turn yield in reduction in Technical and Commercial losses and also supports in Energy Auditing in more technical way.
- ❖ Appropriate provision is made for Social obligatory works such as Ganga Kalyan works, SDP, TSP, SCSP to meet the objectives of GOK
- ❖ Budget provision for the projects bifurcation of IP Sets from these NJY Feeders are included for FY-22.
- ❖ Capital Budget provision is made for Refurbishing works on HT/LT/DTC and OTM works in O & M Divisions. The objective of this work is to have reliable, quality supply with intention of enabling stable distribution network and accident free network.
- ❖ Investment provision is made on System strengthening works such as Reconductoring, linklines, Preventive Measure works will be taken in order to improve tail end voltage and reduction of losses and prevents Accidents.
- ❖ Investment provision is made on E & I works like additional DTCs, feeder bifurcation, line conversion, shifting of transformer to load centre, enhancement of transformers etc are considered for energy saving and Quality supply and reduction of over load thus improving voltage
- ❖ Investment is made on New Stations/ Agumentation and also replacement works in Stations are to be taken up in order to improve quality power supply and reduce distribution losses and to cater load growth.
- ❖ New Projects under IT have been included and payment unde IPDS IT initiative is included for which huge budgetary provision is being made.

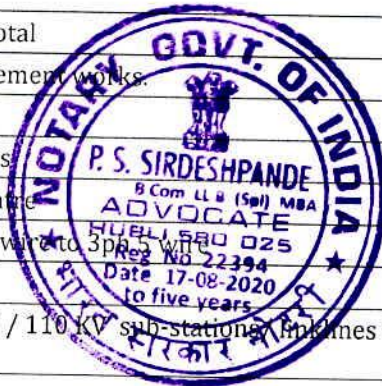
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Considering all the above factors Annual Investment plan for FY-22 is proposed to a tune of **Rs. 1329.50 crores** and prayed before Hon'ble Commission to consider the revised proposal for FY 22 and accord approval.

Workwise details for FY-22 is submitted for kind needful.

Sl. No.	Scheme	Proposed Capital Budget for 21-22 during MYT	Revised Capital Budget for 2022
	Mandatory works, Social obligation and other works		
1	Gangakalyan IP sets: Dr. B. R Ambedkar Development Corporation	75	20
2	Gangakalyan IP sets: Karnataka State Tribal Development Corporation		20
3	Gangakalyan IP sets: D.Devraju urs Backward Class Development Corporation		15
4	Gangakalyan IP sets :Karnataka Minority Development Corporation		10
5	Gangakalyan IP sets :Karnataka Vishwakarma Samudaya Development Corporation		5
6	Gangakalyan IP sets :Bhovi Development Corporation		5
	Gangakalyan total	75	75
	GOK Sponsered Works		
7	Special Development Plan for backward talukas under Nanjundappa scheme(SDP)	16.5	30
8	Rural Electrification under SCSP (Not covered under RGGVY)	5	15
9	Rural Electrification under TSP (Not covered under RGGVY)	3	3
10	Energisation of IP sets under Sheegra Samparka	0	20
11	Creating infrastructre to UAIP Sets (Before and after 2014 GOK circular)	130	250
11.a	Arranging Power Supply on HT basis (75:25)	0	2
12	Nirantar Jyoti Yojana.		5
		0	2
12.a	Bifurcation of NJY Feeders	0	5
	Sub - total	154.5	332
	GOI Sponsered Works		
13	DDUGVY		10
14	R- APDRP.	15	1
14.a	R-APDRP exclusively for Modem and meters	0.9	1.5
15	IPDS		25
16	Soubhagya Yojane	40	5
	Sub - total	55.9	42.5
17	Expansion of network and system improvement works.		
a	Additional DTCs	60.64	50
b	Enhancement of Distribution Transformers	11.03	10
c	Shifting of existing transformer to load centre	5	5
d	LT line conversion of 1Ph 2 wire or 1Ph 3 wire to 3ph 5 wire	7	10
e	Other E & I Works (DP & GOS)	5	5
f	Construction of new 11 KV lines for 33 KV / 110 KV sub-stations, lines for bifurcation of load	66.54	65
g	11 KV Re-conductoring.	40	40
h	LT Re-conductoring.	45	45
i	Providing covered conductor for villages to prevent Theft/ accident and hazardous condition	0	5
j	Rectification of Hazardous locations .	0	25



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	Sub - total	240.21	260
18	Construction of new 33 KV stations	45	40
	Construction of new 33 KV lines.	35	20
19	Augmentation of 33 KV stations.	40	20
20	Replacement of 33 KV lines Rabbit conductor by Coyote conductor.	25	20
21	Replacement of old and failed equipment's and other works of existing 33 KV stations and lines.	15	35
	Sub - total	160	135
	UG Cable		
22	NEF (REC) for replacing 11 KV OH feeders by UG Cables in Hubli and Belgaum cities.	0	20
23	Replacement of OH by UG cable in Dharwad and Vijayapur cities	50	50
24	Commissioning of 3 Ph 4 wire HT Metering Cubicle with meter, CTs, PTs	0	10
25	Refurbishing works on HT/LT/DTC in O & M Divisions	140	35
	HVDS	10	
	Sub-total	200	115
	Reduction of T & D and ATC loss		
26	Providing meters to un-metered IP sets.	5	1
27	Providing meters to un-metered BJ/KJ installations.	2	2
28	Replacement of faulty / MNR energy meters by static meters.	7	10
29	Replacement of electromechanical energy meters by static meters.	25	40
	Fixing boxes to Single Phase Meters	10	
30	DTC's metering ( Other than APDRP)	20	5
	Sub - total	69	58
6	General (In House)		
31	Rural Electrification (General)(Not covered under RGGVY)	4	0
32	Electrification of BPL Households (General) (Not covered under RGGVY)	6	1
33	Water works	30	0
34	Service connections	30	20
35	Improvement Works at 5 Nos of Villages in each MLA Constituency & 5 Nos of Villages in each MP Constituency under MADARI VIDUYAT GRAM .	0	10
36	Providing prepaid meters to temporary installations	0	5
37	Providing numerical relays to provide power supply to farm houses	0	2
38	Providing 16KVA Transformers for A/P/S to farm houses in Chikodi Division	0	5
39	T&P materials.	5	5
	Sub - total	75	48
7	New initiatives works		
40	IT initiatives, automation and call center	3	20
41	Providing solar roof tops to HESCOM and other Government office buildings	5	5
42	IPDS IT initiative Phase II	9	50
43	Establishing ALDC & SCADA.	5	5
44	Special Pilot project for strategic business center at Gadag Division	2	
45	Smart Grid Initiative	15	
46	Smart Metering	100	20
47	DSM Projects	1	1
	Sub - total	140	101
8	Immediate Execution (Planned/Unplanned)		
46	Replacement of failed distribution transformers.	10	10
47	Replacement of Power Transformers.	5	7

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48	Preventive measures to reduce the accidents. (Providing intermediate poles, Restraining of sagging lines, providing guy & struds, providing guarding, DTC earthing )	50	50
49	Replacement of broken poles / Disaster Management Works	15	30
50	Flood Affected Works		25
	Sub - total	80	122
51	Civil Engineering works like Construction of new office buildings/ Sub station civil works, Modernization/Repairs to existing buildings, regular maintenance to immovable properties	30	40
52	Shifting of IP set in NTPC area (B Bagewadi)	0	1
	Others	50	
		80	41
	Total (i+ii+iii+iv+v)	1329.61	1329.5

### Segregation of accounts in to distribution business and retail supply business.

As per Regulation 2.2, the accounts of licensee shall be segregated between Distribution and Retail Supply Business. It is provided in the regulation that till such time there is complete segregation, the ARR of the licensee shall be apportioned between the distribution business and retail supply business by appropriate methodology.

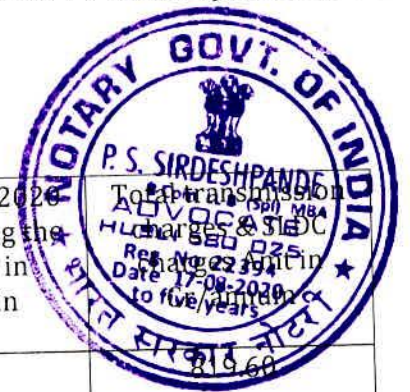
Considering the above, , the expenditure is segregated between DB and RSB as furnished below.

Particulars	Distribution Business	Retail Supply Business
O &M	63%	37%
Depreciation	84%	16%
Interest on Loans	100%	0%
Interest on consumer Deposits	0%	100%
RoE	82%	18%
GFA	84%	16%
Non-Tariff Income	0%	100%

The main business of HESCOM is distribution of power in 7 districts of North Karnataka. As per Regulation, HESCOM has to forecast the annual revenue requirement for FY-22 and furnish in application under MYT Framework. The details of estimation of ARR for FY-22 is explained in the following Paras.

### Transmission Charges payable to KPTCL for FY-22:

Capacity allocation in MW	Approved Transmission Charges Cr per annum	Approved SLDC Charges in Cr	As per KERC Order No. N/33/2020 Dtd. 19.10.2020 (implementing the ATE Order Dtd. 05.10.2020 in Appeal No. 97/2020) Amt in Cr/annum	
4675	750.38	5.62	63.60	819.60



HESCOM is proposing Rs. 819.60 Crs. as KPTCL transmission charges & SLDC charges for FY-22.

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**PROJECTED ENERGY AVAILABILITY & COST FOR FINANCIAL YEAR 2021-22**

1.0 The energy required by ESCOMs of Karnataka for the Financial Year 2021-22 is 67919.26 MUs considering STU loss of 3.10%. The ESCOM wise energy requirement is shown in as **Table-1**.

**Table-1**

ESCOMs	Energy requirement in MUs
BESCOM	29955.95
GESCOM	8911.00
HESCOM including Hukkeri Society & AEQUS	14491.67
MESCOM Including MSEZ	6499.74
CESC, Mysore	8060.89
<b>Total</b>	<b>67919.26</b>

2.0 Energy being purchased by ESCOMs from different sources viz., KPCL Hydel, KPCL Thermal & Gas based power Projects, Central Generating Stations, DVC, Priyadarshini Jurala Hydro Electric scheme, IPPs and Non-Conventional Energy source including solar projects.

**3.0 Hydro and Thermal Stations of KPCL**

The Energy availability of Hydel and Thermal stations of State Owned Power plants are considered as per the details furnished by KPCL in its email dated 18.11.2020 including Yaramarus Thermal Power Project. The energy projected by KPCL in respect of hydro stations is based on average energy generated in last 10 years with a 1% auxiliary consumption as per PPA. Energy availability in respect of Thermal Stations is as per the targeted availability defined in the PPA/Regulations wherever applicable and less by applicable auxiliary consumption of each station. The KPCL has projected the Yelahanka Combined Cycle power projects is available from FY July 2021.

During the year 2021-22, Energy availability from different sources is more than the quantum required by ESCOMs, considering the following factors;

- i) The energy availability from KPCL stations including RPCL and KSPDCL as per the details furnished by Generating Stations.
- ii) Energy availability from CGS stations viz., NTPC, NLC, Nuclear Power Corporation as per the as per LGBR of the year 2020-21 is considered.
- iii) The energy availability of DVC stations as per the data furnished by DVC for the year 2020-21 in the email dated 5.11.2019 is considered
- iv) 85% of the 90% of the installed capacity has been considered for UPCL project
- v) In respect of NCE projects, energy actual supplied during year 2020-21 upto Sep-2020 and actual NCE energy purchased for the period from Oct-2019 to March 2020 has been considered for 2021-22.
- vi) Solar projects selected through bidding route for which cumulative utilization factor as per the PPA is considered.

vii) In respect of Taluka wise, 1 to 3 MW farmers category energy actual supplied during year 2020-21 upto Sep-2020 and actual NCE energy purchased for the period from Oct-2019 to March 2020 has been considered for 2021-22.

  
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viii) The actual energy drawal from Jurala Priyadarshini and TBHE for the year 2019-20 has been considered for the year 2021-22.

Generating Stations	Energy in Mus	Source
KPCL Hydro	11396.97	KPCL
KPCL Thermal:		
RTPS -1 & 7	8666.46	KPCL
RTPS 8	1601.15	KPCL
BTPS	0.00	
Unit I	3241.20	KPCL
Unit II	3499.62	KPCL
Unit III	4899.47	KPCL
Yelahanka Combined Cycle gas Power projects	1878.37	KPCL
Yermarus TPS - 1& 2	11198.78	KPCL
CGS	15297.45	LGBR of SRPC for 2020-21
Kudigi	9373.59	LGBR of SRPC for 2020-21
DVC	2577.11	As per DVC
UPCL	7482.78	90% of 85% installed capacity
NCE Projects	20911.73	Actuals of ESCOMs for the FY 2020-21(upto Sep-2020) and Oct-2019 to march-2020 is considered for 2021-22
TBHE & Jurala projects	189.17	Actuals of 19-20 is considered for 2021-22
<b>Total</b>	<b>102213.86</b>	

The availability of energy from different sources is more than quantum required by ESCOMs and hence available quantum from different sources have been reduced on the basis of Merit Order Dispatch is as detailed below;

Sources	Available quantum in Mus	Quantum offtake by ESCOMs in Mus	Difference in Mus	Justification
RTPS 8	1601.15	632.72	968.42	Due to higher variable cost and requirement of ESCOMs is lower. Hence, Offtake of power from these power plants is reduced. The full Fixed cost is considered for tariff filing.
BTPS Unit-1	3241.20	1210.64	2030.56	
BTPS Unit-2	3499.62	1307.16	2192.46	
BTPS Unit-3	4899.47	1830.03	3069.44	
RTPS Unit 1 to 7	8666.46	3401.27	5265.19	
Yelahanka Combined Cycle gas Power projects	1878.37	207.37	1670.99	Plant is expected to available during the month of July-2021 and offtake power from the plant is around 6 hours ie peak period
Yermarus TPS - 1 & 2	11198.78	5129.79	6068.99	The capacity charges considered for full. However energy considered for 16 hours
Kudigi Units-1,2 &3	9373.59	2185.95	7187.64	Due to higher variable cost and requirement of ESCOMs is lower. Hence, Offtake of power from these power plants is reduced. The full Fixed cost is considered for tariff filing.
NTPL	1189.69	371.60	818.08	
DVC-Meja	1145.38	409.42	735.96	
Simhadri station II	917.56	441.39	476.17	
Vallur	806.86	229.50	577.37	
UPCL	7482.78	4346.16	3136.62	Due to higher variable cost and requirement of ESCOMs is lower. Hence, Offtake of power from these power plants is reduced. The full Fixed cost is considered for tariff filing..
	<b>55900.92</b>	<b>21703.04</b>	<b>34197.88</b>	



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3.1 The availability of Energy from Hydel & Thermal Power Station's details furnished by KPCL is shown in **Table 2 & 3**.

**Table-2**  
**HYDEL ENERGY**

Sl. No.	Generating Source	Energy in MUs
1	Sharavathy valley project ( Sharavathy, Linganamakki & Chakra Projects)	4850.46
2	Kali Valley projects ( Nagajari & Supa Projects)	3203.48
3	Varahi Valley projects ( Varahi & Mani Projects)	1051.28
4	Bhadra & Bhadra Right Bank	49.47
5	Ghataprabha (GDPH)	63.65
6	Mallapur & Others	0
7	Kadra Dam	325.40
8	Kodasalli Dam	315.13
9	Gerusoppa/STRP	483.64
10	Almatti Dam Power House	441.73
12	Shiva & Shimsa	278.28
13	Munirabad	80.82
14	MGHE-Jog	253.63
	<b>Total KPCL Hydel</b>	<b>11396.97</b>

**Table-3**  
**THERMAL POWER STATIONS**

Sl. No.	Stations	Installed Capacity in MW	Net generation in MUs
1	RTPS I & 7	1470	3401.27
2	RTPS Unit 8	250	632.72
3	BTPS Unit I	500	1210.64
4	BTPS Unit II	500	1307.16
5	BTPS UNIT-III	700	1830.03
6	Yelahanka Combined Cycle	370	207.37
7	Yermarus TPS - 1 & 2	1600	5129.79
	<b>Total</b>		<b>13719.00</b>

3.2 Total Hydel generation would be 11396.97 MUs and energy from Thermal plants would be scheduled is around 13719 MUs for 2021-22, totaling to 25115.97 MUs from KPCL Station and Raichur Power Corporation Ltd.



  
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Corporate Office, Hescm  
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#### 4.0 Projection of cost - KPCL Hydel and Thermal Stations:

##### Hydel Stations:

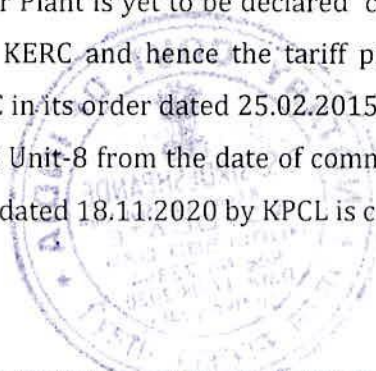
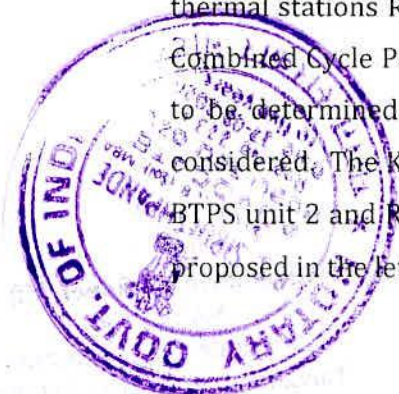
The tariff rates worked out by KPCL based on KERC order dated 03.08.2009 for hydel stations except for Shivasamudram, Shimsha, Munirabad & MGHE. The tariff for the hydel stations is based on the design energy. The over and above the design energy paid at 15 paise per kwh or 3% of the ROE whichever is less. The Hon'ble Commission vide order dated 25.02.2015 determined the tariff for KPCL Hydro Stations of Shiva and Shimsha, Munirabad & MGHE upto 2019. The tariff proposed by KPCL in its email dated 18.11.2020 is considered for above hydro stations. The rate details furnished by the KPCL is as shown in Table-4. **Table-4**

Sl. No.	Source	Design energy in MUs	Paise per Unit
<b>A</b>	<b>KPCL - Hydel</b>		
1	Sharavathy valley project ( Sharavathy, Linganamakki & Chakra Projects)	3737.95	77.80
2	Kali Valley projects	2058.77	125.37
3	Varahi Valley projects ( Varahi & Mani Projects)	848.69	182.40
4	Varahi 3 & 4	848.69	182.40
5	Bhadra & Bhadra Right Bank	50.49	29.61
6	Ghataprabha (GDPH)	84.97	578.50
7	Mallapur & Others		0.00
8	Kadra Dam	419.9	258.59
9	Kodasalli Dam	372.48	186.50
11	Gerusoppa/STRP	442.62	214.03
12	Almatti	384	301.82
13	Shiva & Shimsa	252	164.44
14	Munirabad	65	138.43
15	MGHE-Jog	119	102.08

Note: Paise 20 as royalty charges is considered for the actual generation in respect of all Hydro stations except for the Almatti Dam Power House (Paise 100 /unit)

##### KPCL Thermal Stations:

The tariff rates worked out by KPCL based on various parameters of tariff orders in respect of thermal stations RTPS units 1 to 7, RTPS-8, BTPS unit-I, II & III is considered. The Yelahanka Combined Cycle Power Plant is yet to be declared commercial operation by KPCL and tariff is to be determined by KERC and hence the tariff proposed in its email dated 18.11.2020 is considered. The KERC in its order dated 25.02.2015 determined capacity charges in respect of BTPS unit 2 and RTPS Unit-8 from the date of commission to end of 31.03.2019. Hence, tariff proposed in the letter dated 18.11.2020 by KPCL is considered for the following units;



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