

BESCOM

Preliminary Observations on the Applications filed by the BESCOM for APR for FY19 and approval of ARR & Retail Supply Tariff for FY21 under MYT Framework

1. BESCOM Capex:

a. Capex for FY19:

1. BESCOM has indicated that an amount of Rs.2869.37 Crores has been incurred as capital expenditure during FY19. BESCOM shall furnish the breakup of sources of funding for each of the category of works during FY19.
2. The BESCOM shall submit the comparison of capital expenditure actually incurred with reference to the amounts under different items of capex approved by the Commission for FY19, in the format approved by the Commission in the Tariff order 2018, with reasons for deviations, if any.
3. The Commission, during the proceedings of Tariff Order 2019, in its preliminary observations, had directed BESCOM to submit the physical progress as well as the financial progress in respect of all the capex works indicated in the APR of FY18, along with timelines for completion, in the prescribed formats, provided by the Commission. BESCOM, in its replies, had submitted that, to furnish the same, details need to be collected from the field offices and it will be very voluminous. Therefore, BESCOM has requested the Commission to consider relaxation in furnishing the same.
4. The Commission, after reviewing the capex achieved by BESCOM for FY18, and the explanations furnished, decided to allow the capex of Rs.1979.01 Crores subject to submission of physical and financial progress of the said capex works within one month from date of issue of the Tariff Order.

In addition, the Commission directed BESCOM to consider the following while incurring the capex:

i) take concrete measures to complete and capitalize the works like DAS and such other works, which are pending since many years so that, the benefits envisaged are realized and passed on to the consumers effectively;

ii) implement the guidelines of capital expenditure and not to submit any ad-hoc capex proposals.

iii) identify the high loss making Sub-Divisions/Divisions and prioritize its capex specifically to reduce the distribution loss, improve the reliability of the distribution system and improve the voltage regulations. The Commission had also noted that, even after BESCO investing huge amounts in capital works in the last five years, its achievement in terms of reduction of distribution loss is not encouraging and not satisfactory.

iv) prepare a detailed perspective plan by conducting 11 kV feeder-wise and DTC-wise load flow studies to ascertain the present and projected loads on the feeders and to arrive at least cost, techno-economically feasible improvement method for:

1. Reducing distribution losses.
2. Reducing the HT:LT Ratio.
3. Reduce Transformer failures.
4. Segregation the loads in the feeders.
5. Reduction in commercial losses.
6. Taking up programs for creating awareness among the people on usage and conservation of energy.
7. Improving the sales to metered category and
8. Improving the Power factor of the IP set loads by installing switched capacitors of suitable capacity to the secondary of the transformers.

5. The Commission notes that BESCO has not furnished compliance to any of the above directions. This clearly shows that BESCO is keen in only taking up new works under capex without any long term planning and monitoring of the capex as per the capex guidelines issued by the Commission. BESCO has not conducted any cost benefit analysis on the huge capex incurred on the distribution system of BESCO, year on year.

6. BESCOM shall submit to the Commission, the compliance and the details sought in the Tariff Order 2019 as above and physical progress as well as the financial progress, in respect of all the capex works taken up by BESCOM in the format annexed at Annexure-1, 2 and 3.
7. BESCOM, has indicated in its filing under capital expenditure (Table 3.17) that, an amount of Rs.134.90 Crores has been incurred towards replacement of faulty transformers by new transformers during FY19. It is to be pointed out that any failed transformers shall have to be replaced with a repaired transformers and the expenditure incurred on the repair of transformers need to be booked as revenue expenditure. BESCOM shall furnish the details along with reasons for having incurred such a huge amount of capital expenditure for replacement of failed transformers by new transformers during FY19 under capex. BESCOM, shall also furnish:
 - a. the details of division-wise and capacity-wise transformers failure, repaired, repaired transformers issued to the field dispensations and no. of failed transformers considered as not repairable,
 - b. details of replacement of failed transformers with new transformers and the balance of transformers yet to be repaired during FY19 and also the status thereon upto 30.11.2019 during FY20.
8. BESCOM has incurred the capex of Rs.168.67 Crores under Ganga Kalyana Scheme as against the approved capex of Rs.80.30 Crores for FY19. BESCOM shall furnish the division-wise details of Pump sets energised, amount spent, amount of capital grants received from the Government of Karnataka and the balance amount to be received from the Government of Karnataka and the action taken thereon with documentary evidence.
9. Also, BESCOM shall, furnish the details of "other works" for which Rs.603 Crores of capex is stated to have been incurred in FY19.
10. BESCOM shall furnish comments on imprudent and conditionally prudent works and compliance to the observations and

recommendations made, in respect of Final report on Prudence Check of Capital Expenditure incurred by BESCOM during FY17 and FY18, submitted by M/s PRDC, Bengaluru, as directed in the Commission in its letter dated 25th September 2019.

b. BESCOM Capex proposals for FY21:

- i. As per the Tariff application, BESCOM has proposed capex of Rs. 3173.64 Crores and Rs.6610.61 Crores for FY20 and FY21 respectively. This includes Rs.1750. Crores towards model sub-division/ conversion of OH lines into UG/ AB cables, Rs.1537.50 Crores and Rs. 1275 Crores towards Meters and DSM respectively.
- ii. The BESCOM shall explain the rationale behind submitting the proposal for incurring capital expenditure of Rs. 3173.64 Crores and 6610.61 Crores for FY20 and FY21 respectively, as against the Commission approved capital expenditure of Rs 2165.58 Crores and Rs 1661.93 Crores respectively for these years in the MYT Order 2019. It is to be stated here that BESCOM has filed application for APR of FY19 and approval of revised ARR for FY21. **Hence the question of revision of capex for FY20 in these proceedings will not arise. Any additional capex for FY20 will be reviewed during APR and prudence check.**
- iii. BESCOM, in its filing under Table 4.49, has indicated Rs.1441 Crores as the internal sources and Rs.3363 Crores as the new borrowings to meet the proposed capital expenditure for FY21. BESCOM shall furnish the current borrowing limit approved by the Borrowing Committee. Further, the capex for FY21 is proposed at Rs.6610.01 Crores, whereas the funding indicated is only Rs. 4804 Crores, including internal resources. BESCOM has not furnished the break up details for Rs.1441 Crores considered as internal resource. For the balance Rs.1806 Crores, BESCOM has not explained as to how the funding is done.
- iv. BESCOM has not furnished an action plan to raise the new loans to the extent of Rs.3363 Crores in one year itself during FY21. Considering the current financial position of BESCOM, the Commission is of the view that it may not be practicable to raise such a huge amount in one year.

- v. Further, BESCOM in its filing at page 124 and 125, has stated that the Balance Sheet of BESCOM will not support any more borrowing from the Bank and Government of Karnataka. It has proposed to incur the capex by availing loans from PFC/REC at higher rate of interest. This will in turn burden the end consumers in the form of big hike in retail supply tariff. BESCOM has proposed the huge revenue gap of Rs 5872.08 Crores for FY21 and has proposed an average increase in the retail supply tariff by Rs.1.96 per unit, which accounts for around 27% increase over the current average costs, which is quite high.
- vi. The Commission also notes that for considering works under DSM the Commission has issued separate Regulations during 2015, wherein detailed procedure has been envisaged for undertaking works under DSM. BESCOM has not complied with the provisions of the said Regulations before proposing a huge capex under DSM.
- vii. Further, BESCOM has neither submitted the details of these proposed new capex nor has given any justification for incurring the huge capex during FY21, which will have significant tariff implications as already stated. It is also to point out that BESCOM has been incurring huge capex towards conversion of OH lines into UG cables/ AB cables in the past. The Commission, in its letter dated 1st February, 2019 had informed BESCOM that Commission will consider the benefits achieved from the implementation of capex for these works in the previous year, before considering approving any capex requirement for the remaining proposals in future years, ensuring minimum tariff impact. But, BESCOM has not submitted any report as to the benefits derived thereon and the resultant reduction of losses/ improvement in revenue from the respective sub-divisions where such works were taken up. On the contrary, the distribution loss in FY19 has marginally increased in comparison to approved loss level of 12.25%. BESCOM has also not furnished the tariff impact on these proposals despite Commissions directions to ensure minimum tariff impact while proposing new capex. Therefore, BESCOM is directed to submit a report indicating the sub-division-wise works

undertaken, works completed and the resultant benefits achieved in terms of reduction of losses/ accidents and increase in revenue.

viii. While proposing new capex, the BESCO has to ascertain that the investment shall not result in duplication of existing infrastructure and replacement of existing infrastructure which is executed under different schemes without recovering the complete project cost of such schemes. BESCO shall also ascertain as to whether the least cost option and optimum investment under section 61 of the Electricity Act, has been ensured or otherwise, while implementing any new project, which shall be justifiable from the consumer's point of view. The Commission notes that BESCO has not complied with this requirement while making the proposals for new capex.

In terms of Clause 2.5.3 of the MYT Regulations, the Commission has already approved the capital investment of Rs, 2165.58 Crores, Rs.1661.93 Crores and 1322.83 Crores for the Control period FY20, FY21 and FY22 respectively. BESCO shall regulate the capital expenditure for FY21 with reference to the approved capex as per the MYT Order dated 30th May, 2019.

Hence, for the above reasons, the Commission is unable to consider the revised capex proposals for FY21.

BESCO is also hereby informed that, if any capital expenditure is incurred over and above the approved amounts without the approval of the Commission, the corresponding costs will be disallowed in the APR/ ARR.

2. Distribution Losses:

Distribution Losses for FY19:

The Commission has noted that, BESCO has changed the methodology for computation of the distribution losses for FY19 and has computed the distribution losses by considering previous month's input energy and energy sales as per the present month's DCB (i.e., Energy Input of the month of March, 2018 and energy sales from DCB for the month of April, 2018). Further, BESCO has not considered the sale of energy of 26MU to the IPPs during non-generation period for calculation of the distribution losses. Since, the distribution losses for FY19 approved by the Commission were computed

based on the present month's input energy and energy sales as per the present month's DCB, BESCO shall re-compute the distribution losses based on the methodology previously adopted by the BESCO and submit revised loss levels. As per Table.3.8 on page no. 15 of the filing, the total distribution loss for FY19 is shown as 12.27%, whereas in the audited accounts the loss is indicated as 12.54%. BESCO is directed to furnish month-wise loss calculation to arrive at the loss figure of 12.54% as per the methodology being followed earlier.

3. Observations on Sales:

A. Sales- Other than IP sets:

Data Inconsistency

- i. At page-11 of the Tariff Petition, for FY19, the sales to BJ/KJ consuming less than 40 units/month/installation is indicated as 169.56 MU, whereas as per D-2 Format the sales to this category is shown as 171.29 MU. Similarly, for installations consuming more than 40 units/month/installations it is indicated as 47.20 MU at page-11 and as 45.46MU in D-2 format. BESCO shall reconcile the data and accordingly correct the sub-total and Total figures.
- ii. The number of installations and consumption under Open Access in Table 1.7 and Table 1.8 are different. The data shall be reconciled.

iii. Energy Sales for FY19 (APR):

- a. The Commission, in its Tariff Order, 2018, dated 14.05.2018, had approved total sales to various consumer categories at 28286.75 MU as against the BESCO proposal of 27993.29 MU. The actual sales of BESCO, as per the current APR filing [D-2 FORMAT] is 27762.46 MU, indicating a shortfall in the sales to the extent of 524.29 MU as compared with the approved sales.

The category-wise sales approved by Commission and the actuals for FY19 is indicated in the table below:

Category 1	Actual Sales – MU 2	Approved Sales-MU 3	Difference – MU 4=2-3
LT1 BJ/KJ <=40 units/month	171.29	127.68	43.61
LT1 BJ/KJ >40 nits/month	45.46	47.83	-2.37
LT-2a	6919.35	7139.20	-219.85
LT-2b	51.57	52.37	-0.80

LT-3	2083.65	2190.77	-107.12
LT-4 (a)	7202.32	7123.21	79.11
LT-4 (b)	1.53	2.96	-1.43
LT-4 (c)	5.08	5.95	-0.87
LT-5	1243.08	1190.52	52.56
LT-6 WS	1193.64	934.94	258.70
LT-6 SL	499.92	452.74	47.18
LT-7	135.03	166.07	-31.04
HT-1	726.15	702.42	23.73
HT-2 (a)	4512.96	4928.94	-415.98
HT-2 (b)	2448.41	2624.34	-175.93
HT-2(c)	321.44	365.31	-43.87
HT-3(a) & (b)	45.67	17.96	27.71
HT-4	70.04	109.76	-39.72
HT-5	85.87	103.78	-17.91
Grand total	27762.46	28286.75	-524.29
Sales to categories other than BJ/KJ <= 40units/month & IP sets	20388.85	21035.86	-647.01
Sales to BJ/KJ <= 40units/month & IP sets	7373.61	7250.89	122.72

From the above table, it is noted that the major categories contributing to the reduction in sales with respect to the estimates are LT2a, LT3, all HT categories excluding HT-3. On the other hand, major categories contributing to the increase in sales with respect to the estimates are BJ/KJ consuming less than or equal to 40 units/month/installation and LT-6 WS.

- b. BESCOM in its Tariff Petition has stated that:
- i. The sales reduction in LT-2a is due to demand side management initiatives, like installation of LED lights, solar water heaters etc. While BESCOM has computed energy savings of 1148.13 MU, considering the cumulative numbers of LED bulbs, 5 star rated ceiling fans and solar heaters, the actual reduction in LT2a sales is only 219.85 MU. **Hence, BESCOM is directed to compute the incremental savings due to DSM program during FY19 and furnish the same to the Commission. BESCOM shall furnish the reasons for reduction in LT-3 sales and increase in sales to LT-6 water supply.**
 - ii. The reduction in HT sales is attributed to consumers opting for Open access/group captive. The total sales under open access has

increased by 706.29 MU (4259.98-3553.69) in FY19, which explains the reduction in HT sales.

BESCOM shall confirm as to whether the category-wise sales indicated in D-2 Format, is excluding unbilled sales. If unbilled sales are included, category-wise break up of unbilled sales shall be furnished.

iv. Category-wise sales for FY21:

- a. BESCOM in its tariff application has stated that, the sales for second half of FY20 is estimated based on the previous half-yearly data and for FY21 based on CAGR. It is submitted by BESCOM that, the sales for first half of FY20 has been worked out by considering the average of first half years' sales ratio of FY15 to FY19 and similarly for second half.

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

- b. Further, BESCOM has stated that, for FY21, energy sales estimate has been made considering the CAGRs for ten years to one year and an empirical formula is made use of. BESCOM has submitted that, for most of the categories, sales are estimated based on empirical formula and wherever the growth is negative, sales figures for FY20 are retained. BESCOM has also made following submissions:
 - i. Actual category-wise sales of FY19 is considered for computing CAGR.
 - ii. Half-yearly sales upto September-2019 is considered.
 - iii. For BJ/KJ, the estimated sales for FY20 based on half-yearly sales is retained for FY21, as there is no new scheme announced by GoK.

iv. IP set consumption has been computed based on specific consumption of 670 units/IP/month for FY20 and a specific consumption of 8081.35 units/IP/annum for FY21.

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

In spite of the above, BESCO has continued the same empirical formula. **Hence, Commission directs BESCO not to adopt such empirical formula in future and correct the data wherever such formulae are considered.**

- d. Regarding the estimates of installations, the BESCO has stated that for FY20, the number of installations is computed by adding the half yearly growth of consumers to first half of FY20 and for FY21 based on three-years' CAGR, with few modifications as below:

a. For BJ/KJ, the number of installations as on September 2019 is retained for FY20 & FY21.

b. FY20 number is retained for LT4b as CAGR is negative.

c. For HT4 5-year CAGR is adopted as 3-year CAGR is negative.

- e. The category-wise observations of the Commission are discussed below:

- i. LT (1) – BJ/KJ category:

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

- ii. In the case of LT-4b installations, though the number of installations is 309 in FY19, for FY20 and FY21, the number of installations has been reduced to 287. The reasons for the same shall be furnished.

- iii. In the case of LT-5a category, though the number of installations has increased in FY20, the sales has been reduced. The reasons for the same shall be furnished.
- iv. In the case of LT-7 installations, though the number of installations has increased in FY21, the sales has been retained at FY20 level. The reasons for the same shall be furnished.
- v. In the case of HT-2(a)(i) & (ii), HT-2(i) & (ii) even though the number of installations has increased in comparison to FY19, the sales estimated for FY20 and FY21 is lower than that of FY19. Reasons for the same shall be furnished.
- vi. In case of HT-3(a)(ii), though the number of installations for FY19 & FY20 are same, the sales are not retained at FY19 level. Reasons for the same shall be furnished.
- vii. In case of HT4a, additions to installations considered for FY20 is almost double than that of FY19 and the sales has been marginally increased. Reasons for the same shall be furnished.
- viii. The table indicating the growth rates for the no. of installations is furnished below:

Category	Percentage Growth Rates			
	2013-14 to 2018-19 CAGR	2015-16 to 2018-19 CAGR	FY19 growth over FY18	Growth rate proposed by BESCO for FY21
LT-2a	5.40%	5.09%	5.27%	5.09%
LT-2b	4.46%	2.26%	3.39%	2.26%
LT-3	5.83%	5.03%	4.62%	5.04%
LT-5	4.46%	3.58%	4.21%	3.58%
LT-6 WS	8.68%	8.75%	5.94%	8.75%
LT-6 SL	3.63%	2.87%	2.94%	2.87%
HT-1	9.16%	7.98%	5.08%	8.08%
HT-2 (a)	7.15%	3.88%	6.26%	3.94%
HT-2 (b)	7.89%	5.21%	10.30%	5.21%
HT-2 (c)	22.22%	12.46%	12.13%	12.38%
HT-3(a)&	17.72%	15.21%	18.18%	16.07%
HT-4	5.48%	-2.51%	15.07%	5.51%

It is noted that the growth rate considered by BESCO for HT-2c, is lower as compared with the normal growth rates.

- ix. The table indicating the growth rates for the energy sales is furnished below:

Category	Percentage Growth Rates			
	2013-14 to 2018-19 CAGR	2015-16 to 2018-19 CAGR	FY19 growth over FY18	Growth rate proposed by BESCO for FY21
LT-2a	5.84%	4.96%	5.27%	5.61%
LT-2b	7.26%	6.59%	3.39%	6.11%
LT-3	6.28%	5.91%	4.62%	6.28%
LT-5	2.30%	2.62%	4.21%	2.99%
LT-6 WS	20.64%	43.41%	5.94%	26.41%
LT-6 SL	4.85%	10.93%	2.94%	7.11%
HT-1	3.45%	2.58%	5.08%	4.44%
HT-2 (a)	-2.30%	-0.59%	6.26%	0.48%
HT-2 (b)	-3.03%	-2.17%	10.30%	0.00%
HT-2(c)	29.09%	11.40%	12.13%	8.22%
HT-3(a)& (b)	37.71%	-7.18%	18.18%	39.43%
HT-4	-8.59%	-10.16%	15.07%	0.00%

It is noted that the growth rate considered for LT5, HT1 and HT-3 is higher as compared with the CAGR and is lower for LT2b and HT2c. Hence, BESCO shall consider revising the above growth rates.

- f. To validate the sales, category-wise information in the following format shall be furnished:

a. No. of Installations:

Category	2017-18 Actuals		2018-19 Actuals		2019-20	
	As on 30 th Nov 2017	As on 31 st March 2018	As on 30 th Nov 2018	As on 31 st March 2019	As on 30 th Nov 2019	As on 31 st March 2020 (Estimate)
LT-2a						
LT-2b						
LT-3						
LT-4 (b)						
LT-4 (c)						
LT-5						
LT-6						
LT-6						
LT-7						
HT-1						
HT-2 (a)						
HT-2 (b)						
HT2C						
HT-3(a)& (b)						
HT-4						
HT-5						
Sub Total (Other than BJ/KJ and IP)						
BJ/KJ<=40units/month						

BJ/kJ > 40 units/month.						
IP sets-LT-4a						
Sub Total (BJ/KJ and IP)						
Grand Total						

b. Energy Sales

Category	2017-18 Actuals		2018-19 Actuals		2019-20	
	1st April 2017 to 30th Nov 2017 (cumulative)	1st Dec 2017 to 31st March 2018 (cumulative)	1st April 2018 to 30th Nov 2018 (cumulative)	1st Dec 2018 to 31st March 2019 (cumulative)	1st April 2019 to 30th Nov 2019 (cumulative actuals)	1st Dec 2019 to 31st March 2020 (cumulative Estimate)
LT-2a						
LT-2b						
LT-3						
LT-4 (b)						
LT-4 (c)						
LT-5						
LT-6						
LT-6						
LT-7						
HT-1						
HT-2 (a)						
HT-2 (b)						
HT2C						
HT-3(a) & (b)						
HT-4						
HT-5						
Sub Total (Other than BJ/KJ and IP)						
BJ/KJ<=40units/month						
BJ/kJ > 40 units/month.						
IP sets LT 4a						
Sub Total (BJ/KJ and IP)						
Grand Total						

B. Sales to IP sets:

a. Sales for FY19:

- i. The Commission, in the APR for FY18, vide its tariff order 2018 has approved the total sales to IP sets as 6289.04 MU with a specific consumption of 7340.80 unit per IP set per annum for FY18. BESCOM in its current filing has indicated the sales to IP sets as 7202.30 MU for FY19 with a specific consumption of 8107.60 units per IP set per annum. The Commission notes that there is

abnormal increase in the specific consumption by 766.80 units per IP set per annum for FY19 as compared to FY18 actuals. The reasons for this abnormal increase in the specific consumption for FY19 needs to be explained.

- ii. The details of sales to IP sets for FY19, as approved by the Commission in its tariff order 2018 and as furnished by BESCO in its current Tariff Filing for FY21 are as follows; (FY19 approved Vs Actuals)

Particulars	As approved by the Commission	As submitted by BESCO
Number of installations	8,93,803	9,04,463
Mid-year number of installations	8,86,303	8,88,346
Specific consumption in units / installation / annum	8,037	8,107.6
Sales in MU	7,123.21	7,202.3

BESCO shall furnish the reasons for increase in specific consumption by 70.6 units per installation per annum and the increase in sales by 79.09 MU when compared to the approved figures.

- iii. The Following discrepancies in the number of consumers and sales are found in the data as furnished by BESCO on two different occasions for FY20 and FY21;

Month	As per data submitted during December, 2018		As per as per data submitted during December , 2019.	
	No. of consumers	Sales in MU	No. of consumers	Sales in MU
April 2018	8,17,606	812.59	8,66,127	752.70
May 2018	8,20,329	540.85	8,68,603	821.10
June 2018	8,22,150	364.59	8,69,782	447.40
July 2018	8,23,604	370.51	8,71,526	383.30
August 2018	8,25,945	573.21	8,74,448	514.70
September 2018	8,28,709	561.09	8,77,048	541.10
Total Sales in MU	-	3222.84	-	3460.31

BESCO shall furnish the reasons for the difference in number of consumers and sales in the data furnished on two occasions.

- iv. The number of IP set installations as on 31.03.2019 is indicated as 9,04,463 in Table 4.28 and D-2 Format of the tariff filing. Whereas, the number of IP set installations indicated in the details submitted vide letter dated 04.12.2019, is 8,95,373. BESCO shall clarify the reasons for the difference in numbers.
- v. Though BESCO has stated that, it has carried out the Energy Audit of 1,317 urban feeders and 3544 number of rural feeders in the month of April 2019. Instead of considering the actual losses incurred in the feeder as per the energy audit, BESCO has considered 10% distribution loss uniformly across all the agricultural feeders. Reasons for the same need to be furnished.
- vi. As per the data of GPS survey furnished by BESCO, number of IP installations as on July 2019 as per DCB are 9,02,541 and the number of IP installations surveyed are 8,02,923 are as follows;

▪ Number of authorised IP sets surveyed	-	7,47,789
▪ Authorised working IP sets	-	7,41,985
▪ Authorised deleted IP sets from accounts	-	5,804
▪ Number of unauthorised IP sets surveyed	-	55,134
▪ Unauthorised working IP sets	-	54,407
▪ Unauthorised deleted IP sets from accounts	-	787
Total number of IP sets surveyed	-	8,02,923

- vii. While submitting the details of assessment of IP sets, the number of IP sets deleted has been considered as 9,090, whereas the number of IP sets deleted as shown in GPS survey is 6,591 (5804+787). Reasons for the difference has to be furnished.
- viii. BESCO, in its filing as per the DCB statement submitted by BESCO, the total number of IP sets as on 31.07.2019 is indicated as 921029, whereas, as per the details in the GPS Survey the number of installations is 902541. BESCO shall furnish the reasons for the difference in the number of installations.
- ix. BESCO has to furnish the reasons for the difference in number of consumers in the data as per GPS survey and the IP set assessment data, the action

taken to reconcile the details of number of consumers with DCB figures and also the action taken to regularize the un-authorized IP installations.

- x. Number of feeders taken up for assessment of IP sets in the month of April 2018 is 1,619 whereas the number of feeders in the month of March 2019 is 1874. BESCO shall furnish the total, exact number of feeders existing in its area and the reason for not considering all the agricultural feeders for assessment of IP sets in all the months i.e., April 2018 to March 2019.
- xi. Based on the above points, BESCO shall submit revised assessment of consumption of IP for FY19, with more clarity on data.**

b. Observations on Projected sales to IP Sets for the FY21:

- i. Details of the number of consumers as per actuals for the period from April, 2019 to September 2019 shall be furnished.
- ii. BESCO has not computed the specific consumption of IP sets for six month's period- April to September, 2019 by reckoning the mid period number of installations for a period of six months. BESCO shall furnish detailed calculations on projected number of installations and energy sales for FY21.
- iii. BESCO, in its filing for Fy21 has projected total number of IP sets installations as on 31-03-2021 as 969204 by adding 30,000 new installations over the projected number of IP set installations for FY20. BESCO shall furnish the basis for the projection of number of IP set installations for FY21
- iv. The BESCO, in its tariff application for FY21 has considered total IP consumption as 3702.64 MU for the period April to September 2019 without furnishing the month-wise break-up, as per the prescribed formats, in support of its claim. In this regard the details submitted by BESCO by email dated 9.12.2019 need to be re-examined in view of the Commission's above observations on the number of IP set installations. In the absence of clear data, the Commission will not accept the enhanced consumption for FY21.**
- v. The consumption for the same period, in the previous year was 3,222.84 MU. A substantial increase in consumption of 479.8 MU is observed. **BESCO shall explain the reasons for such a substantial increase in consumption for FY21 may be furnished.**

4. Power Purchases:

a) APR FY19:

1. As per Format D-1, BESCO has furnished details of power purchases from different source. In this regard BESCO shall clarify as to whether share of power purchase for FY19, is as per the Orders of the GoK vide No. EN 32 PSR 2018, Bangalore, dated:24.04.2018, wherein ESCOM-wise allocation of power is made. If not, the source-wise percentage of actual power purchase made during FY19 shall be furnished.
 2. A separate statement showing the variable cost in the ascending order for the energy scheduled from different sources of power shall be furnished. Any deviation from the merit order scheduling may be explained.
 3. BESCO in its filing (page 26, Table3.14) has indicated the actual capacity charges of Rs. 281.09 Crores paid to BTPS unit-3 and Rs. 451.27 Crores paid to YTPS unit-1, whereas the Commission had not approved any capacity charges for these stations in the Tariff Order for FY19. The Commission notes that there is supply of small quantum of energy of 204.82MU from BTPS unit-3 and 462.08MU from YTPS unit-1. The month wise capacity utilization and the Computation of capacity charges for BTPS unit-3 and YTPS unity-1 shall be furnished along with necessary documents. Computation sheet for payment of capacity charges to BTPS unit-1,2, UPCL, Kudagi shall also be furnished.
4. The Commission in its Tariff Order dated 30th May,2019 has directed as follows:

"The Commission notes an abnormal contribution from the State towards payment of PGCIL transmission charges. Due to this there will be a substantial financial impact, resulting in an increase in the retail supply tariff to the end consumers. The Commission, therefore, directs ESCOMs/PCKL to take appropriate action immediately, to resolve the issues with the appropriate authorities regarding the PGCIL transmission tariff. Henceforth, ESCOMs/PCKL shall constitute a dedicated team, which studies the pros and cons of any methodologies/amendments proposed to PGCIL's Transmission tariff or in any such other relevant matters, and shall effectively communicate the same to the concerned authorities, at the draft stage itself. The Commission will not allow such tariff in future, if it

considers that the ESCOMs/PCKL have not taken effective and prompt steps to ensure that the PGCIL's transmission tariff is fair and equitable to the State"

BESCOM shall furnish the details of action taken in the matter.

5. The details/reason for backing down/Reserve shut down (RSD) of the thermal stations declaring availability at 85% may be furnished along with details for having paid the Fixed cost and variable cost to the KPCL/CGS thermal stations.
6. In the tariff application (page 27), BESCOM has stated that it has paid Rs. 528 Crore towards fixed cost without purchasing any power from thermal stations. In this regard, BESCOM shall furnish details of the action taken as per the terms and condition of the PPA duly furnishing the relevant documentary evidence.
7. BESCOM shall furnish the details of energy sold by BSCOM through IEX during FY19.
8. The Source-wise consolidated reconciliation statement for the energy for FY19 shall be furnished.
9. BESCOM in its filing (Table3.13) has indicated an amount of Rs 1539.27 Crores towards the transmission charges paid to KPTCL, as against the approved transmission charges of Rs 1528.66 Crores, which is in excess. BESCOM shall furnish the reason for the excess payment to KPTCL toward the transmission charges and furnish the month wise details for the demand raised and paid for FY19.

b) Power Purchase for FY21(ARR):

1. BESCOM, in its filing has indicated that the energy availability from different sources is 104959.13MU. However, as per the details furnished on page-67 of the application, the total energy available works out to 105019.14MU. Reasons for the difference in total need to be explained. A separate statement showing the variable cost in the ascending order from different sources of power shall be furnished.
2. BESCOM has considered the energy of 428.46MU from Yelahanka gas plant. In this regard, BESCOM shall confirm whether Power Purchase

Agreement has been signed with KPCL after obtaining the In-principle approval from the Commission. The basis of reckoning the fixed and variable shall be furnished.

3. BESCO shall furnish the basis and the document to consider the fixed cost and the variable cost in respect of BTPS unit-3, YTPS and Yelahanka gas plants.
4. BESCO shall furnish the capacity and quantum of energy to be procured from RE projects for which it has executed the PPAs in the following format for FY21.

SI No	RE Sources	Commissioned Capacity in MW	Likely to be Commissioned Capacity in MW	Forecasted energy (in MU)	Total Cost Rs. Crs.	Remarks
1	Wind					
2	Hydro					
3	Co-gen					
4	Biomass					
5	Municipal Solid Waste					
6	Solar MW Projects					
7	Solar SRTPV Projects					

5. BESCO shall furnish the methodology for forecasting the RE energy for FY21.

5. RPO Compliance:

- i. BESCO has furnished the details of RPO compliance of solar and non-solar RPO for 2018-19 and has submitted that it has complied with both the solar & Non-solar RPO. As per D-1 Format, the net energy after deducting the Hydel sources is 32171.78 MU [32960.28-776.17(KPCL)-12.33(Other Hydro)] whereas, BESCO for RPO computations, has considered 31982.28 MU. **This shall be clarified. Further, break up of energy procured from Shiva and Shimsha project shall be furnished separately.**
- ii. As per D-1 Format, Non-solar energy purchased is 5771.18 MU (2939.71+5.11+456.69+828.98+63.62+1477.69), whereas for RPO it is indicated as 4313.24 MU. Similarly, as per D-1 Format, the Solar energy purchased is shown as 3385.38MU (2528.94+675.98+3.79+176.67), whereas for RPO it is indicated as 3333.67 MU. The inconsistencies in these figures

shall be reconciled. Also for Non-solar RPO, the energy procured from Shimsha Hydro Station shall also be added.

- iii. For validating the RPO compliance and to work out APPC, BESCO shall furnish the data as per the format indicated below, duly reconciling the data with audited accounts of FY19:

a. Non-solar RPO:

No.	Particulars	Quantum in MU	Cost- Rs. Crs.
1	Total Power Purchase quantum from all sources excluding Hydro energy		
2	Non-solar Renewable energy purchased under PPA route at Generic tariff including Non-solar RE purchased from KPCL		
3	Non-solar Short-Term purchase from RE sources, excluding sec-11 purchase		
4	Non-solar Short-Term purchase from RE sources under sec-11		
5	Non-solar RE purchased at APPC		
6	Non-solar RE pertaining to green energy sold to consumers under green tariff		
7	Non-solar RE purchased from other ESCOMs		
8	Non-solar RE sold to other ESCOMs		
9	Non-solar RE purchased from any other source like banked energy purchased at 85% of Generic tariff		
10	Total Non-Solar RE Energy Purchased [No 2+ No.3+No.4+No.5 +No.7+No.9]		
11	Non-Solar RE accounted for the purpose of RPO [No.10- No.5-No.6-No.8]		
12	Non-solar RPO complied in % [No11/No1]*100		

b. Solar RPO:

No.	Particulars	Quantum in MU	Cost- Rs. Crs.
1	Total Power Purchase quantum from all sources excluding Hydro energy		
2	Solar energy purchased under PPA route at Generic tariff including solar energy purchased from KPCL		
3	Solar energy purchased under Short-Term, excluding sec-11 purchase		
4	Solar Short-Term purchase from RE under sec-11		
5	Solar energy purchased under APPC		
6	Solar energy pertaining to green energy sold to consumers under green tariff		
7	Solar energy purchased from other ESCOMs		
8	Solar energy sold to other ESCOMs		
9	Solar energy purchased from NTPC (or others) as bundled power		
10	Solar energy purchased from any other source like banked energy purchased at 85% of Generic tariff		
11	Total Solar Energy Purchased [No2+ No.3+No.4+No.5+No.7+No.9+No.10]		
12	Solar energy accounted for the purpose of RPO [No.11- No.5-No.6-No.8]		
13	Solar RPO complied in % [No12/No.1]*100		

iv. BESCO shall furnish the estimates for complying with the Solar and Non-Solar RPO for FY20 & FY21, including any cost implication for purchasing RECs, if any.

6. Wheeling Charges for FY21:

BESCO has proposed wheeling charges of 22.29 paise/unit and 52.01 paise/unit in respect of HT network and LT network, respectively. Further it has stated that the applicable losses at HT & LT shall be 3.52% and 7.48% respectively.

BESCO, at page-236 has considered distribution network cost as 2224.49 Crores., whereas at page 135 it is indicated as 2304.24 Crores. BESCO shall reconcile the data and re-work the wheeling charges for HT & LT Network.

BESCO has stated that wheeling charges proposed shall be applicable to all OA/wheeling transactions and also to RE sources. In view of the existing concessions extended to the RE sources, **BESCO shall justify the levy of the normal wheeling charges proposed to RE sources.**

7. Cross subsidy surcharge:

BESCO has stated that as per Hon'ble APTEL, the Cross Subsidy Surcharge is not only to compensate ESCOMs for loss of cross subsidy, but also to compensate the remaining consumers who have not taken OA. Further, BESCO has referred to the Consultation paper of MoP dated 24.08.2017 and has stated that SERCs have to implement Para 8.3-2 and first proviso to Para 8.5.1 of tariff policy, simultaneously. Accordingly, BESCO has submitted that, it has worked out the CSS as per the formula specified in tariff policy, 2016.

For FY21, BESCO has proposed the following CSS (Paise Per unit)

Voltage level	HT-1	HT-2a(i)	HT-2a(ii)	HT-2b(i)	HT-2b(ii)	HT-2C(i)	HT-2C(ii)	HT-3a(i)	HT-3a(ii)	HT-3b	HT-4	HT-5
66kV & above	0	257	222	319	252	201	248	0	0	0	198	321
HT-11kV or 33 kV	0	257	222	319	252	201	248	81	68	109	198	321

The Commission directs BESCO to work out CSS for FY21 in respect of LT categories also.

8. Observations on Revenue Expenditure/Revenue:

a. Operation and Maintenance expenses:

BESCOM, in its application of APR for FY19, has claimed an amount of Rs.1983.11 Crores towards O&M expenses for FY19. This amount includes the additional employees cost an account of contribution to P&G Trust for Rs.296.72 Crores. The Commission, in its Tariff Order 2019, while undertaking APR for FY18, has allowed the provisions made for the arrears of revision of pay scale to the employees from 01.04.2017 to 31.03.2018 amounting to Rs.129.63 Crores as an additional employees cost and Rs.28.41 Crores towards the additional contribution to P&G Trust on the arrears of pay revision, as per the audited accounts for FY18.

BESCOM shall furnish the details of the actual payment of arrears to its employees on account of pay revision for FY18 during FY19 and the additional contribution made thereon to the P&G trust.

Further, BESCOM shall furnish the actual employees cost incurred during FY19 by excluding the arrears of pay revision and contribution to P&G Trust, for the FY18.

BESCOM has proposed an additional employees cost of Rs.27.15 Crores towards recruitment of 479 employees during FY21. The present status of recruitment of the proposed employees shall be furnished.

b. Contribution to P&G Trust:

BESCOM, in its filing of APR for FY19, has claimed an amount of Rs.296.72 Crores towards contribution to P&G Trust for FY19. BESCOM shall furnish the computation sheet for factoring Rs.296.72 Crores duly considering the contribution to the employees recruited up to 31.03.2006 and employees recruited after 31.03.2006 separately for FY19. The same details towards the claim for FY21 shall also be furnished.

c. Administration and General Expenses:

BESCOM, in its application for APR for FY19, has claimed an amount of Rs.206.95 Crores towards Remuneration to contract agencies and 80.53 Crores towards conveyance and travel expenses. As per the provisions of MYT Regulations, the O&M expenses are controllable expenditure and every

ESCOM need to control the expenditure under this head by utilizing the available resources within its control in a prudent manner. BESCO shall furnish the reasons for incurring huge amount of expenditure under this head of account along with breakup details for FY19 besides re-examining and revising the amount proposed for FY21.

d. Interest on Consumer's Security Deposit for FY19:

BESCO in its filing has claimed an amount of Rs.210.56 Crores towards interest on consumer's security deposit at 6.40% as against the applicable rate of 6.25% for FY19. The provision/ documentary evidence in support of paying interest at 6.40% shall be furnished.

e. Fuel cost adjustment charges (FAC):

BESCO in its filing has considered an amount of Rs.170 Crores as Fuel cost adjustment charges (FAC) demanded from the consumers during FY19. BESCO shall furnish the quarter-wise details for FAC demand raised vis-à-vis the FAC approved by the Commission for FY19.

f. Proposed Retail Supply Tariff to IP sets under LT-4(a) category:

BESCO in its filing for FY21, has proposed the highest increase in energy charges to irrigation pump sets up to 10 HP (LT4(a)) category by 3.00 per unit (from CDT of Rs.3.90 per unit to Rs. 6.90 per unit) and has claimed subsidy of Rs.5320.77 Crores for FY21 as against an approved subsidy of Rs. 2635.59 Crores for FY20. **This accounts for an increase by 101.88%. As all the IP set installations up to 10 HP are covered under tariff subsidy from Government of Karnataka, BESCO shall explain the reasons for such abnormal increase in subsidy and confirm as to whether there is a commitment letter from the Government of Karnataka for making available such a huge amount of subsidy to BESCO for FY21. In the absence of a commitment letter from the Government, the Commission will not accept the abnormal increase in the tariff to IP sets.**

9. observations on Directives:

Directive No	Directives Issued by the Commission	Observation made
1	Consumer interaction meeting at Subdivision level.	BESCO was directed to conduct consumer interaction meetings at Subdivision level chaired by the SEE once in a quarter to redress the consumer complaints. BESCO has

Directive No	Directives Issued by the Commission	Observation made
		submitted the details of consumer interaction meetings conducted in all the subdivisions in 2 nd quarter of the FY20 in its filing. The BESCOM has to furnish the details for the 1 st quarter of FY20 and for FY19 indicating the dates on which the meetings were conducted and the Officers chairing such meetings. As directed, the BESCOM is not furnishing the details of the CIMs conducted once in three months, to the Commission. BESCOM shall furnish compliance thereon.
2	Directive on preparation of energy bills on monthly basis by considering 15 minute's time block period	BESCOM has furnished the month-wise details of number of open access consumers sourcing power from power exchange, open access, units scheduled / consumed in MU and illegally banked energy, if any, for FY19 and up to September 2019. But BESCOM has not furnished the details of revenue gain for the above period.
3	Directive on Energy Conservation	BESCOM is not furnishing the compliance on quarterly basis as directed. BESCOM shall submit the compliance as per the directions.
4	Directive on implementation of Standards of Performance (SoP)	<p>The BESCOM was directed to display the SoP parameters in all its O&M Subdivisions and O&M Sections. Also directed the BESCOM to carry out effective supervision over the functioning of field offices particularly in rendering of services to the consumers, relating to restoration of supply of electricity and to submit the details of number of violations of SoP by officers, sub-division wise, month wise, amount of penalty levied on the officers and the amount paid to the consumers for any delay in service.</p> <p>BESCOM was also directed to conduct awareness campaign at the Hobli levels for educating the public about the Standards of Performance prescribed by the Commission. BESCOM as also directed to conduct necessary orientation programme for all the field officers and the staff up to linemen to educate them on the SoP and the consequences of non – adherence to the SoP. Further, the Commission directed BESCOM to publish a "HAND BOOK" in Kannada on the SoP and arrange to distribute to all the staff and stake holders and submit the quarterly progress.</p> <p>But BESCOM is not submitting the compliance periodically. It is said to have published the hand book on SoP, but has not enclosed the copy for information of the Commission.</p>

Directive No	Directives Issued by the Commission	Observation made
		BESCOM has reported that it has not conducted awareness campaigns in the Hobli levels for educating consumers and orientation programs for educating the officers and field staff up to the level of lineman. BESCOM shall submit the compliance reports regularly.
5	Directive on use of safety gear by linemen	BESCOM is not submitting the quarterly compliance report to the Commission. As per the statistics furnished in the data for ESCOMs review meeting 545 number of linemen on contract basis have to be provided with the safety gear. BESCOM shall submit the statistics and the definite timeline for providing complete set of safety gear to all the linemen. Details of the action taken on erring staff shall also be furnished.
6	Directive on providing Timer Switches to Street lights by ESCOMs	As per the statistics furnished in the data for ESCOMs review meeting, 43,152 Street Light installations are required to be provided with timer switches. BESCOM has informed that providing timer switches is not in its purview. But, BESCOM has to ensure to service/ energize the street lights/ points, after ensuring the installation of LED / energy efficient lamps and timer switches. BESCOM has also not submitted the compliance as to whether LED / energy efficient lamps are being used and timer switches are being provided while servicing of new streetlight installations. BESCOM shall submit a compliance report thereon.
7	Directive on Load shedding	BESCOM is not submitting to the Commission, its projections of availability and demand for power and any unavoidable load shedding for every succeeding month in the last week of the preceding month regularly. BESCOM shall submit compliance on the same.
8	Directive on establishing a 24 X 7 fully equipped centralized consumer service centers	BESCOM has furnished that the total number of complaints received at central complaints center and other than the central complaints center is "zero" (0) during the 2 nd quarter of FY20 in its tariff filing FY21. BESCOM was directed to reduce the consumer downtime to address complaints. BESCOM is directed to report average time taken to attend to a complaint as at present and the efforts made to further,

Directive No	Directives Issued by the Commission	Observation made
		<p>reduce the downtime in future. Comparison of the downtime analysis for FY17 and FY18 shall be furnished.</p> <p>BESCOM shall submit compliance on the same.</p>
9	Directives on Energy Audit	<p><u>Energy Audit of cities / towns</u></p> <p>BESCOM shall furnish details of feeder-wise energy audit along with the details up to September 2019, on the measures initiated to reduce loss levels wherever the same are above 15%.</p> <p>The BESCOM has been giving the same reason, from the last 3 years that the consumer indexing is not completed to take up feeder-wise energy auditing. The BESCOM shall indicate the definite timeline by which it will complete the consumer indexing for taking up energy auditing effectively.</p> <p>BESCOM shall furnish the comparative statement of losses recorded in Towns & Cities for the FY19 as against the FY18 and also losses upto September, 2019.</p> <p><u>DTCs Energy Audit:</u></p> <p>BESCOM was directed to furnish the details of energy audit conducted in respect of DTCs for which meters have been fixed and the remedial measures initiated to reduce losses in those DTCs which are showing abnormally high losses, every month to the Commission regularly.</p> <p>BESCOM has not submitted the details of energy audit conducted in respect of DTCs for which meters have been said to be fixed. BESCOM shall submit the details of energy audit conducted for the metered DTCs and the timeline for conducting the Energy Audit of all the DTCs.</p>
10	Prevention of Electrical Accidents	<p>As per the details furnished for the review meetings of the ESCOMs, the balance number of hazardous locations to be rectified is as high as 1479. Hence BESCOM has to furnish an action plan to rectify them.</p> <p>Also, BESCOM has to furnish the summary of the analysis made on the reports submitted by Electrical Inspectorate for FY20 up to September 2019 and action taken to prevent such accidents in future.</p>

Annexure to the Commission's Observation on BESCO Filing

Annexure-1: physical and financial progress, in respect of the schemes taken up by

Sl. No.	Name of the Scheme	Total No. of works	Total Cost of Scheme (Rs in Crores)	Funding mechanism for the scheme	Objectives of the Scheme	Scheduled date for completion of the scheme	No. of works completed till FY19*	Objectives achieved with figures	Total expenditure till FY19*	Balance no. of works to be completed**	Expected expenditure for completion of balance works**	Expected date of completion of balance works	Cost Benefit Ratio on the total investment
1	RGGVY												
2	Niranthara Jyothi Yojane												
3	DDUGJY												
4	HVDS												
5	IPDS												
6	R-APDRP												
7	DAS												
8	Smart Grid												
9	Smart City												
10	Electric Vehicle												
11	DSM												
12	Model Sub Division												
13	Model Village												
14	Auto reclosure & Sectionalizer												

Annexure-2- Year wise break up of no. of works completed and corresponding expenditure incurred from the first year of inception of the scheme to till FY19

Sl. No.	Name of the Scheme	1 st year (ex: FY10)		2 nd year (FY11)		10 th year (FY19)		
		No. of works completed	Expenditure incurred (Rs in Cr)	No. of works completed	Expenditure incurred (Rs in Cr)	No. of works completed	Expenditure incurred (Rs in Cr)	Total expenditure till FY19
1	RGGVY							
2	Niranthara Jyothi Yojane							
3	DDUGJY							
4	HVDS							
5	IPDS							
6	R-APDRP							
7	DAS							
8	Smart Grid							
9	Smart City							
10	Electric Vehicle							
11	DSM							
12	Model Sub Division							
13	Model Village							
14	Auto reclosure & Sectionalizer							

Annexure-3: Year wise break up of no. of balance works that will complete and corresponding expenditure for completion of balance works of the scheme from FY20 onwards

Sl. No.	Name of the Scheme	FY20		FY21		FY22					
		Balance no. of works to be completed	Expenditure (Rs in Cr)	Balance no. of works to be completed	Expenditure (Rs in Cr)	Balance no. of works to be completed	Expenditure (Rs in Cr)	Balance no. of works to be completed	Expenditure (Rs in Cr)	Total no. of balance works to be completed	Total of the expected expenditure (Rs in Cr)
1	RGGVY										
2	Niranthara Jyothi Yojane										
3	DDUGJY										
4	HVDS										
5	IPDS										
6	R-APDRP										
7	DAS										
8	Smart Grid										
9	Smart City										
10	Electric Vehicle										
11	DSM										
12	Model Sub Division										
13	Model Village										
14	Auto reclosure & Sectionalizer										
