



Observations/remarks/objections on the proposal for
determination of tariff for FY-20 for



submission during public hearing
to



*Monday, February 4, 2019
Bengaluru*

Introduction

The Karnataka Electricity Regulatory Commission which was set up in the year 1999 by Government of Karnataka under the Karnataka Electricity Reform Act (1999) has been entrusted the Regulatory responsibilities. B.PAC would like to highlight the objectives of the Commission –

- To regulate all aspects of the electricity sector in an objective, professional and transparent manner.
- To safeguard consumers' interests.
- To ensure reliable, least-cost power supply as a basic input for the economic and social development of the state.

The State Commission is also required to advise the State Government on all or any of the following matters, namely: -

- i. promotion of competition, efficiency and economy in activities of the electricity industry
- ii. promotion of investment in electricity industry;
- iii. reorganization and restructuring of electricity industry in the State
- iv. matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by the State Government.

Electrification in Karnataka: Status

The population of Karnataka has grown from 5.28 crores in 2001 to 6.84 crores in 2018 (Directorate of Economics and Statistics, Karnataka, 2013) showing a of 29.5%. The energy requirement in Karnataka as on March 2018 was 67744 MU, whereas, the energy supplied was 67575 MU, having a deficit of 168 MU (0.2%) of power (CEA report, 2018).

The total installed capacity in Karnataka as on March 2018 in 26,697 MW, inclusive of installed capacity in state, private and CGS. The transmission loss for the state is reported at 3.66 % in FY 2017. The state has five electricity distribution companies¹ which distribute power in specific geographical locations. A few highlights of the DISCOMS are as follows:

- Out of the five DISCOMs in Karnataka, BESCOM has the highest number of consumers at 94 lakhs out of total 209 lakh consumers in the state.
- Consumption per consumer per day in BESCOM is the highest among DISCOMS at 7.09 units compared to 6.43 units for the whole state (5.43 for MESCOM, 5.25 for CESC, 6.17 HESCOM and 6.48 for GESCOM).
- Amongst the five distribution utilities in the state, HESCOM has the largest area under its license.
- Average realization for BESCOM was the highest at 5.64 Rs/ kWh while CESC had the lowest at 4.72 Rs /kWh in the FY 2015
- The AT&C losses in the state is at 18% in the FY 2015

¹1- Bengaluru Electricity Supply Company (BESCOM); 2- Mangalore Electricity Supply Company (MESCOM); 3- Hubli Electricity Supply Company (HESCOM); 4- Gulbarga Electricity Supply Company (GESCOM); 5- Chamundeshwari Electricity Supply Corporation Limited (CESC)

Karnataka state economic position – Agricultural power consumption

Electricity in Mu	1970-71	1980-81	1990-91	2000-01	2010-11	2015-16	2016-17
Total Generation	4833	6389	12431	21985	47112	64227	69657
Total Consumption	3187	5189	12182	17860	37202	61956	67370
Industrial Consumption	2488	3864	5429	4882	8425	9720	9507
Agricultural Consumption	179	384	4486	7350	12802	18962	20987
Domestic Consumption	217	696	1803	3909	7893	11243	11922
Agriculture							
	1970-71	1980-81	1990-91	2000-01	2010-11	2015-16	2016-17
Net Area Sown Ha.	10228	10248	9899	10381	10410	10044	10006
Gross Cropped Area Ha	10588	10887	10660	11759	12284	12247	12008
Gross Irrigated Area -Ha	NA	1355	1676	2598	3271	4186	3742
Gross Irrigated Area to Gross Cropped Area %	NA	12.45	15.72	22.09	26.63	34.18	31.16
Unit of power (in MU) consumption per net area sown in Ha.							
	0.02	0.04	0.45	0.71	1.23	1.89	2.10

Source: Economic Survey of Karnataka, 2017-18

From the above table we draw the attention of the Commission to the agricultural power consumption. It can be observed that there is a disproportionate increase in the agricultural power consumption as compared to the gross irrigated area in hectares over the last four decades. This seems to indicate that the agricultural power is being diverted to other sources. In the name of farmers, the power is being robbed and the loss is having to be borne by the ex-chequer.

We bring it to Hon'ble Commission's notice that the unit of power consumption (in MU) per net area sown in hectare has increased from 0.71 MU in FY 2000-01 to 2.10 MU in FY 2016-17. While the gross cropped area in hectare has marginally increased, whereas the agricultural power consumption per hectare has doubled from FY 2000 – 01 to FY 2016 -17.

Analysis and Observations on power sector in Karnataka

We draw Hon'ble commission's notice to report titled - Karnataka's Power Sector Roadmap for 2021-22 prepared by CSTEP on behalf of the Karnataka Electricity Regulatory Commission (KERC) during 2013. This report evaluated Karnataka's current and future power position till the year 2021-22. The report analysed State's power sector and discuss options to address them.

The report highlights the following:

- The State's capacity addition plans seem inadequate to meet projected demand in the next 5 years. If the current situation continues, the State is likely to face about 21-26% annual energy shortfall (12,000 – 18,000 Million units) and 15-17% peak shortfall (~2000 MW) in the short term (2 years) and 13-8% (~10,000 Million Units) and 16% (~2500 MW) in the medium term (5 years).
- This is after accounting for all likely capacity addition. This implies that the State will have to rely on widespread load shedding or rely on short-term power purchases. The latter is an expensive option for the ESCOMs and likely to have an adverse impact on the electricity tariffs in the State. It is also uncertain because of transmission corridor capacity constraints.

The following key action items were identified to improve the power sector situation in the State:

- **Contract long-term capacity from IPP and captive plants:** As a short-term option, the State can contract capacity through the Case-1 bidding route to utilize the underutilized capacity already installed within the State. This can provide secure power at competitive rates with a view to reduce reliance on short-term purchases
- **Improve operational performance of State-owned thermal plants:** The thermal plants in the State have exhibited poor operational performance at 60-64% plant load factors. Several factors like coal quality and frequent forced outages have been identified as possible causes. KPCL needs to explore remedial measures like assessment of coal-supply contracts, improvement of production from captive coal blocks of BTPS and also assess need for refurbishment and modernization in RTPS. Even a reasonable improvement of operational PLFs in State-owned coal plants to 80% can generate an additional 7,600 MU from existing capacity
- **Set progressive targets for reduction in T&D losses in the State:** Currently, about one-fifth of the power purchased is lost as losses. Better and complete energy auditing practices to identify the weaker areas of the network along with institutional reforms in ESCOMs (detailed in Section 6.3) offer significant potential to reduce losses
- **Expedite renewable capacity addition:** This involves both expediting commissioning of projects that are already allocated and also planning for new capacity to utilize the high wind, biomass and cogeneration and small hydro potential in the State • **Monitor and ensure progress of plants under construction:** Thermal capacity addition plans in the State sector have historically witnessed severe delays due to issues with provision of fuel supply linkages and construction delays. It is crucial that there is strict monitoring of progress in major plants in the pipeline: viz. Yermarus, Edlapur, Godhana, Gulbarga and Bidadi
- **Plan for peaking capacity:** More than 90% of the future firm capacity addition plans are coal based. The State may leverage the already available gas-pipeline to plan for more gas-based peaking capacity. Plans for pumped hydro as well increasing the peak-rating of existing hydro projects need to be explored to serve peak power requirements

Sir, we urge you to direct BESCO, other ESCOMs and KPTCL to take note of the above action items from the report and set a quarterly target with a reporting format.

With this context, we, Bangalore Political Action Committee (B.PAC) would like to submit our **observations/remarks/objections** on the proposal for tariff determination of BESCO for FY 20 as submitted to KERC. Our submissions are detailed under the following headings:

- a) Key highlights of FY 18 submission by BESCO
- b) BESCO's track record analysis (FY 14 – FY 18)
- c) Truing up for FY 2017-18
- d) New Proposals
- e) Tariff revision for FY 2019-20
- f) BESCO Prayer for Leave of the Commission

B.PAC's observations/remarks/objections²

a) Key Highlights of FY 18 submission by BESCOM

Table 1: FY 18 submissions by BESCOM versus approved rated by the Commission

Particulars	Approved for FY 18	Actuals for FY 18	Variation	% variation
Sales in MU	26109	25967	-142	-0.5%
Percentage distribution losses in %	12.5*	13.17	0.67	5.4%
Distribution losses in MU	3730	3940	210	5.6%
Energy at interface point in MU	29839	29907	68	0.2%
Percentage transmission losses in %	3.37	4.18	0.81	24.0%
Total energy requirement in MU	30880	31211	331	1.1%
Revenue from Sale of Power (INR crs)	16914.19	18042.05	1127.86	6.7%
Power Purchase Cost including cost of transmission (INR crs)	13624.31	15123.21	1498.9	11.0%
% PPC to Revenue	80.55%	83.82%	0.03	4.1%
Total O&M cost (INR crs)	1486.6	1396.67	-89.93	-6.0%
% of O & M (INR crs)	8.79%	7.74%	-0.01	-11.9%
Depreciation (INR crs)	373.76	429.86	56.1	15.0%
% Depreciation to Revenue	2.21%	2.38%	0.002	7.8%
* Distribution loss % considered at 12.50 % as approved by KERC				

● **Performance for the year FY 17 - 18**

- **Revenue:** The sales in MU is less by 0.5 % from the Commission approved sales of 26109 MU. However, revenue from the sale of power has increased by 6.7 % to INR 18042.05 crs to the Commission approved revenue of INR 16914.19 crs
- Therefore, it is evident that to make up for the loss in sales (MU), BESCOM has been requesting for tariff increase YoY.
- While revenue has increased by 6.7 %, the Power Purchase cost has increased by 11 % for FY 18 from the Commission approved tariff - disproportionate increase in PPC.
- **Power Purchase Cost:** The approved percentage of PPC to revenue was 80.55 %, while the actual percentage of PPC to revenue was 83.82 %, showing a variation of 4.1 %
- **T & D losses:** The percentage of distribution and transmission losses have increased from the Commission's approved rates by 5.4 % and 24 % respectively
- The Operations and Maintenance cost has reduced by 6% from approved rates by the Commission
- The depreciation cost, however, has increased by 15% from the approved rates of INR 373.76 crs to INR 429.86 crs

² All the tables, figures and charts have been created by B.PAC from the submissions made by BESCOM to KERC for tariff determination of FY 20

Our Prayer to the Commission

- We request the Commission to disallow the variation in distribution loss of 0.67% (173.9 MU) amounting to an excess loss of INR 120.74 crs.
- When absolute sales for FY 18 has not increased, all aspects of cost have seen an increase in FY 18. Therefore, we urge the Commission to request BESCO to bring in discipline in their power purchase arrangement at lower prices available in open market through long term power purchase agreements (PPA).
- We request the Commission to direct BESCO to call for open tenders while purchasing power in order to reduce the overall cost of power purchase.

b) BESCO's track record analysis (FY 14 – FY 18)

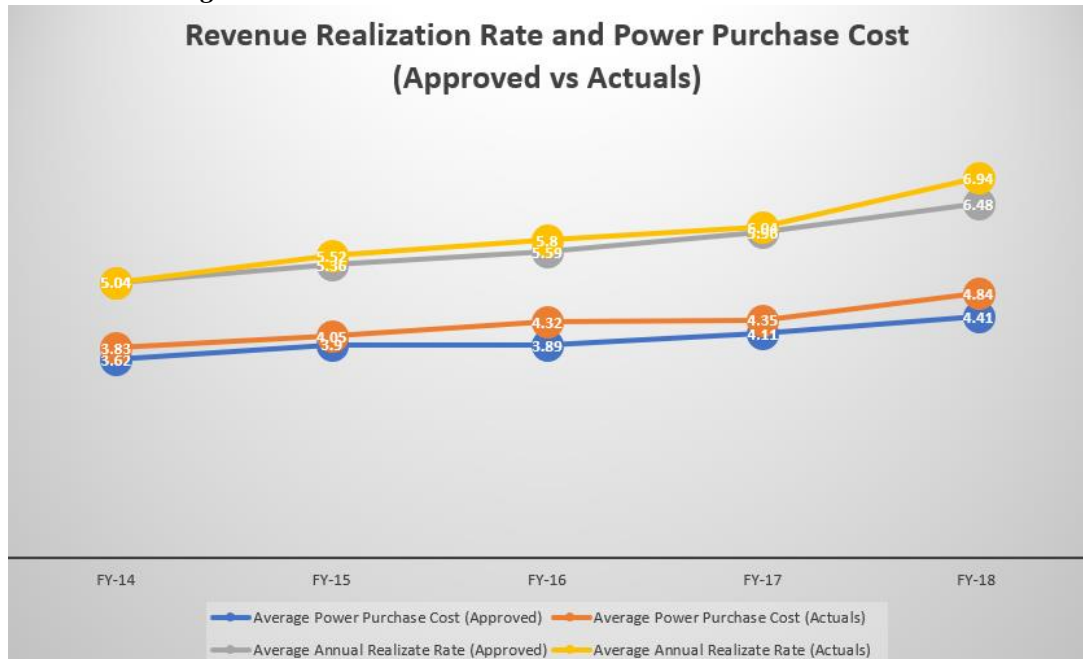
The study of the past 5 years of data establishes that BESCO has never remained within the Commission's approved rate with respect to Average Revenue Realization (ARR) and Average Power Purchase Cost (APP). The chart below clearly demonstrates that BESCO has realized higher (INR 6.94 / unit) rates than what was approved (INR 6.48 / unit) because of change in the mix, and, average power purchase cost has been higher (INR 4.84 / unit) than approved rates (INR 4.41 / unit).

Table 2: ARR and APP (INR per unit)



- Following are our specific observations
 - The Average Annual Realization Rate has gone up from INR 5.04 / unit (FY 2014) to INR 6.94 / unit (FY 2018), with an increase of 38%
 - The Average Power Purchase Cost has gone up from INR 3.83 / unit to INR 4.84 / unit, with an increase of 26.3 %
 - The Margin (difference between ARR and PPC) went up from INR 1.21 / unit to INR 2.1 / unit, from 33 % to 43 % - a 10% significant increase in gross margin from FY 14 – FY 18
 - Despite this track record, BESCO has once again proposed an increase in tariff rate by INR 1.01 / unit

Figure 1: Revenue Realization Rate and Power Purchase Cost



The above chart clearly shows that both in the case of ARR and APP, the BESCOM has not remained within the approved target. This reflects insufficient efforts in bringing in discipline in its operations.

- Following are our specific observations:
 - While the Commission had approved an ARR of INR 6.48 / unit for FY 18, the actual ARR for FY 18 is INR 6.94 / unit
 - The Commission approved Average PPC was INR 4.41 / unit for FY 18, the actual PPC for FY 18 is INR 4.84 / unit

Table 4: Revenue, PPC and Gross Margin

Particulars	FY - 14	FY - 15	FY - 16	FY - 17	FY - 18
Revenue from Sale of Power (INR crs)	11617.35	13479.6	14226.85	15861.15	18042.05
PPC (INR crs)	10702.76	11917.42	12600.53	13672.98	15123.21
Margin (INR crs)	914.60	1562.18	1626.32	2188.17	2918.84
Gross Margin (%)	7.87%	11.59%	11.43%	13.80%	16.18%
PPC to Revenue	92.13%	88.41%	88.57%	86.20%	83.82%
O &M to Revenue			8.34%	7.27%	9.02%

- The gross margin (difference between revenue from sale of power and PPC) has been continuously increasing from 7.87 % in FY 14 to 16.18 % in FY 18 as highlighted in the above table.
- As such there is no justification for considering any increase in ARR

Table 5: Cost of power purchase for MU of power - 2018

Year	S1	S2
2018	4000.13	4000.52

Summary	S1	S2
Average (RTC)	4000.13	4000.52
Peak	4950.83	4952.39
Non Peak	3683.24	3683.24
Day	3792.60	3792.60
Night	3396.51	3396.51
Morning	3993.63	3993.63

Source: IEX, 2018

- The data collected from India Energy Exchange (IEX) shows that for FY 2018, the power was available at an average price of **INR 4.00 / unit and INR 3.63 / unit during non-peak hours. With proper management and advanced power purchase planning, BESCOM could have procured lower cost power than the actual cost of INR 4.84 / unit for FY 2018.**

Table 6: % PPC to Revenue

	FY - 17 (Actuals)	FY - 18 (Actuals)	FY - 19 (Estimated Actuals)	FY - 20 (Projected)	FY - 21 (Projected)	FY - 22 (Projected)
Revenue	15861.15	18042.06	19802.11	20744.01	21547.92	22421.75
PPC	13672.98	15123.21	17337.93	20134.53	21859.97	23014.66
% PPC to revenue	86.20%	83.82%	87.56%	97.06%	101.45%	102.64%

- The percentage of PPC to revenue improved from 86.20 % in FY 17 to 83.82 % in FY 18. However, the above table clearly shows that the percentage of PPC to revenue has increased to 87.5 % as per the estimated actuals of FY 19, and is projected to increase to 97.06 % (FY 20) and continue to increase through the fifth control period – 102.64 % (FY 22)
- BESCOM has deliberately inflated the PPC for FY 18 to justify an increase in the ARR
- Further, when the power cost has been going down in the country, the percentage of PPC to revenue cannot increase by 10 % between FY 19 and FY 20.

Our Prayer to the Commission

- Consumer protection is one of the primary objectives of the KERC, we urge KERC to take notice of the above data-based insights and **not allow BESCOM to pass the burden of its inefficiencies on citizens through its FY-20 tariff increase proposal.** BESOCM already has been realizing higher margins over and above the approved limits set by the KERC.

- We request the Commission to direct BESCO to bring down the percentage of PPC to revenue to 80 % or below and not allow any further increase in the ARR for FY 19-20.
- It is observed that BESCO is buying power at higher rates (INR 4.84/unit) than the average market rate as per IEX (INR 4.00/ unit). The percentage of PPC to revenue has been increasing disproportionately (from 86.20 % in FY 2017 to 97.06 % in FY 20) and is projected at 102.64 % for FY 22. **The power purchase cost higher than the revenue shows poor planning and incapability of BESCO to buy power at lower available market rates.** No business can be sustainable where the costs are higher than the revenue. We request the KERC to direct BESCO to provide revised submission on realistic projections of power purchase cost to revenue for the current control period.
- We note that, improving the operations within the targets set by KERC, BESCO would be able to meet the consumers' requirement and also set a benchmark to the other ESCOMS's to emulate.

c) Truing up FY 17-18

The truing up for FY 17-18 is discussed under the following headings:

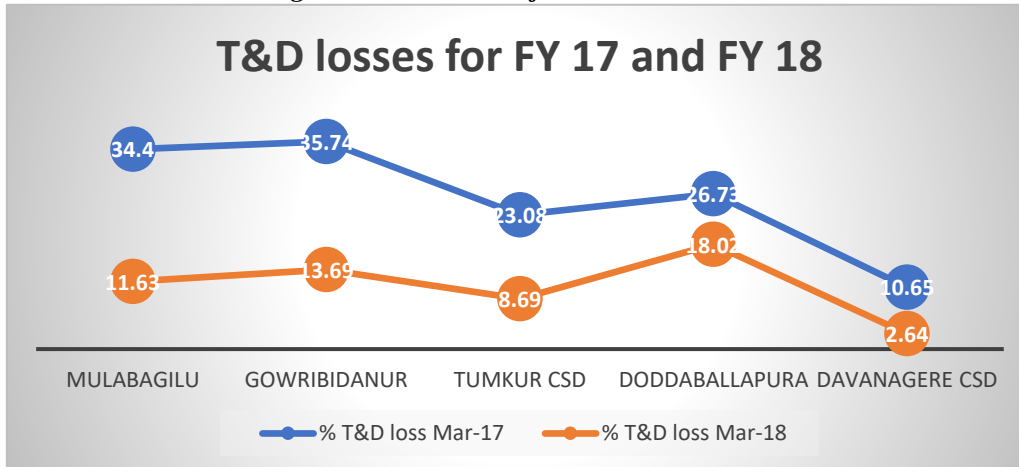
- I. Distribution Loss
- II. Power Purchase Cost
- III. Sales
- IV. Collection Efficiency

I. **Distribution Loss:**

- a. BESCO has indicated that the actual distribution losses for FY 18 is 13.17% as against 12.50 % approved by the Commission. However, in the submission made, BESCO has wrongly reckoned the Commission approved distribution loss as 13 % (upper limit), instead of 12.50 % (average limit) thereby understating the deviation by 0.5 %
- b. **T&D losses for FY 18** - A comparison with the previous financial year shows that, out of the 25 towns to which BESCO distributes power, 18 towns have been able to reduce their T&D losses in FY 18, showing an average reduction in T&D losses by 6 %.
- c. For FY 18, the lowest T&D loss was noted in Davanagere CSD town, which has seen a reduction in T&D losses by 8 percentage points from the previous financial year (*from 10.65 % in FY 17 to 2.64 % in FY 18*)

Below, a sample of five towns have been represented graphically which have been able to reduce their T&D losses by a huge margin in FY 18

Figure 2: T&D losses for FY 17 and FY 18



While we welcome the efforts by BESCOM to reduce the T&D losses, it is disheartening to see the continued T&D losses in Ramanagara, Tiptur, Harappanahalli, Chitradurga and Shidlagatta towns and sub divisions.

Table 7: % of T&D loss

Name of the Town	% T&D loss		
	Mar-17	Mar-18	Difference
Ramanagara	5.68	16.46	10.78
Tiptur	12.23	17.51	5.28
Harappanahalli	5.6	9.17	3.57
Chitradurga	5.8	9.26	3.46
Shidlagatta	22.34	25.14	2.8
Challakere	10.53	13.28	2.75
Kolar	10.83	10.85	0.02

Our Prayer to the Commission

- We request the Commission to not to allow the distribution losses calculated by BESCOM considering the approved loss at 13 % instead of 12.50%. We request the KERC to direct BESCOM to recalculate the distribution losses with the Commission approved rate of 12.50%
- We welcome the initiatives taken by BESCOM to reduce the T&D losses in 21 towns and sub-divisions in FY 18 within the Commission approved rates of 15.87%. KERC should direct BESCOM to provide incentives for such towns and sub-divisions and recognize them. We also notice that the 4 remaining towns and sub divisions have T&D losses above 15.87%; the Hon'ble Commission should direct BESCOM to draw a plan of action to identify the leakages and reduce the T&D losses.

- The Commission should note that the division which have higher T&D losses than the approved rates by KERC should not average their losses at BESCOM level. These losses should not be passed on to consumers and rather, should be absorbed by BESCOM in its truing up.
- We request the **commission to ensure all towns which have distribution loss above 12.50% should be monitored closely and brought below 12.50%.**
- Further, we **urge the Commission to set targets for T&D losses at each zonal level for BESCOM and then narrow down to division and sub-division level instead of aggregating it at BESCOM level.**
- The disaggregated data for the division wise Distribution losses have not been made available by BESCOM in their submission this year. We request KERC to direct BESCOM to provide the data for the division wise distribution loss.

II. Power Purchase Cost:




Table 8: Approved and Actual Power Purchase Cost

Source of power	Approved			Actuals			Variation		
	Energy in MU	Cost in Rs. Crs	Per unit cost in Rs	Energy in MU	Cost in Rs. Crs	Per unit cost in Rs	Energy in MU	Cost in Rs. Crs	Per unit cost in Rs
KPCL Hydel	2833.31	316.57	1.12	1752.9	190.44	1.09	-1080.41	-126.13	-0.03
KPCL Thermal	9180.34	3980.56	4.34	8452.65	3648.47	4.32	-727.69	-332.09	-0.02
CGS Energy	9698.31	3438.63	3.55	11016.52	4234.85	3.84	1318.21	796.22	0.03
UPCL	3855.76	1889.32	4.9	3336.79	1676.65	5.02	-518.97	-212.67	0.12
Renewable Energy	3933.88	1594.87	4.05	4698	2043.64	4.35	764.12	448.77	0.3
Other State Hydel	56.36	23.39	4.15	42.84	30.54	7.13	-13.52	7.15	2.98
Short term/medium term	1321.73	499.95	3.78	1975.69	805.78	4.08	653.96	305.83	0.3
Total	30879.69	11743.29	3.80	31275.39	12630.37	4.04	337.02	1498.9	0.43

- BESCOM in its submission has stated that the increase in power purchase cost is due to the increase in energy purchase from CGS energy, Renewable energy and short- and medium-term power purchase.
- From the above table it can be established that BESCOM could have diligently made use of the available source of power, within the Commission approved rates and reduced the final power purchase cost for FY 18 by INR 1498.9 crs.
- For FY 18, there is a huge variation observed in power purchase cost for CGS Energy (INR 796.22 crs), Renewable Energy (INR 448.77 crs) and Short term and Medium term (INR 305.83 crs)
- Between FY 13 and FY 15, BESCOM's power purchase cost was lower than the Commission approved rates. However, in the past three years (FY 16 – FY 18), BESCOM has been overshooting the approved limits of the total power purchase cost as shown in the table below. This indicates poor planning on BESCOM's side to procure power and rely highly on the short- and medium-term power procurement at higher prices.

- It is also observed from the table below that the gap between the actual and approved power purchase cost for FY 18 has increased two-fold from the previous financial year

Table 9: Approved and Actual Power Purchase Cost

Power Purchase Cost	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18	Trend
Approved (INR crs)	11292.61	10914.8	11922.09	11840.15	12954.19	13624.31	
Actuals (INR crs)	10780.55	10702.76	11917.42	12600.53	13700.83	15123.21	
Gap	-512.06	-212.045	-4.67	760.38	746.64	1498.9	

Our Prayer to the Commission

- We request the Commission to not to allow the increase in power purchase cost which has been brought about by increase in the cost of power procurement mainly from CGS Energy and Short- and medium-term purchase. **We request the Commission to disallow the increase in power purchase cost of INR 1102.05 for truing up for FY 18.**

III. Sales

Table 10: No of Units Sold (MU) category wise

No of Units Sold (MU)	FY -14	FY - 15	FY - 16	FY - 17	FY - 18
LT					
Domestic	5369.87	5854.57	6156.1	6156.09	6616.53
Commercial	1536.91	1663.33	1754.07	1879.3	2005.97
Industrial	1109.44	1134.22	1150.4	1163.22	1185.41
Others	1009.28	1014.45	938.46	1127.99	1476.24
Total LT excluding Agricultural	9025.5	9666.57	9999.03	10326.6	11284.15
Agricultural	5246.57	5938.79	6197.85	7292.56	6478.16
Total LT including Agricultural	14272.07	15605.4	16196.88	17619.16	17762.31
HT					
Industrial	5069.16	4750.15	4593.21	4456.17	4470.59
Commercial	2855.68	2795.89	2614.9	2889.68	2562.32
Others	859.24	1266.39	1076.09	1155.58	1145.29
Total HT excluding Agricultural	8784.08	8812.44	8284.2	8501.43	8178.2
Agricultural	9.22	18.29	57.11	15.07	26.76
Total HT including Agricultural	8793.3	8830.72	8341.31	8516.5	8204.96
Total LT+HT	23065.37	24436.08	24538.19	26135.66	25967.27

- From the above table it is observed that there is a dip in the number of units sold (MU) from FY 17 to FY 18 HT category by 4 %.

Table 11: FY 18 Sales – Units sold in MU

FY 18 (Sales - Units sold in MU)						
	LT		HT		LT+HT	
Tariff Category	Units sold	Units sold %	Units sold	Units sold %	Units sold	Units sold %
Domestic	6,616.53	37.3%	-	-	6,616.53	25.48%
Industrial	1,185.41	6.7%	4,470.59	54.5%	5,656.00	21.78%
Commercial	2,005.97	11.3%	2,562.32	31.2%	4,568.29	17.59%
Others	1,476.24	8.3%	1,145.29	14.0%	2,621.53	10.10%
Agricultural	6,478.16	36.5%	26.76	0.3%	6,504.92	25.05%
Total	17762.31	68.40%	8204.96	31.60%	25967.27	100.00%

- In FY 18, 68 % of the sales were catered to the LT category, contributing 56.58 % of the revenue to BESCOM and 31 % sales to the HT category contribute 43.42 % revenue to BESCOM
- Of the 68 % in the LT category, 73 % of the sales were in the domestic and the agricultural sectors
- In the HT category, industry consumed the highest MU – 4470.59 (54.5%)
- HT and LT combined, domestic followed by agriculture sector had the highest sale of 25.48 % and 25.05 % respectively.

Table 12: FY 18 (Sales – Units sold in MU – Approved versus Actual

FY 18 (Sales - Units sold in MU) Approved versus Actual								
Tariff Category	Approved		Actuals FY 18		Variation (in MU)		Variation in %	
	LT	HT	LT	HT	LT	HT	LT	HT
Domestic	6,966.38	-	6,616.53	-	-349.85	-	-5.0%	
Industrial	1,187.24	4,663.23	1,185.41	4,470.59	-1.83	-192.64	-0.2%	-4.1%
Commercial	2,000.85	2,666.85	2,005.97	2,562.32	5.12	-104.53	0.3%	-3.9%
Others	1,052.84	1,201.11	1,476.24	1,145.29	423.40	-55.82	40.2%	-4.6%
Agricultural	6,297.82	72.84	6,478.16	26.76	180.34	-46.08	2.9%	-63.3%
Total	17,505.13	8,604.03	17,762.31	8,204.96	257.18	-399.07	1.5%	-4.6%

- In the FY 18, there is a dip in the sale of power under the domestic and Industrial sectors for both LT and HT categories.
- The sale in the domestic sector dipped by 5 % than the approved sales by the Commission. Similarly, the sale in the industry sector for both LT and HT category were less than the Commission approved sales by 0.2 % and 4.1 %
- Further, the sales in the Others category (including water supply, street lights) were higher in the LT category (40.2%) compared to the Commission approved sales.

HT Sales

HT Sales is an integral part of BESCOM's revenue. At a time where **Bangalore Metropolitan Region and its adjoining districts are prospering**, and **Karnataka is growing at 8.5% CAGR (Economic Survey of Karnataka 2017-18)**, many businesses are being set up (*as can be seen from the increase in the number of installations*). It is disheartening to see that these

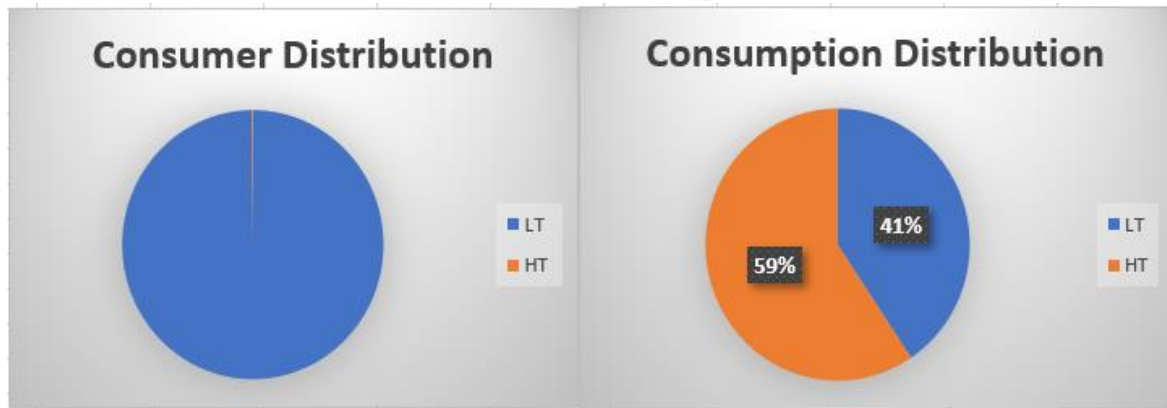
businesses are choosing not to procure power from the BESCO (energy sold units are falling).

Table 13: HT sales

HT	FY - 14	FY - 15	FY - 16	FY - 17	FY - 18	Trend
Energy Sold (MU)	8793.30	8830.68	8341.31	8231.38	8205.00	
Number of Installations	10457	11416	13635	13841	14920	
Revenue (rs in crs)	5701.77	5994.12	6414.77	6613.53	7508.09	
Average realization rate (INR/unit)	6.48	6.79	7.69	8.03	9.15	

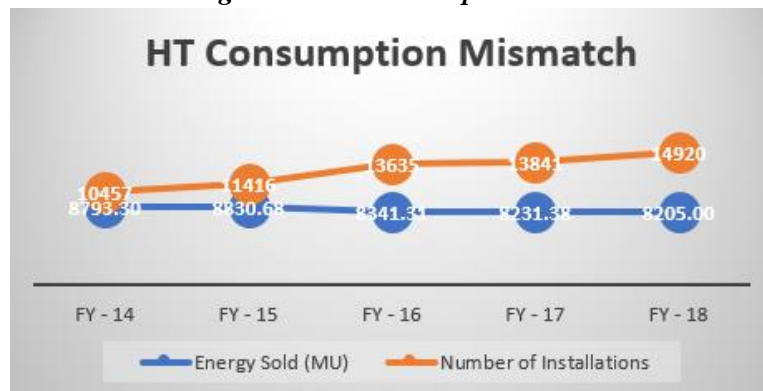
- From our analysis, it is observed that ARR for HT category is higher than the LT category by 66%. (ARR for LT – 5.51 (FY 18), HT – 9.51 (FY 18))

Figure 3: HT and LT Consumer vs Consumption Distribution FY 18



- From the above image it is observed that consumer distribution for FY 18 shows that 99.87 % are under the LT tariff category and 0.13 % of the consumers are under the HT category.
- 0.13 % of the HT consumers consume 59 % of the total energy in MU, which is higher than energy consumed in the LT category by 18%.
- The HT Consumption and Consumer Mismatch is highlighted in the chart below. The number of installations in the HT category, although has been increasing YoY, the number of units sold has been decreasing.

Figure 4: HT Consumption Mismatch



Our Prayer to the Commission

- The Commission should direct BESCO to take note of declining HT consumption and probe into the matter to suitably cater to this segment.
- The Commission should acknowledge its responsibility in safeguarding the industrial sector which fuels the growth and job creation in any geography, especially given the fact that Bengaluru alone contributes almost 60% of Karnataka's GDP and has to compete with increasingly well-governed and business-friendly cities like Hyderabad and Chennai and not increase rates on HT

Specific Consumption of IP sets

- In FY 2018, the actual sales of BESCO is higher by 131.09 MU (2.12%) in comparison with the approved sales of 6157.95 MU

Table 14: IP Sets Sales in MU – Approved versus Actual FY 18

Particulars	Actual sales (MU)	Approved sales (MU)	Difference (MU)
LT-4 (a)	6289.04	6157.95	131.09

- BESCO has estimated an addition of 25000 IP sets for each year during the control period (FY 20 – FY 22). Further, BESCO has stated in its submission that as per GOK's estimations, the total number of IP sets in the state is projected to increase by 50,000 per annum.
- The number of IP sets projected by BESCO is a serious concern since as highlighted in the above tables, BESCO caters largely to urban requirements. Therefore, BESCO should provide a realistic projections of IP sets per annum for the 5th control period.
- The specific consumption per IP set for FY 18 is 7210.31 units/installations/annum, which is lower than the consumption for FY 17 (8860.52 units/installations/annum)
- From the below table it could be observed that between FY 17 and FY 18, there is a 3.7% increase in the number of IP sets installations, but there is a decline of 13.7% in the total energy consumed.

Table 15: IP Sets Specific Consumption FY 18

Year	FY 16	FY 17	FY 18	FY 19 (P)	FY 20 (P)
No of Consumers	809170	841228	872229	900047	925047
Total MU consumed	6189.9	7285.47	6289.04	5940.1	6660.34
Specific Consumption	7649.69	8660.52	7210.31	6599.77	7200.00
% change in no of consumers		4.0%	3.7%	3.2%	2.8%
% change in total MU consumed		17.7%	-13.7%	-5.5%	12.1%
% change in specific consumption		13.21%	-16.75%	-8.47%	9.09%

Table 16: Progress of Metering in BESCO

Progress of Metering in BESCO as on 30.09.2018						
ESCOM	BJ/KJ			IP Set		
	No of Inst	Metered	% of Metering	No of Inst	Metered	% of Metering
BESCO	844643	839153	99.35%	888043	2094	0.24%

From the above table it could be observed that as of September 2018, BESCOM has achieved only 0.24 % of the metering for the existing IP sets. In the interest of controlling the leakages in the distribution channel, we request the Commission to pass an order directing BESCOM to expedite the process of metering all the functioning IP sets for the current control period and submit the annual progress to KERC.

Table 17: Projected subsidy for IP sets – FY 20

Projected subsidy for IP sets - FY 20 (all numbers are projections based on BESCOM's submission)	
Number of installations	925047
Number of units consumed by IP sets	6660.34
Average Power Purchase Cost for FY 20 (INR / unit)	5.9
Total Power Purchase Cost for IP set consumption (INR crs)	3929.60
Specific Consumption (IP set/ annum)	7200.00
Commission Determined Tariff (CDT) for FY 20 (INR/ unit)	5.45
Subsidy to be received by BESCOM from GoK (per IP set/annum) (INR)	39240
Total Subsidy for FY 20 (INR crs)	3629.88

The table above depicts the total power cost for IP sets projected for FY 20 at INR 3929.60 crs. Looking at the projected number of installations (925047), specific consumption of IP set/annum is estimated at 7200 units / annum. The total subsidy amount for FY 20 is estimated at INR 3629.88 crs. **We urge the Commission to take note of the above calculation and collect the total power purchase cost from Government of Karnataka and not cross subsidize consumers from other tariff categories (cross subsidy amounts to INR 299.72 crs)**

Our Prayer to the Commission

- In our FY 16-17 submission to the KERC, B.PAC had requested the Commission to not to consider regularization of illegal IP sets for any cross subsidy or tariff hike to be paid by other customers. **Through the Commission we request BESCOM to furnish number of identified illegal IP sets in FY 18 and actions initiated against such consumers.**
- As the Hon'ble Commission may be aware that, there exists duplicate and multiple IP set per farmer. B.PAC had requested the Commission to identify and remove such IP sets to avoid subsidy to the rich. **In our present submission to the Commission, we would like to reiterate the same request in the interest of other consumers who are diligently paying for their single uses.**
- The Hon'ble Commission had directed the Government of Karnataka to formulate a suitable policy to implement the suggestion of direct remittance of subsidy to farmers in its FY 17 order. However, to the best of our knowledge, GoK has not yet formulated

a policy. We request KERC to advise Government on this matter so as to enable proper accounting of energy and also facilitate accurate computation of losses in the distribution system.

IV. BESCO's collection efficiency:

Table 18: Trade Receivables

Particulars	FY 15	FY 16	FY 17	FY 18	FY 19 (Until Sept 2018)	FY 20 (P)
Revenue from Operations	13479.6	14226.85	15861.15	18042.06	19802.11	20744.01
Trade Receivables						
Particulars	FY 15	FY 16	FY 17	FY 18	FY 19 (Until Sept 2018)	FY 20 (P)
Receivables against Sale of Power	4371.30	5659.86	7178.60	6090.65	6363.87	6650.35
Loans and Advances	664.10	811.99	1216.94	1435.92	1494.63	1466.08
Sundry Receivables	2742.28	2170.07	1817.36	2264.88	2144.13	2194.13
Total Receivables	7777.68	8641.92	10212.90	9791.45	10002.63	10310.56
Monthly Revenue	1123.30	1185.57	1321.76	1503.50	1650.18	1728.67
No of Sales months Outstanding	6.92	7.29	7.73	6.51	6.06	5.96

- From the table, it can be observed that BESCO's collection efficiency has improved for FY 18, from 7.73 sales month outstanding to 6.51 sales month outstanding.
- The Commission has approved three months sales outstanding for BESCO to complete the reconciliation of collections. However, for FY 18, the BESCO is lagging by 3.51 sales month. **If one considers 10 % interest rate on this outstanding amount, it works out as INR 527.73 crs. We request the Commission to not consider this amount for truing up exercise**
- BESCO has earmarked 1135.76 crores as doubtful receivables for FY 19 (as per the half yearly statement for the period ended 30th September 2018), which is 8% of the total revenue for FY – 19

Table 19: Trade Receivables and Revenue FY 18

Sep-18		
Sl. No	Particulars	Rs in cr
1	Trade receivables	7351.24
2	Other receivables	1697.14
3	Total (1+2)	9048.38
4	Revenue	9625.40

- As on half year ended September 18, receivables make up 94 % of the sales. If one assumes 16.6 % i.e. 2 months sales, it amounts to approximately INR 1600 cr.

Adding another 20 % of total sales as other receivables (INR 1925 cr) makes it INR 3523 cr. An excess of INR 5525.48 crs is shown as receivables for FY 18.

Table 20: Trade Receivables and Revenue FY 20

FY - 20		
Sl. No	Particulars	Rs in cr
1	Receivables against Sale of Power	6650.35
2	Loans and advances	1466.08
3	Sundry receivables	2194.13
4	Total (1+2+3)	10310.56
5	Revenue	20744.01

- From the above table, as projected by BESCOM for FY 20, the above line items make 50 % of the sales. However, if one assumes, 16.6% i.e. 2 months sales, it amounts to approximately INR 3443 crs and adding another 20 % of this for other receivables of INR 688 crs makes it INR 4132.20 cr.
- An excess of INR 16611 crs is shown as receivables, loans and advances and sundry receivables showing total lack of financial discipline and lack of collection efficiency.

Our Prayer to the Commission

- We urge the **Commission to take note of the above-mentioned points and direct BESCOM to bring down the receivables in a structured manner and reduce the finance cost. Consumers should not be made to pay for BESCOM's deployment of excess capital.**
- Further, the BESCOM has made accumulation of INR 1135.76 crs towards doubtful debts for FY 19. The Commission should direct the BESCOM to identify the names of the doubtful receivables and furnish the same to Commission and make it public and disallow INR 1135.76 crs from truing up exercise. **We request the Commission direct all ESCOM's to give clarity on the doubtful debts written off in every financial year. The same should be submitted to Commission and made available to public on BESCOM's website.**
- In the FY 17, the BESCOM had made provision of INR 1173.51 crs toward doubtful debt. **We request the Commission to direct BESCOM to provide clarification on amounts recovered for FY 17**
- It is observed the Regulator in Gujarat while passing the tariff order, has indicated the figures for bad debt written off for the ESCOMS in the state. We urge the KERC to set similar precedence in the state of Karnataka.
- We request the Commission to set targets for each financial year for all ESCOM's to bring down the doubtful debts/ receivables.

d) New Proposals

- **Tariff Categorization of club houses located within the residential apartment complexes**
 - The services catered within the apartment complexes are for the people residing in such communities and are not commercial in nature.
 - **B.PAC is of the opinion that this step is regressive, hence does not support the proposal by BESCOM to consider club houses, gyms, sport facilities of the apartment complexes under the commercial tariff category.**
- **Special Incentive Scheme:**
 - **B.PAC supports this proposal by BESCOM in the interest of attracting more HT consumers and servicing them.** However, we request the Commission to convene a meeting with the industry body along with BESCOM to work out a suitable mechanism to roll out the Special Incentive Scheme.
- **Increase fixed charge on HT**
 - BESCOM has requested KERC to charge higher fixed charge on the HT consumers stating that a few of the states (Madhya Pradesh, Tamil Nadu, Andhra Pradesh and Maharashtra) charge higher demand/fixed charges from the HT consumers.
 - B.PAC would like to reiterate that KERC is formed to protect the interest of all the consumers and KERC should bring in a mechanism to calculate the fixed charge and recover the same from the HT consumers.
 - **The rationale of comparing the fixed cost with other states is not logical, since it is only a short-term plan to make up for the loss of revenue from HT consumers who have opted for open access. Therefore, B.PAC does not support this proposal by BESCOM.**
- **Domestic Tariff – difference in slabs**
 - **B.PAC supports the tariff design proposed by BESCOM as per the National Electricity Policy.**

Table 20: Tariff proposal for LT 2a (i) category

Existing Tariff for LT2a(i) category		Proposed tariff for LT2 a(i) category	
Energy charges (Rs/units) for units consumed in a month		Energy charges (Rs/units) for units consumed in a month	
0-30 units (Lifeline consumption)	3.5	1-50 (all units)	3.9
31 to 100 units	4.95	1-100 all units (>51 <= 100)	4.95
101 to 200 units	6.5	1-200 all units (>100 <=200)	6
201 to 300 units	7.55	>200 (all units)	7
301 to 400 units	7.6		
Above 400 units	7.65		

- While we welcome the reduction in the slabs for LT 2 a(i) category, we urge the Commission to bring it to the notice of BESCOM that this change in the slabs should not affect the consumption patterns due to lower prices (INR 7 / unit) on higher consumption units (> 200 (all units)).

- **Consider Private unaided institutions under LT 3 / HT 2 b category to pay cross subsidy**
 - At present, the private unaided institutions are considered under the LT 2(b) category, where the rates approved by the Commission are at 6.8 INR/ unit for energy consumption between 0-200 units and 8.0 INR/ unit for energy consumption beyond 200 units.
 - The new proposal put forth by BESCOM to consider the private unaided educational institutions under the LT 3 / HT 2 b category will increase the per unit cost by an average of 1.1 INR / unit or 1.4 INR / unit.
 - Further, the fixed charged will increase from the existing INR 65 per kW to INR 90 per kW under the LT 3 tariff category and to INR 300/kVA under the HT 2 b tariff category
 - **We request the Commission to disallow the proposal by BESCOM to consider the educational institutions under the commercial tariff category. Since education is a social sector, it should be considered under the specific tariff category and not be charged a higher tariff of Commercial category**
- **Consider private hospital under commercial category**
 - Healthcare is categorized under the service sector. Therefore, the tariff should not be considered on par with the commercial category.
 - **B.PAC feels this is a regressive step and would be looked at as anti-consumer; hence, we do not support this proposal by BESCOM.**
- **Proposal to shift IT companies to a different slab – between HT2a/LT5 and HT2b/LT:**
 - Bengaluru has emerged as IT Start-up Capital of India with more than 30% of national share contributing 60 % to the state GDP.
 - Hence **B..PAC rejects this proposal by BESCOM to consider IT and software companies under a higher tariff category as it would be seen as a regressive step in attracting investment.**

e) Determination of Tariff for FY 20

- B.PAC requests the Commission to disallow the proposed tariff by BESCOM under the Lt – 6 (c) category for electric vehicle charging stations. Electric vehicles help to achieve sustainable and green mobility in Bengaluru city. Therefore, the Government should create a conducive environment by providing charging infrastructure at an affordable rate.
- B.PAC welcomes BESCOM's BMRCL tariff proposal under the HT 2 (a) (ii) category which has been maintained at the same rate from the previous tariff order at INR 5/ unit.

f) BESCOM prayer for Leave of the Commission

- Further, the comparison between the actual (FY 18) power purchase cost to the projected power purchase cost (FY 20) is shown in the below table.

Table 21: Source of Power – Projections for FY 20

Source of Power	Actuals FY 17-18			Projections for FY 19 - 20			Variation		
	Energy in MU	Cost in Rs crs	Per unit cost in Rs	Energy in MU	Cost in Rs crs	Per unit cost in Rs	Energy in MU	Cost in Rs crs	Per unit cost in Rs
KPCL Hydel	1752.90	190.44	1.09	744.50	99.25	1.33	-57.53%	-47.88%	22.71%
KPCL Thermal	8452.65	3648.47	4.32	9959.16	6330.64	6.36	17.82%	73.51%	47.27%
CGS Energy	11016.52	4234.85	3.84	13403.72	6027.89	4.50	21.67%	42.34%	16.99%
UPCL	3336.79	1676.65	5.02	3214.60	1867.11	3.50	-3.66%	11.36%	-30.34%
Renewable Energy	4698.00	2043.64	4.35	6550.32	2858.29	4.36	39.43%	39.86%	0.31%
Other State Hydel	42.84	30.54	7.13	19.46	8.96	4.60	-54.58%	-70.66%	-35.41%
Short Term /Medium term	1975.69	805.78	4.08				-100.00%	-100.00%	-100.00%
Solar Park at Pavgada					57.00				
PGCIL Charges		1016.23			1125.70			10.77%	
KPTCL Charges		1358.51			1740.00			28.08%	
SLDC & POSOCO		15.67			19.68			25.59%	
Other charges/Inter ESCOM/Energy balancing	-58.68	102.44					-100.00%	-100.00%	
Total	31216.71	15123.22	4.84	33891.76	20134.52	5.94	8.57%	33.14%	22.61%

- It is observed from the above table that the projected cost for KPCL Thermal has increased by 73.51 % from FY 18 and the projected cost for CGS energy has increased by 42.34 % which amounts to INR 12358 crs.
- It is also observed that BESCOM has not projected the power procurement through short- and medium-term arrangements. However, BESCOM has been regularly procuring power from short- and medium-term arrangements in the range of INR 800 crs – 900 crs per annum (FY 17 and FY 18)
- Further, in the current submission, **BESCOM has stated the deficit of INR 2933.82 crs for FY 20, requesting for an increase in tariff by INR 1.01 from the Commission.**
- Our analysis has shown that this deficit is arriving mainly because of the increased projections in the power purchase cost for FY 20 by 33 % from FY 18
- If the power purchase cost is estimated to increase from the actuals of FY 18 by 5% for FY 20, the total power purchase cost would be estimated at INR 15879 crs. Whereas, the power purchase cost for FY 20 is at INR 20134.52 crs. **We observe that, the power purchase cost has been inflated by INR 4255 crs while projecting the numbers for FY 20.**

Our Prayer to the Commission

- The deficit estimated for FY 20 is highly inflated to mislead the Commission and consumers. The deficit of INR 2933.82 crs for FY 20 should be disallowed by KERC.
- For the above-mentioned reasons, **the Commission should not accept the proposal put forth by BESCOM requesting increase in the tariff of INR 1.01 for FY 20.**
- The Commission should direct BESCOM to submit realistic projections and also bring discipline in procuring power at low cost.

Conclusion

BESCOM's prayer allowing to hike the average tariff by INR 1.01 across all categories should not be passed on as a burden to consumers for the following reasons:

- 1) We request the Commission to disallow the variation in distribution loss of 0.67% (173.9 MU) amounting to an excess loss of INR 120.74 crs.
- 2) We request the Commission to not to allow the distribution losses calculated by BESCOM considering the approved loss at 13 % instead of 12.50%. We request the KERC to direct BESCOM to recalculate the distribution losses with the Commission approved rate of 12.50%
- 3) The percentage of PPC to revenue has been increasing disproportionately (from 86.20 % in FY 2017 to 97.06 % in FY 20) and is projected at 102.64 % for FY 22. The power purchase cost higher than the revenue shows poor planning and incapability of BESCOM to buy power at lower available market rates. We request the KERC to direct BESCOM to provide revised submission on realistic projections of power purchase cost to revenue for the current control period.
- 4) We request the Commission to disallow the increase in power purchase cost of INR 1102.05 for truing up for FY 18.
- 5) Through the Commission we request BESCOM to furnish number of identified illegal IP sets in FY 18 and actions initiated against such consumers.
- 6) We urge the Commission to take note of the calculation (page 16) and collect the total power purchase cost from Government of Karnataka and not cross subsidize consumers from other tariff categories (cross subsidy amounts to INR 299.72 crs)
- 7) The Hon'ble Commission had directed the Government of Karnataka to formulate a suitable policy to implement the suggestion of direct remittance of subsidy to farmers in its FY 17 order. However, to the best of our knowledge, GoK has not yet formulated a policy. We request KERC to advise Government on this matter so as to enable proper accounting of energy and also facilitate accurate computation of losses in the distribution system
- 8) The BESCOM had made provision of INR 1173.51 crs toward doubtful debt. We request the Commission to direct BESCOM to provide clarification on amounts recovered for FY 17.
- 9) The deficit amount for FY 20 is highly inflated to mislead the Commission and consumers. The deficit of INR 2933.82 crs for FY 20 should be disallowed by KERC.

10) In the current submission by BESCOM, the details on the CCS from each tariff category has not been made available. However, it was presented in detailed in the previous tariff determination submissions. We request the Commission to direct BESCOM to furnish the same and analyse the CCS charges paid by other segments before passing the tariff order for FY 20.

11) We request the KERC to set up an expert committee to draw a five-year roadmap for all the ESCOM's to determine charges for a long term, instead of setting an annual tariff.

Sir, as an independent regulator please protect the interest of citizens of Bengaluru in an unbiased manner and not the interest of BESCOM

Hence, on behalf of citizens of Bengaluru, we once again request you to kindly consider the above-mentioned points while evaluating the proposal from BESCOM for increasing the power tariff for FY 19 – FY 20 and to **draw conclusion which will not burden the citizens of Bengaluru further.**

Thanking you.

--Sd--

*Revathy Ashok,
Hon Managing Trustee &CEO*

*For,
Bangalore Political Action Committee*

--Sd--

*T.V. Mohandas Pai
Vice President*