

CHAPTER – 4**Modified Annual Revenue Requirement for
FY-2019 (3rd year of 4th Control period)**

The Commission vide Tariff Order dated 30th March 2016, approved the Annual Revenue Requirement for the 4th control period commencing from FY-17 to FY-19. Approved Annual Revenue Requirement for FY-19 is as under:

Table No. 4.1**Amount In Crores.**

| Sl. No | Particulars | FY19 |
|---------------|---|-----------------|
| | Expenditure in Rs. Crs. | |
| 1 | Power Purchase Cost | 12457.21 |
| 2 | Transmission charges of KPTCL | 1781.99 |
| 3 | SLDC Charges | 14.29 |
| | Power Purchase Cost including cost of transmission | 14253.49 |
| 4 | O&M Expenses | 1688.27 |
| 5 | Depreciation | 314.54 |
| | Interest & Finance charges | |
| 6 | Interest on Capital Loans | 337.99 |
| 7 | Interest on Working capital Loans | 342.08 |
| 8 | Interest on consumer security deposits | 303.95 |
| 9 | Other Interest & Finance charges | 10.19 |
| 10 | Less interest & other expenses capitalized | 86 |
| | Total Interest & Finance charges | 908.21 |
| 11 | Other Debits | 0 |
| 12 | Net Prior Period Debit/Credit | 0 |
| 13 | Return on Equity | 46.83 |
| 14 | Funds towards Consumer Relations/Consumer Education | 1 |
| 15 | Other Income | 223 |
| | Net ARR | 16989.34 |

As per MYT regulations the base year for 4th control period commencing from FY-17 to FY-19, base year is considered as FY-16.

While Approving Annual Revenue Requirement for 4th control period commencing from FY-17, Commission considered FY-15 actuals and computed FY-16 base year Annual Revenue Requirement.

Now, FY-16 audited accounts are available and FY-17 accounts are placed before the Commission for truing up in the previous chapter. FY-18 half yearly accounts are available on hand. Hence, FY-19 Annual Revenue Requirement are proposed for modification based

on the accounts of FY-17 and half yearly accounts of FY-18.

As per 2.8.2 of the MYT regulations-2006, The Distribution Licensee may, as a result of additional information not previously known or available to him at the time of forecast under the MYT framework for the Control Period, apply for modification of the ARR and ERC for the remainder of the control period.

In lieu of the above regulation, Annual Revenue Requirement for FY-19 i.e., last year of the 4th control period is proposed for modification.

Sales and Distribution Loss for FY-19 (3rd year of 4th control period):

The actual category wise sales for FY 2017 is 26239.23 MU as against the approved sales of 26472.74 MUs. There is a reduction of sales to an extent of 233.51 MU against the approved level. Based on the actuals of FY-17 and half yearly sales of FY-18(Upto Sept-17), category wise sales for FY-19 are modified.

Projection of installations:

Estimation of number of consumers for FY-18 is computed by adding the half yearly growth of consumers to the first half of FY-18. For FY19, one year growth rate is considered more appropriate.

Estimation of installations are prepared with a few modifications such as,

- For IP sets i.e., LT4a, 26070 unauthorized IP installations are planned to be serviced in 5 months of the second half i.e., H2 of FY18 along with Rural Electrification of IP of 7000. For FY19, 15000 installations are added under Rural Electrification of IP.
- Under DDUJY, 59830 no. of installations are to be serviced under FY18 (already 23624 installations are serviced), hence, 36206 installations are considered for H2 of FY18. For FY19, 59829 no. of installations are considered.
- Wherever, One year growth rate for FY17 is negative or exorbitant, certain alterations are done, such as
 - For LT2b, one year growth rate is -0.2%, FY18 numbers are retained for FY19.
 - For LT4c, one year growth rate is -50.7%, installations added during FY18 is added

to year end installations of FY18 for estimating the installations for FY19.

- For LT7, one year growth rate is 14.5%. Since, the percentage growth varies under this category only 10% growth rate over FY18 is considered for FY19.
- For, HT5, one year growth rate is 59.8%, which is exorbitant. Hence, 25% growth rate over FY18 is considered for FY19.

The computation of installations for FY18 and FY19 are depicted in the table below:

Table No. 4.2

| Sl. No | Consumer Category | As on 31/03/15 | As on 31/03/2016 | As on 31/03/2017 | Upto 30/09/2018 | As on 31/03/2018 | As on 31/03/2019 | One year growth rate |
|-----------------|-------------------|----------------|------------------|------------------|-----------------|------------------|------------------|----------------------|
| 1 | LT 1(a) | 769153 | 772458 | 803689 | 827313 | 863519 | 923348 | 4.0% |
| 2 | LT2 (a) | 6379067 | 6797203 | 7152843 | 7326284 | 7499725 | 7892122 | 5.2% |
| 3 | LT2 (b) | 10055 | 11242 | 11215 | 11468 | 11721 | 11721 | -0.2% |
| 4 | LT3 | 864600 | 944611 | 993075 | 1020311 | 1047547 | 1101292 | 5.1% |
| 5 | LT4 (a) | 768516 | 809170 | 841228 | 854809 | 887879 | 902879 | 4.0% |
| 6 | LT4 (b) | 638 | 740 | 365 | 447 | 529 | 693 | -50.7% |
| 7 | LT4 (c) | 1315 | 1421 | 1452 | 1480 | 1508 | 1541 | 2.2% |
| 8 | LT5 | 175326 | 189452 | 194622 | 198131 | 201640 | 207143 | 2.7% |
| 9 | LT6 WS | 58116 | 61667 | 67451 | 71363 | 75275 | 82335 | 9.4% |
| 10 | LT6 SL | 57373 | 59838 | 60976 | 61949 | 62922 | 64119 | 1.9% |
| 11 | LT7 | 348943 | 485141 | 555272 | 586156 | 617040 | 678744 | 14.5% |
| LT TOTAL | | 9433102 | 10132943 | 10682188 | 10959711 | 11269305 | 11865937 | 5.5% |
| 12 | HT1 | 186 | 197 | 203 | 216 | 229 | 236 | 3.0% |
| 13 | HT2 (a) | 5414 | 6286 | 6303 | 6454 | 6605 | 6623 | 0.3% |
| 14 | HT2 (b) | 4893 | 5827 | 5709 | 5933 | 6157 | 6032 | -2.0% |
| 15 | HT2 (c) | 380 | 533 | 606 | 639 | 672 | 764 | 13.7% |
| 16 | HT3 (a) | 27 | 23 | 27 | 28 | 29 | 34 | 17.4% |
| 17 | HT3 (b) | 2 | 11 | 11 | 12 | 13 | 13 | 0.0% |
| 18 | HT4 | 217 | 272 | 223 | 221 | 219 | 180 | -18.0% |
| 19 | HT5 | 297 | 475 | 759 | 865 | 971 | 1214 | 59.8% |
| HT TOTAL | | 11416 | 13624 | 13841 | 14368 | 14895 | 15096 | 1.6% |
| TOTAL | | 9444518 | 10146567 | 10696029 | 10974079 | 11284200 | 11881032 | 5.4% |

The category wise sales projected for the current year 2017-18 and ensuing year 2018-19 along with the approved numbers are shown below:

Table No. 4.3

| Category | FY-18 | | FY-19 | |
|----------|--------------|---------------------|--------------|---------------------|
| | Approved No. | BESCOM modified No. | Approved No. | BESCOM modified No. |
| LT-2a* | 7570528 | 7499725 | 7944659 | 7892122 |
| LT-2b | 11374 | 11721 | 11869 | 11721 |
| LT-3 | 1039878 | 1047547 | 1097384 | 1101292 |
| LT-4 (b) | 873 | 529 | 933 | 693 |
| LT-4 (c) | 1897 | 1508 | 2147 | 1541 |
| LT-5 | 204951 | 201640 | 214373 | 207143 |

| | | | | |
|--------------|-----------------|-----------------|-----------------|-----------------|
| LT-6 WS | 76046 | 75275 | 84241 | 82335 |
| LT-6 SL | 65910 | 62922 | 68941 | 64119 |
| LT-7 | 659470 | 617040 | 815345 | 678744 |
| HT-1 | 261 | 229 | 292 | 236 |
| HT-2 (a) | 7265 | 6605 | 7856 | 6623 |
| HT-2 (b) | 6481 | 6157 | 6878 | 6032 |
| HT2C | 540 | 672 | 572 | 764 |
| HT-3(a)& (b) | 39 | 42 | 41 | 47 |
| HT-4 | 328 | 219 | 342 | 180 |
| HT-5 | 908 | 971 | 1123 | 1214 |
| BJ/KJ | 631754 | 863519 | 631754 | 923348 |
| IP Sets | 883519 | 887879 | 913519 | 902879 |
| Total | 11162022 | 11284200 | 11802269 | 11881032 |

Projection of Energy Sales in MU:

The projections of Sales for Second Half of FY-18 i.e. H2 of FY-18 is projected based on the previous half yearly data and for FY-19 sales are computed based on Compounded Annual Growth Rate Method.

The category wise H1 and H2 for each of the financial year from FT15 to FY17 is depicted in the table below:

Table No. 4.4

| Tariff | Apr-14 to Sept-14 | Oct-14 to Mar-15 | Apr-15 to Sept-15 | Oct-15 to Mar-16 | Apr-16 to Sept-16 | Oct-16 to Mar-17 |
|-----------------|--------------------------|-------------------------|--------------------------|-------------------------|--------------------------|-------------------------|
| HT-1 | 0.49 | 0.51 | 0.50 | 0.50 | 0.51 | 0.49 |
| HT-2A | 0.54 | 0.46 | 0.51 | 0.49 | 0.53 | 0.47 |
| HT-2B | 0.54 | 0.46 | 0.53 | 0.47 | 0.54 | 0.46 |
| HT-2C | 0.44 | 0.56 | 0.51 | 0.49 | 0.51 | 0.49 |
| HT-3 | 0.20 | 0.80 | 0.47 | 0.53 | 0.30 | 0.70 |
| HT-4 | 0.60 | 0.40 | 0.53 | 0.47 | 0.59 | 0.41 |
| HT-5 | 0.88 | 0.12 | 0.49 | 0.51 | 0.45 | 0.55 |
| HT total | 0.55 | 0.45 | 0.51 | 0.49 | 0.53 | 0.47 |
| LT-1 | 0.51 | 0.49 | 0.51 | 0.49 | 0.51 | 0.49 |
| LT-2 | 0.51 | 0.49 | 0.51 | 0.49 | 0.52 | 0.48 |
| LT-3 | 0.51 | 0.49 | 0.52 | 0.48 | 0.52 | 0.48 |
| LT-4 | 0.45 | 0.55 | 0.52 | 0.48 | 0.44 | 0.56 |
| LT-5 | 0.50 | 0.50 | 0.51 | 0.49 | 0.51 | 0.49 |
| LT-6A [WS] | 0.53 | 0.47 | 0.51 | 0.49 | 0.41 | 0.59 |
| LT-6B [SL] | 0.48 | 0.52 | 0.50 | 0.50 | 0.47 | 0.53 |
| LT-7 | 0.51 | 0.49 | 0.51 | 0.49 | 0.49 | 0.51 |
| LT total | 0.49 | 0.51 | 0.51 | 0.49 | 0.48 | 0.52 |
| Total | 0.51 | 0.49 | 0.51 | 0.49 | 0.496 | 0.504 |

From the above table it can be seen that the half yearly sales ratio of all the categories put together for FY17 is equal. The H2 sales ratio of the previous years are less than H1. Hence, for estimating the second half of FY18, the H2 ratio for FY17 is considered and the

estimation for FY18 is computed.

Table No. 4.5

| Tariff | FY-17 | | FY-18 | | Total |
|-------------------|-------------------|------------------|-------------------|-------------------|-----------------|
| | Apr-16 to Sept-16 | Oct-16 to Mar-17 | Apr-17 to Sept-17 | Oct-17 to Mar-18* | |
| HT-1 | 344.83 | 336.73 | 335.94 | 328.06 | 664.00 |
| HT-2A | 2376.76 | 2079.41 | 2257.32 | 1974.91 | 4232.23 |
| HT-2B | 1414.09 | 1205.54 | 1362.69 | 1161.72 | 2524.42 |
| HT-2C | 138.73 | 131.32 | 161.59 | 152.97 | 314.56 |
| HT-3 | 4.56 | 10.51 | 3.52 | 8.10 | 11.62 |
| HT-4 | 63.02 | 43.38 | 35.73 | 24.59 | 60.32 |
| HT-5 | 37.41 | 45.08 | 42.35 | 51.02 | 93.37 |
| HT total | 4379.41 | 3851.97 | 4199.14 | 3701.37 | 7900.52 |
| LT-1 | 66.35 | 62.50 | 84.53 | 79.62 | 164.14 |
| LT-2 | 3324.70 | 3091.27 | 3484.63 | 3239.98 | 6724.61 |
| LT-3 | 971.61 | 907.69 | 1057.49 | 987.93 | 2045.42 |
| LT-4 | 3192.02 | 4100.54 | 3104.21 | 3987.75 | 7091.96 |
| LT-5 | 592.66 | 570.56 | 595.49 | 573.28 | 1168.77 |
| LT-6A [WS] | 238.61 | 343.24 | 356.32 | 512.58 | 868.91 |
| LT-6B [SL] | 180.43 | 207.04 | 212.08 | 243.36 | 455.44 |
| LT-7 | 77.92 | 80.76 | 79.52 | 82.41 | 161.93 |
| LT total | 8644.29 | 9363.60 | 8974.27 | 9706.90 | 18681.17 |
| Total | 13023.69 | 13215.57 | 13173.42 | 13408.27 | 26581.69 |

Based on the half yearly growth, the total estimated sales for FY-18 is 26581.69 MU.

The compound annual growth rate (CAGR) is the mean annual growth rate of an investment over a specified period of time longer than one year. This method is used to compute the consumption pattern of BESCOM over the years.

This method is geometric progression ratio that provides a constant rate of return over the time period, which drive the demand for electricity, are expected to follow the same trend as in the past and hence the forecast for electricity is also based on the assumption that the past trend in Consumption of electricity will continue in the future.

The strength of this method, when used with balanced judgment, lies in its ability to reflect recent changes and therefore is probably best suited for a short-term projection as used for the ARR/ Tariff filing.

However, the CAGR-based approach has to be adjusted for judgment on the characteristics of the specific consumer groups/ categories. For example, while this method may provide a better estimate of Consumption by the domestic and commercial categories of consumers, it may not be very suitable for the Irrigation Pumpsets, BJ/KJ,

and categories with negative growth because of the high dependence of demand on the end-use.

In any case, the forecasts arrived at by using the CAGR method need to be modified for impact of any other considerations like specific consumption for IP sets, negative growth due to Open Access etc. The historical data for past years is available. The CAGR for 10 yrs, 9yrs, 8yrs, 7yrs, 6 yrs, 5 yrs, 4 yrs, 3 yrs, 2 yrs and one year growth is computed. Accordingly, 10 scenarios of projections are obtained. An empirical formula is made use of.

The minima and maxima and most likely of all the CAGR years are worked out - minima is considered as pessimistic and maxima is considered as optimistic, the average of the rest is considered as most likely.

Statistical empirical formula is applied for all the scenarios

$$\text{Average} = \frac{(\text{Optimistic} + \text{Pessimistic} + 4 \times \text{Most Likely})}{6}$$

With this statistical formula, One year growth rate of FY17 over FY16 is also considered.

For most of the categories one year growth rate is considered, wherever there is a negative growth the sales of FY18 is retained as in LT4b.

For LT6 water supply installations, one year growth rate is 43.8% and CAGR as per formula is 22.5%. Since, 43.8% is on the higher side, growth rate as per CAGR formula i.e 22.5% is considered.

For LT7 water supply installations, one year growth rate is -5.3% and CAGR as per formula is 2.6%. Since, -5.3% is on the negative side, growth rate as per CAGR formula i.e 2.6% is considered.

HT sales are considered based on one year growth rate.

Hence, estimation of energy sales for FY19 are prepared with a few modifications such as,

- IP sales is computed by multiplying the average consumption of 7980 Units/IP/annum for FY18 with the end year installations figure of FY-19

- BJ/KJ sales is computed by multiplying the average consumption of FY18 with the end year installations figure of FY-19, a part of the sales is considered under LT2a category.

The category wise sales projected for the current year 2017-18 and ensuing year 2018-19 along with the approved numbers are shown below:

Table No. 4.6

| Category | FY-18 | | FY-19 | |
|--------------|---------------------------|------------------------|---------------------------|------------------------|
| | Approved by Commission MU | BESCOM modification MU | Approved by Commission MU | BESCOM modification MU |
| LT-2a* | 7148.71 | 6721.2 | 7722.98 | 7151.8 |
| LT-2b | 43.49 | 48.2 | 43.86 | 52.4 |
| LT-3 | 2123.51 | 2045.4 | 2321.46 | 2191.4 |
| LT-4 (b) | 3.08 | 0.8 | 3.29 | 0.8 |
| LT-4 (c) | 7.21 | 5.5 | 8.57 | 6.0 |
| LT-5 | 1256.11 | 1168.8 | 1310.86 | 1181.8 |
| LT-6 WS | 564.92 | 868.9 | 625.8 | 1064.4 |
| LT-6 SL | 374.34 | 455.4 | 378.34 | 481.8 |
| LT-7 | 200.79 | 161.9 | 216.83 | 166.1 |
| HT-1 | 779.37 | 681.6 | 838.99 | 690.3 |
| HT-2 (a) | 4832.95 | 4456.2 | 4924.12 | 4456.2 |
| HT-2 (b) | 2947.52 | 2619.6 | 3065.58 | 2624.3 |
| HT2C | 243.59 | 314.6 | 246.93 | 365.3 |
| HT-3(a)&(b) | 105.62 | 15.2 | 143.75 | 6.6 |
| HT-4 | 108.04 | 106.4 | 111.7 | 117.2 |
| HT-5 | 84.8 | 93.4 | 91.58 | 103.8 |
| BJ/KJ | 49.15 | 119.4 | 49.15 | 127.7 |
| IP sets | 6980.27 | 7085.6 | 7221.39 | 7205.3 |
| Total | 27853.5 | 26968.1 | 29325.2 | 27993.3 |

Modified Energy requirement for FY-19:

Table No. 4.7

| Particulars | FY19 |
|---|-----------------|
| Sales (MU) | 27993.3 |
| Distribution losses (%) | 12.5 |
| Energy at IF point (MU) | 31992.31 |
| Transmission Losses (%) | 3.27 |
| Energy Required to meet the sales of BESCOM (MU) | 33073.83 |

CAPITAL INVESTMENT PLAN:

Capital investment plan for FY-18 is proposed for modification vide this office letter dated 06.10.2017. The Commission approved the Capital investment plan for FY-18 vide letter dated 16.10.2017.

The approved Capital investment plan for FY-18 and its progress up to Sept -17 is as under:

Table No. 4.8

| Sl. No. | Type of Work | Approved Capex for FY18 in Crs | Achieved as on Sep-17 in Crs | % of Achievement |
|--------------|---|--------------------------------|------------------------------|------------------|
| 1 | Ganga kalyana Works | 75.76 | 44.78 | 59.11% |
| 2 | Water Works | 47.73 | 31.41 | 65.81% |
| 3 | SDP Works. | 44.77 | 10.55 | 23.56% |
| 4 | Providing Infrastructure to Un authorised IP sets | 420 | 56.19 | 13.38% |
| 5 | NJY | 459.89 | 88.09 | 19.15% |
| 6 | DDUGJY | 150 | 0.87 | 0.58% |
| 7 | IPDS | 290 | 40.56 | 13.99% |
| 8 | RGGVY 12th plan | 42 | 23.85 | 56.79% |
| 9 | DAS | 60.04 | 18.13 | 30.20% |
| 10 | DSM | 81.42 | 4.97 | 6.10% |
| 11 | RAPDRP A | 42.86 | 6.71 | 15.66% |
| 12 | Service connection works | 85.2 | 33.93 | 39.82% |
| 13 | 11 KV new lines/ Link lines | 97.1 | 14.66 | 15.10% |
| 14 | Providing Additional DTC's /Enhancement of DTCs | 73.15 | 11.16 | 15.26% |
| 15 | Strengthening of HT circuit using Conductor/UG cable/Covered Conductor/AB cable | 120.57 | 19.12 | 15.86% |
| 16 | Strengthening of LT circuit using Conductor/UG cable/AB cable | 122.22 | 21.1 | 17.26% |
| 17 | Local planning, Safety, Hazardous, Emergency, Natural Calamity | 163.77 | 39.5 | 24.12% |
| 18 | Meters | 109 | 1.97 | 1.81% |
| 19 | HVDS | 175 | 32.13 | 18.36% |
| 20 | One time maintenance | 10 | 2.57 | 25.70% |
| 21 | Errection of distribution transformer centres using 11 mtrs Spun poles | 50 | 0 | 0.00% |
| 22 | Smart Grid | 0.15 | 0 | 0.00% |
| 23 | Civil Engineering Works | 85.39 | 12.61 | 14.77% |
| 24 | IT initiative | 66.58 | 1.32 | 1.98% |
| 25 | TIC | 5.02 | 0.62 | 12.35% |
| 26 | Auto re-closure | 50 | 0 | 0.00% |
| 27 | Model Sub division | 300 | 0 | 0.00% |
| 28 | Corporate office reserve fund | 44.7 | 0 | 0.00% |
| Total | | 3272.31 | 516.78 | 15.79% |

Out of Rs. 3275.31 Crs. of Capital investment plan for FY-18, Rs. 1714.46 Crs. is an investment plan (from Sl No. 1 to Sl No. 11) with respective to Central / State government initiatives.

Progress achieved as on Sept -17 is Rs.514 Crs. which is low due to various sanctions / approvals. It is assumed Rs. 1500.00 Crs. Of capex plan will be achieved as at the end of 31.03.2018.

BESCOM proposed modified capex plan for FY-19 as under:

Table No. 4.9

| Sl. No. | Type of Work | Approved for FY 19 | Proposed For FY-19 |
|----------------|---|---------------------------|---------------------------|
| 1 | Ganga kalyana Works | | 80.30 |
| 2 | Water Works | 45.48 | 54.09 |
| 3 | Service connection works | | 94.08 |
| 4 | SDP Works. | - | 39.48 |
| 5 | Providing Infrastructure to Un authorised IP sets | 3.27 | 418.00 |
| 6 | NJY | | 183.96 |
| 7 | DDUGJY | 100 | 60.00 |
| 8 | IPDS | 100 | 266.00 |
| 9 | RGGVY 12th plan | - | 0.00 |
| 10 | DAS | - | 0.00 |
| 11 | DSM | 77.3 | 67.57 |
| 12 | RAPDRP A | | 5.90 |
| 13 | 11 KV new lines/ Link lines | 78.06 | 88.84 |
| 14 | Providing Additional DTC's /Enhancement of DTCs | 44.8 | 79.26 |
| 15 | Strengthening of HT circuit using Conductor/UG cable/Covered Conductor/AB cable | 52.45 | 123.16 |
| 16 | Strengthening of LT circuit using Conductor/UG cable/AB cable | 48.29 | 120.90 |
| 17 | Local planning, Safety, Hazardous, Emergency, Natural Calamity | 53.04 | 165.51 |
| 18 | Meters | 10.5 | 91.60 |
| 19 | HVDS | 100 | 120.00 |
| 20 | One time maintenance | | 0.00 |
| 21 | Errection of distribution transformer centres using 11 mtrs Spun poles | | 20.00 |
| 22 | Smart Grid | | 0.00 |
| 23 | Civil Engineering Works | | 64.16 |
| 24 | IT initiative | | 56.63 |
| 25 | TIC | | 7.01 |
| 26 | Auto re-closure | | 70.00 |
| 27 | Model Sub division | | 520.00 |
| 28 | Corporate office reserve fund | | 40.00 |
| Total | | 713.18 | 2836.44 |

Out of Rs. 2836.44 Crs. of Capital investment plan for FY-19, Rs. 1175.30 Crs. is an investment plan (from Sl No. 1 to Sl No. 12 except Sl No. 3) with respective to Central / State government initiatives. The Commission is requested the approved the revised capex plan of Rs. 2836.44 Crs.

For the purpose of capitalization 75% of the investment plan is proposed.

DISTRIBUTION LOSS:

Approved distribution loss for FY-19 as per the Tariff order dated 30th March 2016 is as follows;

Approved Distribution Losses for FY 19:

Table 4.10

Figures in % Losses

| Particulars | FY19 |
|--------------------|-------------|
| Upper limit | 12.75 |
| Average | 12.5 |
| Lower limit | 12.25 |

Target fixed by the Commission will be achieved and no modification is proposed for the distribution loss.

POWER PURCHASE COST:

Commission approved the FY-19 power purchase cost in the tariff Order dated 30.03.2016.

Source wise approved energy, cost and per unit cost is tabulated as under.

Approved Power Purchase Cost of BESCO for FY19:

Table 4.11

| Source of Power | Energy in MU | Cost in Rs. Cr | Per Unit cost in Rs. |
|--|---------------------|-----------------------|-----------------------------|
| KPCL Hydel Energy | 5761.407 | 544.97 | 0.95 |
| KPCL Thermal Energy | 10041.118 | 4399.61 | 4.38 |
| CGS Energy | 10295.712 | 3436.27 | 3.34 |
| UPCL | 3569.477 | 1513.90 | 4.24 |
| Renewable Energy | 4910.81 | 2063.07 | 4.20 |
| Other State Hydel | 68.917 | 36.24 | 5.26 |
| PGCIL & POSOCO Charges | 0 | 463.14 | 0.45 |
| KPTCL Transmission and SLDC & PGCIL POSOCO Charges | 0 | 1796.28 | 0.52 |
| TOTAL | 34647.44 | 14253.48 | 4.11 |

As per the actuals of FY-17, which is proposed for truing up in the previous chapter, shows increase in source wise unit power purchase cost. This Warrants modification for source wise power purchase cost.

M/s PCKL is the nodal agency for the power procurement for the State. PCKL projected the availability of energy for FY-19 and same is placed for consideration of the Commission.

PROJECTED ENERGY AVAILABILITY & COST FOR FINANCIAL YEAR 2018-19

1.0 The energy required by ESCOMs of Karnataka for the Financial Year 2018-19 is 66655.40 MUs considering STU transmission losses of 3.37%. The ESCOM wise energy requirement is shown in as Table-4.13.

Table 4.12

| ESCOMs | Energy requirement in MUs |
|--|----------------------------------|
| BESCOM | 33073.82 |
| GESCOM | 8891.35 |
| HESCOM including Hukkeri Society & AEQUS | 13958.55 |
| MESCOM | 5966.22 |
| CESEC, Mysore | 7991.81 |
| Total | 69881.75 |

2.0 Energy being purchased by ESCOMs from different sources viz., KPCL Hydel, Thermal, Central Generating Stations , IPPs, NCE projects and others through short term purchases to meet the deficit.

2.1 Hydro and Thermal Stations of KPCL:

The Energy availability of Hydel and Thermal stations of State Owned Power plants as per the details furnished by KPCL through email dated 21.11.2017 is considered except YTPS, BTPS Unit Unit -III, Yelahanka Combined Cycle, Sharavathy Valley project and Kali valley Projects. The energy projected by KPCL in respect of hydro stations is based on anticipated inflows of moving average of ten years less by 1% auxiliary consumption as per PPA. Energy availability in respect of Thermal Stations is as per the targeted availability defined in the PPA/regulations wherever applicable and less by applicable auxiliary consumption

of each station. The KPCL has projected the Energy from Yermarus Thermal Station I & II, BTPS Unit III and Yelahanka Combined Cycle. However, energy from YTPS station is not considered, since plant declared commercial operation during April-2016, thereafter there is minimal generation from power plant. Therefore, energy from Yarmarus projects is not considered. Similarly, energy from Yelahanka Combined Cycle is also not considered. BTPS Unit -3 require time for stabilization of the plant.

2.2 The availability of Energy from Hydel & Thermal Power Stations details furnished by KPCL is as shown in Table 4.14 & 4.15.

HYDEL ENERGY

Table 4.13

| Sl. No. | Generating Source | Energy in MUs |
|-------------------------|---|----------------------|
| 1 | Sharavathy valley project (Sharavathy, Linganamakki & Chakra Projects) | 4041.24 |
| 2 | Kali Valley projects (Nagajari & Supa Projects) | 2288.08 |
| 3 | Varahi Valley projects (Varahi & Mani Projects) | 1034.12 |
| 4 | Bhadra & Bhadra Right Bank | 52.32 |
| 5 | Ghataprabha(GDPH) | 75.37 |
| 6 | Mallapur & Others | |
| 7 | Kadra Dam | 247.58 |
| 8 | Kodasalli Dam | 282.41 |
| 9 | Gerusoppa/STRP | 513.83 |
| 10 | Almatti Dam Power House | 459.29 |
| 12 | Shiva & Shimsa | 290.56 |
| 13 | Munirabad | 97.96 |
| 14 | MGHE-Jog | 258.11 |
| Total KPCL Hydel | | 9640.87 |

THERMAL POWER STATIONS:

Table 4.14

| Sl. No. | Stations | Installed Capacity in MW | Net generation in MUs |
|----------------|-----------------|---------------------------------|------------------------------|
| 1 | RTPS I &7 | 1470 | 8437.14 |
| 2 | RTPS Unit 8 | 250 | 1515.24 |
| 3 | BTPS Unit I | 500 | 3240.28 |
| 4 | BTPS Unit II | 500 | 3292.82 |
| 5 | BTPS UNIT-III | | 1177.09 |
| Total | | | 17662.57 |

- 2.3** Total Hydel generation would be 9640.87 MUs and Thermal is around 17662.57 MUs for 2018-19, totaling to 27303.44 MUs from KPCL Station.

3.0 Projection of cost - KPCL Hydel and Thermal Stations

HYDEL STATION:

The tariff rates worked out by KPCL based on KERC order dated 03.08.2009 for hydel stations except for Shivasamudram, Shimsha, Munirabad & MGHE. The tariff for the hydel stations is based on the design energy, over and above the design energy paid at 15 paise per kwh or 3% of the ROE whichever is less. The tariff for the Hydel station of Shiva and Shimsha, Munirabad & MGHE is based on the KERC tariff order dated 25.02.2015. The Capacity charges and primary energy rate details furnished by the KPCL is as shown in Table-4.16

Table 4.15

| Sl. No. | Source | Design energy in MUs | Paise per Unit |
|----------------|---|-----------------------------|-----------------------|
| A | KPCL - Hydel | | |
| 1 | Sharavathy valley project(Sharavathy, Linganamakki & Chakra Projects)) | 3737.95 | 48.97 |
| 2 | Kali Valley projects(Nagajari & Supa Projects) | 2058.77 | 85.27 |
| 3 | Varahi Valley projects(Varahi & Mani Projects) | 848.69 | 121.31 |
| 4 | Varahi 3 &4 | 848.69 | 38.27 |
| 5 | Bhadra & Bhadra Right Bank | 50.49 | 432.17 |
| 6 | Ghataprabha(GDPH) | 84.97 | 201.27 |
| 7 | Mallapur & Others | | |
| 8 | Kadra Dam | 419.90 | 228.25 |
| 9 | Kodasalli Dam | 372.48 | 159.48 |
| 11 | Gerusoppa/STRP | 442.62 | 162.34 |
| 12 | Almatti | 384.00 | 160.25 |
| 13 | Shiva & Shimsa | 252.00 | 103.78 |
| 14 | Munirabad | 65.00 | 67.77 |
| 15 | MGHE-Jog | 119.00 | 65.65 |

Note: Paise 4 as royalty charges is considered for the actual generation

KPCL Thermal Stations:

The tariff rates worked out by KPCL based on various tariff orders in respect of thermal stations 1 to 7, BTPS unit-1, BTPS Unit-2 and RTPS Unit-8 is considered..

The capacity charges determined by commission in respect of following units are considered.

Table 4.16

| Sl. No. | Stations | Date of order | Capacity charges applicable for 2018-19(Amount in Rs crore) |
|---------|---------------|---------------|---|
| 2 | BTPS Unit-II | 25.02.2015 | 474.58 |
| 3 | RTPS Unit-VII | 25.02.2015 | 230.66 |

The average variable cost for the month of July -2017, Aug-2017 and Sep-2017 is considered for energy charges for FY 2018-19.

Table 4.17

| Sl. no. | Stations | 2018-19 | |
|---------|------------------|-------------------------|-----------------------------|
| | | Fixed cost Rs in Crores | Variable cost Paise per Kwh |
| 1 | RTPS unit 1 to 7 | 858.05 | 299.57 |
| 2 | RTPS unit-8 | 230.66 | 293.37 |
| 3 | BTPS unit-1 | 310.09 | 327.71 |
| 4 | BTPS unit-II | 474.58 | 292.47 |
| 5 | BTPS Unit-III | 254.25 | 285.27 |

The average cost of hydel stations works out to 94.91paise per unit and thermal units is around 422.38 paise per unit. The Income tax is included in the capacity charges component in respect of RTPS and BTPS Units. In case of hydel stations, tax component included in the primary energy charges component.

4.0 Central Generating Stations:

- 4.1** ESCOMs have a share in Central Generating station of NTPC, Neyveli Lignite Corporation, Nuclear power stations and other Joint Venture Projects. The allocation of capacity entitlement from these stations includes both firm and unallocated share. The unallocated share is vary depending upon the allocation by Ministry of Power, GoI.
- 4.2** 4.2. The energy available to ESCOMs depends on the scheduled generation and share in a month and other parameters such as availability and outages (forced and planned). The net energy available at ex-bus generation details furnished by Central Generating Stations to CEA for preparation of LGBR for the year 2017-18 is considered for energy available for 2018-19. Out of the total month wise energy available at Ex-bus, the share of Karnataka including unallocated share for the

month of October 2017 is taken to arrive the energy available to Karnataka for FY 2018-19. In order to arrive energy available at Karnataka Periphery, POC losses of injection State/Power station and losses of withdrawal state for the week 13.11.2017 to 19.11.2017 as notified by the NLDC is taken. The schedule energy available at ex-bus and share of Karnataka is shown in Table-4.18 and net energy available at KPTCL periphery after considering the POC losses is shown in Table-4.19.

Table 4.18

| Sl. No. | Stations | Total Energy scheduled at EX-bus in MUs | Share of Karnataka in % | Karnataka Share in MUs |
|---------|---------------------------------|---|-------------------------|------------------------|
| 1 | RSTP-I&II | 14620.00 | 17.86 | 2610.55 |
| 2 | RSTP-III | 3517.00 | 18.74 | 659.02 |
| 3 | RSTP-Talcher | 14139.00 | 18.34 | 2593.09 |
| 4 | Simhadri station II | 6663.00 | 20.74 | 1382.04 |
| 5 | Vallur unit-I & II | 8634.00 | 11.65 | 1005.95 |
| 6 | NLC II Stage-1 | 3364.00 | 24.03 | 808.40 |
| 7 | NLC II Stage-2 | 4606.00 | 24.35 | 1121.42 |
| 8 | NLC expansion I | 2691.00 | 25.92 | 697.51 |
| 9 | NLC expansion Stage II (Unit-1) | 2759.00 | 25.91 | 714.88 |
| 10 | NTPL-2X 500 MW | 6233.00 | 22.07 | 1375.56 |
| 11 | MAPS | 2433.00 | 7.47 | 181.75 |
| 12 | Kaiga Unit-1& 2 | 2978.00 | 31.25 | 930.63 |
| 13 | Kaiga Unit-3&4 | 2738.00 | 33.76 | 924.35 |
| 14 | Kudamkulam Unit-1 | 5804.00 | 23.41 | 1106.72 |
| 15 | Kudigi Station(3X800 MW) | 10417.65 | 52.09 | 5426.03 |
| 16 | DVC-Maija (200 MW) | | | 1489.20 |
| 17 | DVC-Koderma(250 MW) | | | 1861.50 |

Table 4.19

| Stations | Energy scheduled @ generators Ex-bus in MUs | Injection loss in % | With drawl loss in % | Injection state POC loss in MUs | Energy scheduled after Injection state loss | withdrawal state POC loss in MUs | Energy @ KPTCL periphery |
|---------------------|---|---------------------|----------------------|---------------------------------|---|----------------------------------|--------------------------|
| N.T.P.C-RSTP-I&II | 2610.55 | 0.86 | 1.61 | 22.45 | 2588.10 | 41.67 | 2546.43 |
| NTPC-III | 659.02 | 0.86 | 1.61 | 5.67 | 653.35 | 10.52 | 642.83 |
| NTPC-Talcher | 2593.09 | 1.88 | 1.61 | 48.75 | 2544.34 | 40.96 | 2503.38 |
| NLC TPS2-Stage 1 | 808.40 | 1.11 | 1.61 | 8.97 | 799.43 | 12.87 | 786.56 |
| NLC TPS2-Stage 2 | 1121.42 | 1.11 | 1.61 | 12.45 | 1108.98 | 17.85 | 1091.12 |
| NLC TPS1-Expn | 697.51 | 1.11 | 1.61 | 7.74 | 689.76 | 11.11 | 678.66 |
| NLC II expansion I | 714.88 | 1.11 | 1.61 | 7.94 | 706.95 | 11.38 | 695.57 |
| MAPS | 181.75 | 0.61 | 1.61 | 1.11 | 180.64 | 2.91 | 177.73 |
| Kaiga Unit 1&2 | 930.63 | 1.11 | 1.61 | 10.33 | 920.30 | 14.82 | 905.48 |
| Kaiga Unit 3 &4 | 924.35 | 1.11 | 1.61 | 10.26 | 914.09 | 14.72 | 899.37 |
| Simhadri Unit -1 &2 | 1382.04 | 0.86 | 1.61 | 11.89 | 1370.15 | 22.06 | 1348.09 |
| NTPLUnit-2X | 1375.56 | 1.36 | 1.61 | 18.71 | 1356.85 | 21.85 | 1335.01 |

| | | | | | | | |
|-------------------------------------|-----------------|------|------|-------|---------|-------|-----------------|
| 500 MW | | | | | | | |
| KudamKulam | 1106.72 | 1.36 | 1.61 | 15.05 | 1091.67 | 17.58 | 1074.09 |
| Vallur TPS Sg I ,2 &3 | 1005.95 | 0.61 | 1.61 | 6.14 | 999.81 | 16.10 | 983.71 |
| Kudigi(3X800 MW) | 1939.71 | 0.86 | 1.61 | 16.68 | 1923.03 | 30.96 | 1892.07 |
| DVC - Mejja thermal Power Station | 1489.20 | 0.63 | 1.61 | 9.38 | 1479.82 | 23.83 | 1455.99 |
| DVC - Koderma Thermal Power Station | 1861.50 | 0.63 | 1.61 | 11.73 | 1849.77 | 29.78 | 1819.99 |
| Total | 21402.27 | | | | | | 20836.08 |

4.3 The power drawl from the Central Sector Generating Stations either through the PGCIL lines or any lines constructed by developer selected through competitive bidding route from the generating plants. ESCOMs will pay POC (Transmission charges) to PGCIL for Transmitting the CGS power and other states power. The POC charges as per RTA for the month of October-2017 is considered for FY 2018-19, which includes POC, Reliability support Charges and HVDC Charges. Considering the POC of October2017, the total POC payable by ESCOMs for the year 2018-19 is Rs. 1770.12 crore. The CERC determined the charges for POSOCO-SRLDC for the control period vide order dated 29.12.2016. Out of the charges receivable by SRLDC, the share of Karnataka works out to Rs 2.27 crore.

4.4 The CERC has determined the tariff for the generating station like, NTPC and NLC station for the control period 2014 to 2019. The capacity charge considered based on various orders are as detailed below.

Table 4.20

| Sl. No. | Stations | Date of order | Capacity charges applicable for 2018-19(Amount in Rs crore |
|---------|---------------------------------|---------------------|--|
| 1 | RSTP-I&II | 24.1.2017 | 1061.2317 |
| 2 | RSTP-III | 8.11.2016 | 270.4929 |
| 3 | RSTP-Talcher | 16.02.2017 | 1007.2339 |
| 4 | Simhadri station II | 29.7.2016 | 1069.7715 |
| 5 | Vallur unit-I & II | 11.7.1017 | 1847.69 |
| 6 | NLC II Stage-1 | 12.6.2017 | 299.80 |
| 7 | NLC II Stage-2 | 12.06.2017 | 414.29 |
| 8 | NLC expansion I | 18.10.2016 | 276.18 |
| 9 | NLC expansion Stage II (Unit-1) | 24.7.2017 | 728.0556 |
| 10 | NTPL-2X 500 MW | 11.7.2017 | 1090.1654 |
| 11 | Kudigi | As per the petition | Rs 1.86 per unit |
| 12 | DVC-Mejja | 3.10.2016 | 1019.2061 |
| 13 | DVC-Koderma | 28.2.17 | 1175.7367 |

The average variable cost for the month of Aug-2017, Sep-2017 and Oct-2017 is considered for energy charges for FY 2018-19. In case of MAPS, Kaiga, and Kundamkulam, rate per unit for the month of Oct-2017 is considered.

Table 4.21

| Particulars | MAPS | Kaiga Units 1 to 4 | Kudamkulam |
|--------------------------------------|-------------|-------------------------------|-------------------|
| Base Price | 1.9797 | 2.9837 | 3.5448 |
| Fuel adjustment charges | 0.0003 | | 0.4275 |
| Heavy Water adjustment charges | 0.0382 | 0.0060 | |
| Heavy Water lease adjustment charges | | 0.0128 | |
| Insurance | 0.0885 | 0.1381 | 0.0397 |
| Decommissioning Reserve | 0.0200 | | 0.0200 |
| Nuclear Liability & Forex adjustment | 0.0500 | | 0.0597 |
| Total tariff | 2.1767 | 3.1406 | 4.0916 |

4.5 The capacity charges (Fixed Cost) and variable cost considered for 2018-19 is shown in Table-4.22

Table 4.22

| Central Projects | FC Rs in Cr | VC Paise per Kwh |
|-----------------------------------|--------------------|-------------------------|
| N.T.P.C-Ramagundam | 189.49 | 227.93 |
| NTPC-VII | 50.68 | 222.07 |
| NTPC-Talcher | 184.73 | 215.70 |
| NLC TPS2-Stage 1 | 72.04 | 274.30 |
| NLC TPS2-Stage 2 | 100.87 | 274.30 |
| NLC TPS1-Expn | 71.59 | 255.10 |
| NLC II Expansion-1 | 188.65 | 251.50 |
| MAPS | | 217.67 |
| Kaiga unit I &II | | 314.06 |
| Kaiga Unit 3 &4 | | 314.06 |
| Simhadri Unit -1 &2 | 221.89 | 275.47 |
| Vallur TPS Stage I &2 &3 | 215.27 | 278.53 |
| NTPL | 240.59 | 316.03 |
| KudamKulam | 360.79 | 351.17 |
| Kudigi | 1675.60 | 351.17 |
| DVC- Mejia thermal Power Station | 203.84 | 228.60 |
| DVC Kodemma thermal Power Station | 293.93 | 185.23 |

4.6 Income tax for the CGS station included in the capacity charges payment on normative basis by grossing up of ROE with effective tax rate of the respective financial year of the generating company. Income tax is already part of capacity charges and not payable separately and hence not considered.

5.0 Independent Power Producers:

- 5.1 The generation of 1200 MW of UPCL Unit -1 & Unit-2 taken at 85% of 90% installed capacity as per PPA/ approval given by Government. The auxiliary consumption of 5.25% as per CERC Regulation 2014 and additional auxiliary consumption 1.2% allowed by CERC vide order dated 20.02.2014 and 10.07.2015 is taken. The capacity charges determined by CERC in the truing up order dated 24.03.2017 for 2013-14 excluding cost of secondary fuel is considered for FY 2018-19. The average variable cost for the month from August-2017 to October-2017 is considered for projected energy scheduled at 85% of 90% of the 1200 MW. The energy and cost details are shown in Table-4.23

Table 4.23

| Stations | Energy in Mus | Fixed cost Rs in Cr | Variable cost Paise per Kwh |
|----------|---------------|---------------------|-----------------------------|
| UPCL | 7462.68 | 1198.02 | 302.67 |

6.0 Non-Conventional Energy Source (NCE source):

- 6.1 The actual generation of NCE projects for the year 2016-17 has been considered for 2018-19 including Solar, Co-generation, Bio-mass, Wind Mills and Mini Hydel projects.
- 6.2 Project which are expected to be commissioned during 2018-19 is based scheduled COD of the projects in respect of 1 to 3 Farmer scheme, Talukwise solar and Bidding by KREDL. The rate is per the revised order issued by Commission in respect of 1 to 3 farmer scheme. The rates for other projects are as per the bidding rates.
- 6.3 The PLF is based on KERC order dated 30.7.2015 is considered to arrive energy for FY 2018-19.
- 6.4 The energy generated from Solar park in respect of 600 MW developed by NTPC for the FY 2018-19 is as below.

Table 4.24

| | Open Category | Capacity in | CUF in % | Tariff per unit | Energy in Mus | Amount in RS |
|---|---|-------------|----------|-----------------|---------------|--------------|
| 1 | M/s Yarrow Infrasture | 50 | 27.00 | 4.79 | 118.26 | 56.65 |
| 2 | M/s Tata Power Renewable Energy Private lim | 100 | 24.70 | 4.79 | 216.37 | 103.64 |
| 3 | M/s Parampujya Solar Energy private limited | 100 | 27.25 | 4.79 | 238.71 | 114.34 |
| 4 | M/s Fortum FinnSurya Energy private Ltd | 100 | 25.80 | 4.79 | 226.01 | 108.26 |
| 5 | M/s ACME Reneri Solar Power private ltd | 50 | 27.50 | 4.79 | 120.45 | 57.70 |
| 6 | M/s ACME KuruKshetra Solar Energy Private Ltd | 50 | 27.50 | 4.79 | 120.45 | 57.70 |
| 7 | M/s Renew wind Energy Private Ltd | 50 | 25.00 | 4.8 | 109.50 | 52.56 |
| | DCR category | | | | | |
| 8 | M/s Tata Power Renewable Energy Private lim | 50 | 26.35 | 4.84 | 115.41 | 55.86 |
| 9 | M/s Parampujya Solar Energy private limited | 50 | 26.40 | 4.86 | 115.63 | 56.20 |
| | | 600 | | | 1380.80 | 662.90 |

6.5 Ministry of power for allocation of power for allocation of un allocated power of coal based NTPC stations for bundling with solar power in ratio of 1.2(unallocated power : Solar power) as envisaged under National Solar Mission Phase –II, Batch-II Tranche-I. Accordingly, Ministry of Power, GOI, allocated 300 MW to Karnataka from unallocated power of coal based NTPC stations of Eastern Region and Western Region. The expected energy from bundled power of coal is around 2233.80 MUs (300 MW @85% PLF).

6.6 ESCOM wise NCE energy projected for FY 2018-19 is shown in Table-4.25.

Table 4.25

| Minor IPPs | Energy in MUs | | | | |
|------------------------------|---------------|--------|----------------|---------------|---------------|
| | BESCOM | GESCOM | HESCOM | MESCOM | CESC |
| Existing NCE projects | | | | | |
| Co-generation | | 18.37 | 201.08 | | 28.61 |
| Biomass | 64.62 | 48.04 | | | 7.33 |
| Mini Hydel | 290.71 | 102.26 | 80.95 | 227.80 | 145.71 |
| Wind mill | 2356.83 | 193.55 | 844.35 | 284.20 | 223.56 |
| KPCL wind mill | 7.76 | | | | |
| Solar | 265.21 | 45.12 | 43.27 | 74.91 | 46.64 |
| KPCL Solar | 4.15 | 2.71 | 3.53 | | |
| NTPC Bundled power - Coal | 236.04 | 67.59 | 96.11 | 39.60 | 54.60 |
| NTPC Bundled Power- Solar | 57.31 | 16.41 | 23.33 | 9.62 | 13.26 |
| Captive/Wind MOA | | 3.04 | 150.71 | | |
| Total of existing NCE | 3282.63 | 497.09 | 1443.33 | 636.13 | 519.71 |
| New NCE Projects | | | | | |
| Co-generation | | | | | |
| Biomass | | | | | |
| Mini Hydel | | | | | |
| Wind mill | | | | | |
| Solar | 892.12 | 396.13 | 259.00 | 28.30 | 341.20 |

| | | | | | |
|---------------------------|----------------|----------------|----------------|---------------|----------------|
| Farmer 1 to 3 MW | 139.81 | 23.30 | 84.88 | 4.99 | 24.96 |
| NTPC Bundled power - Coal | 1036.26 | 337.75 | 424.42 | 176.25 | 259.12 |
| NTPC Bundled Power- Solar | 640.55 | 208.78 | 262.35 | 108.94 | 160.17 |
| Total of New NCE projects | 2708.74 | 965.95 | 1030.65 | 318.48 | 785.46 |
| Total | 5991.37 | 1463.04 | 2473.98 | 954.61 | 1305.16 |

6.7 The average cost of the year 2016-17 is considered for existing Hydro and Wind projects.

6.8 In respect of new Bio-mass, Co-generation, Wind Mill and Mini Hydel the tariff considered is as per the KERC order dated 1.1.2015.

6.9 The rate as per KERC order dated 24.02.2015 is considered for existing Bio Mass and Co-generation projects.

6.10 In respect of Solar Power Projects, the rate obtained through tender is considered.

7.0 Jurala Project:

7.1 The ESCOMs having a share of 50% from Jurala Priyadarshni Hydro Electric Projects ie 117 MW. The net energy exported to Karnataka from Jural Priyadarshni Hydro Electric Projects for the year 2016-17 is considered for 2018-19 as energy excepted to receive during the year 2018-19. The TSERC vide tariff order dated 6.7.2017 determined the capacity charges for the project for the control period from 1.4.2014 to 31.3.2019. The 50% of the capacity charges applicable for the financial year 2018-19 is considered.

Table 4.26

| | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Total |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Energy in Mus | 0 | -0.016 | 0 | 16.48 | 24.75 | 56.99 | 20.90 | 0 | 0 | 0 | 0 | 0 | 119.104 |
| Amount in Rs Cr | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 4.89 | 48.88 |

8.0 The energy from T. B. Dam power is shared between AP/Telangana and Karnataka. The 1/5th share of revenue expenditure and energy has been shared between two states. The actual cost and energy supplied for the FY 2016-17 is considered for 2018-19. The power purchase cost and energy from T. B. Dam has been estimated to 13.25 MUs and Rs. 1.36 crore.

Table 4.27

| | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Total |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Energy in Mus | -0.28 | -0.31 | -0.12 | 1.95 | 2.77 | 3.53 | 3.95 | 2.21 | 0.03 | -0.11 | -0.28 | -0.09 | 13.25 |
| Amount in Rs crore | 0.06 | 0.08 | 0.08 | 0.07 | 0.08 | 0.12 | 0.14 | 0.08 | 0.10 | 0.11 | 0.12 | 0.32 | 1.36 |

9.0 Medium Term Power Purchase – Co generation power plant for a period of 5 years:

GoK vide Order EN 16 PPT 2016 dated 11.11.2016 accorded approval to purchase power from Bagasse Based Co-generation Units of 28 Sugar factories with an exportable capacity of 501 MW during the season only in the State with the approval of KERC for a period of 5 (FIVE) years commencing from 2016-17 at the tariff determined by KERC.

KERC vide order dated 11th April 2017 has determined the final tariff for the co-generation units for the financial year 2016-17 to 2020-21. As per the KERC order, the tariff payable per unit for the energy supplied from the co-generation plants commissioned in different years during the period from 2005 or earlier to 2014 are as detailed below:

Table 4.28

| Year of Commissioning | FY17 (Rs. Ps.) | FY18 (Rs. Ps.) | FY19 (Rs. Ps.) | FY20 (Rs. Ps.) | FY21 (Rs. Ps.) |
|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Variable Charges | 3.14 | 3.32 | 3.51 | 3.71 | 3.92 |
| 2005 and Earlier | 3.98 | 4.16 | 4.35 | 4.55 | 4.76 |
| 2006 | 3.96 | 4.14 | 4.33 | 4.53 | 4.74 |
| 2007 | 3.95 | 4.13 | 4.32 | 4.52 | 4.73 |
| 2008 | 4.01 | 4.19 | 4.38 | 4.58 | 4.79 |
| 2009 | 4.08 | 4.26 | 4.45 | 4.65 | 4.86 |
| 2010 | 4.58 | 4.76 | 4.95 | 5.15 | 5.36 |
| 2011 | 4.71 | 4.89 | 5.08 | 5.28 | 5.49 |
| 2012 | 4.85 | 5.03 | 5.22 | 5.42 | 5.63 |
| 2013 | 4.91 | 5.09 | 5.28 | 5.48 | 5.69 |
| 2014 | 4.96 | 5.14 | 5.33 | 5.53 | 5.74 |

The rate applicable for FY 2018-19 as per the above table is considered with 60% of the energy generated from the exported capacity for a period of 140 days. The above rates are subject to final outcome of the review petition filed by ESCOMs before KERC. The details are indicated in Table-4.29

Table 4.29

| Sl. No. | NAME OF THE SELLER | Rate as per KERC order dated 11.4.2017(Rs/kwh) | Energy @ 60% PLF in Mus | Amount in Rs crore |
|--------------|--|---|-------------------------|--------------------|
| 1 | GODAVARI BIOREFINERIES LTD. | 4.35 | 56.45 | 24.55 |
| 2 | JAMAKHANDI SUGARS LTD. -I | 4.35 | 28.22 | 12.28 |
| 3 | JAMAKHANDI SUGARS LTD. -II | 5.33 | 28.22 | 15.04 |
| 4 | NIRANI SUGARS LTD | 4.95 | 54.43 | 26.94 |
| 5 | NSL SUGARS LTD., KOPPA, | 4.35 | 21.57 | 9.38 |
| 6 | NSL SUGARS LTD., KO THUNGABHADRA | 5.08 | 33.87 | 17.21 |
| 7 | NSL SUGARS LTD., Aland | 5.22 | 38.30 | 19.99 |
| 8 | PARRY SUGAR INDUSTRIES LTD., HALIYAL | 4.38 | 39.31 | 17.22 |
| 9 | PARRY SUGAR INDUSTRIES LTD., SADASHIVA UNITS | 4.38 | 18.14 | 7.95 |
| 10 | SRI CHAMUNDESHWARI SUGARS LTD. | 4.38 | 36.29 | 15.89 |
| 11 | SRI PRABULINGESHWAR SUGARS & CHEMICALS | 4.35 | 50.40 | 21.92 |
| 12 | COREGREEN SUGAR & FUELS PVT.LTD | 5.08 | 30.24 | 15.36 |
| 13 | MANALI SUGARS LTD., MALAGHAN, BIJAPUR | 5.33 | 20.16 | 10.75 |
| 14 | VIJAYANAGARA SUGAR PVT. LTD., | 4.95 | 30.24 | 14.97 |
| 15 | BHALKESHWARA SUGARS LTD | 5.33 | 18.14 | 9.67 |
| 16 | G M SUGARS LTD. | 4.45 | 20.16 | 8.97 |
| 17 | GEM SUGARS LTD., | 4.35 | 24.19 | 10.52 |
| 18 | SHREE RENUKA SUGARS LTD, BURLATTI | 4.32 | 50.40 | 21.77 |
| 19 | SHREE RENUKA SUGARS LTD, HAVALGA | 4.95 | 40.32 | 19.96 |
| 20 | SHREE RENUKA SUGARS LTD, MUNOLI | 4.35 | 30.24 | 13.15 |
| 21 | KPR SUGARS LTD | 5.22 | 36.29 | 18.94 |
| 22 | SHIVASHAKTHI SUGARS LTD | 5.22 | 48.38 | 25.26 |
| 23 | SHIRAGUPPI SUGARS LTD | 5.28 | 24.19 | 12.77 |
| 24 | SOUBHAGYA LAXMI SUGARS LTD | 5.28 | 33.38 | 17.63 |
| 25 | DAVANAGERE SUGARS | 4.35 | 22.18 | 9.65 |
| 26 | INDIAN CANE POWER LTD | 5.33 | 108.86 | 58.02 |
| 27 | VISWARAJ SUGARS | 4.45 | 28.22 | 12.56 |
| Total | | 482.42 | 970.82 | 468.34 |

10.0 ESCOMs have signed Power Purchase agreement with Generators/Trader for procurement of power on short term basis from November-2017 to 31.5.2018. The quantum of energy @75% PLF of the contracted Capacity in respect of short term procurement and ate arrived as per e-reverse action for the months of April-2018 & May-2018 is considered. The details are indicated in the Table-4.30

Table 4.30

| Short term power procurement | | | | | | |
|------------------------------|-----------------------------------|----------|----------------------|------------|-------------------------|---------------------|
| Sl No. | Name of the company | Capacity | Rate per unit Rs/kwh | No of days | Energy in Mus @ 75% PLF | Amount in Rs Crores |
| Southern Region | | | | | | |
| 1 | M/s JSW Energy Private Limited | 200 | 4.08 | 61 | 219.6 | 89.60 |
| 2 | M/s Global Energy Private Limited | 300 | 4.08 | 61 | 329.4 | 134.40 |

| All India | | | | | | |
|------------------|-----------------------------------|-----|------|----|--------|--------|
| 1 | M/s Global Energy Private Limited | 200 | 4.08 | 61 | 219.6 | 89.60 |
| 2 | Shree Cements | 100 | 4.08 | 61 | 109.8 | 44.80 |
| 3 | M/s PTC India Limited | 100 | 4.08 | 61 | 109.8 | 44.80 |
| | Total | 900 | 408 | | 988.20 | 403.19 |

11.0 Contracted and The projected energy and cost allocated among the ESCOMs as per GoK order dated 18.3.2016 except Sharavathy Valley Project, Kali Valley projects and RTPS Unit-1 to 7.

OPERATION & MAINTENANCE EXPENSES:

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

The Commission in the Tariff Order dated 30th March 2016, has computed the O & M expenses for FY19 duly considering the actual O & M expenses of FY15 as per the audited accounts (being the latest data available as per the audited accounts) to arrive at the O & M expenses for the base year FY-16.

Considering the Wholesale Price Index (WPI) as per the data available from the Ministry of Commerce & Industry, Government of India and Consumer Price Index (CPI) as per the data available from the Labor Bureau, Government of India and adopting the methodology followed by CERC with CPI and WPI in a ratio of 80 : 20, the annual escalation rate for FY19 was computed and consumer growth rate at 5.27% was considered based on 3years CAGR . Based on the above assumption, approved O&M expenses for FY-19 is as under:

Approved O & M expenses for FY19:

Table 4.31

| Particulars | FY18 | FY19 |
|----------------------------|-------------|-------------|
| No. of Installations | | 11802269 |
| CGI based on 3 Year CAGR | | 5.57% |
| Inflation index | | 7.24% |
| Base Year O&M expenses (as | | |

| | | |
|---|---------|----------------|
| per actuals of FY15)- Rs. Crs | 1510.01 | |
| Total allowable O&M Expenses-Rs. Crs | | 1688.27 |

As per MYT regulations, for computing the O&M expenses for FY-19, actual audited figures for base year ie., FY-16 is available and other parameters such as Consumer Price index (IW) and Whole sale price (WPI) figures upto FY-17 are available. Adopting the methodology followed by CERC with CPI and WPI in a ratio of 80:20, the annual escalation rate for FY19 can be computed based on the available data.

It is submitted before the Commission in the earlier chapter-3 corrections are proposed to the actual O&M expenses of base year ie., FY-16. For ready reference, same is once again reiterated for kind consideration for the corrections of base year O&M expenses.

As per the MYT Regulations -2006 issued by the Commission vide regulation 2.6.3, Expenses on account of Inflation is considered as uncontrollable.

The Commission in its earlier truing up exercises, treating contribution to P&G Trust in the employees cost as uncontrollable O&M expenses.

Considering the above points, O&M expenses on normative basis works out as under:

O&M expenses include Repairs and Maintenance expenses, employee expenses and Administration and General Expenses (A&G expenses). O&M expenses for FY-16 as per audited accounts (Base year) are as under:

Table 4.32

Amount in Rs. Crores

| O&M Expenses | FY-16 (Base year) |
|---------------------------------|--------------------------|
| Repair and Maintenance expenses | 83.37 |
| Employee Expenses | 860.8 |
| A&G expenses | 223.21 |
| Total | 1167.38 |

BESCOM, in its truing up petition before the Commission vide its application dated 30.11.2016, submitted that there are new recruitment happened in FY-16 and requested the Commission to consider the same for truing up of FY-16. Details submitted to the Commission is as under.

Table No: 4.33

| Name of the Post | No. s | Avg. Salary per employee | Total expenditure per month | Recruited month | No. of Months for which full month salary paid | Addl. Expenditure on account of New recruitment for FY-16 in Crs. | Addl. Expense attributable to FY-17 |
|----------------------------------|-------------|--------------------------|-----------------------------|-----------------|--|---|-------------------------------------|
| 1 | 2 | 3 | 4=2 X3 | 5 | 6 | 7=4X6 | 8=3X12 months/10^7 |
| Assistant Line Man (ALM) | 627 | 19497 | 12224619 | 15-Aug | 7 | 8.56 | 14.67 |
| Assistant Engineer (Ele.) | 15 | 43940 | 659100 | 15-Jul | 8 | 0.53 | 0.79 |
| Assistant Accounts Officer (AAO) | 3 | 43940 | 131820 | 15-Jul | 8 | 0.11 | 0.16 |
| Junior Engineer (JE) | 19 | 28816 | 547504 | 15-Jul | 8 | 0.44 | 0.66 |
| Assistant | 249 | 25137 | 6259113 | 16-Jan | 2 | 1.25 | 7.51 |
| Junior Assistant(JA) | 284 | 22195 | 6303380 | 16-Jan | 2 | 1.26 | 7.56 |
| Junior Line Man (JLM) | 1229 | 10000 | 12290000 | 15-Dec | 3 | 3.69 | 14.75 |
| TOTAL | 2426 | 193525 | 38415536 | | | 15.83 | 46.10 |

It is also submitted before the Commission that, in view of Hon'ble High Court directions in the WP 9667/2014, BESCO, modified the existing 11kv GOS by repositioning / redesigning to make foot path free for pedestrians. Additional cost of Rs.12.79 Crs. was incurred to modifying 59,000 numbers of GOS in BESCO jurisdictions and requested to allow as additional uncontrollable expenses for FY-16.

The Commission, while truing up of FY-16, approve to consider addition employee cost due to new recruitment but denied the claim of Rs.12.79 Crs. towards expenses for modification of 59000 GOS with a remark that the allowed normative expenses are more than the actual O&M expenses of FY-16. However, these two factors are to be consider for adjustment of actual O&M expenses of base year i.e. FY-16. Base year O&M expenses are worked as under:

Table No: 4.34

| Particulars | Actuals as per Audited Accounts | Corrections | | |
|---------------------------------|---------------------------------|---------------|-------------|---|
| | | Less | Add | Adjusted O&M Expenses for FY-16 i.e., Base year |
| 1 | 2 | 3 | 4 | 5=2-3+4 |
| Repair and Maintenance expenses | 83.37 | 12.1 | | 71.27 |
| Employee Expenses | | | | |
| | 860.80 | **15.83 | 46.1 | 740.84 |
| | | *150.23 | | |
| A&G expenses | 223.21 | 0 | 0 | 223.21 |
| Total | 1167.38 | 178.16 | 46.1 | 1035.32 |

- * Rs.150.23 Crs Terminal benefits is being considered by as Un controllable expenses for truing up.
- * Rs. 1035.32 Crs. being the adjusted O&M expenses of FY16, for computation of normative O&M expenses for FY-19.

Computation of inflation index: Inflation index is calculated based on methodology followed by CERC with CPI and WPI in a ratio of 80: 20, the annual escalation rate for FY19 is computed as under:

Table No: 4.35

| Year | WPI | CPI | Composite Series | Yt/Y1=Rt | Ln Rt | Year (t-1) | Product [(t-1)* (LnRt)] |
|--|--------|-------|------------------|----------|-------|------------|-------------------------|
| 2005 | 103.37 | 115.8 | 113.314 | | | | |
| 2006 | 109.59 | 122.9 | 120.238 | 1.061 | 0.06 | 1 | 0.059 |
| 2007 | 114.94 | 130.8 | 127.628 | 1.126 | 0.12 | 2 | 0.238 |
| 2008 | 124.92 | 141.7 | 138.344 | 1.221 | 0.20 | 3 | 0.599 |
| 2009 | 127.86 | 157.1 | 151.252 | 1.335 | 0.29 | 4 | 1.155 |
| 2010 | 140.08 | 175.9 | 168.736 | 1.489 | 0.40 | 5 | 1.991 |
| 2011 | 153.35 | 191.5 | 183.87 | 1.623 | 0.48 | 6 | 2.904 |
| 2012 | 164.93 | 209.3 | 200.426 | 1.769 | 0.57 | 7 | 3.992 |
| 2013 | 175.35 | 232.2 | 220.83 | 1.949 | 0.67 | 8 | 5.338 |
| 2014 | 182 | 246.9 | 233.92 | 2.064 | 0.72 | 9 | 6.523 |
| 2015 | 177 | 261.4 | 244.52 | 2.158 | 0.77 | 10 | 7.691 |
| 2016 | 180.6 | 274.3 | 255.56 | 2.255 | 0.81 | 11 | 8.946 |
| A= Sum of the product column | | | | | | | 39.437 |
| B= 6 Times of A | | | | | | | 236.62 |
| C= (n-1)*n*(2n-1) where n= No of years of data=12 | | | | | | | 3036 |
| D=B/C | | | | | | | 0.078 |
| g(Exponential factor)= Exponential (D)-1 | | | | | | | 0.081 |
| e=Annual Escalation Rate (%)=g*100 | | | | | | | 8.11 |

Consumer growth rate at 5.57% as 3 years CAGR as approved by the Commission at consider for computation. Normative O&M expenses of FY-19 are worked out as under:

Table No: 4.36

| Particulars | FY16 | FY17 | FY18 | FY19 |
|---|----------------|----------------|----------------|----------------|
| No. of Installations | 10146965 | 10696029 | | |
| CGI based on 3 Year CAGR | | 6.28% | 6.00% | 6.00% |
| Inflation index | | 7.71% | 7.71% | 8.11% |
| Base Year Corrected O&M expenses (FY-16)-Rs.Crs | 1035.32 | | | |
| Total allowable O&M Expenses-Rs. Crs | | 1169.81 | 1318.49 | 1491.34 |
| *Un controllable expense: P&G contributions | 150.23 | 143.15 | 143.15 | 143.15 |
| Total O&M expenses -RS. Crs. | 1185.55 | 1312.96 | 1461.64 | 1634.49 |

*P&G contributions considered as 143.15 Crs. for FY-18 & FY-19.

Commission is requested to approved the modified O&M cost of Rs. 1634.49 Crs. for FY-19.

DEPRECIATION:

Commission approved the depreciation for FY-19, based on the gross block of opening and closing balance of fixed assets, as per the audited accounts for FY15 and estimation of FY-16 based on the approved capex plan of FY-16 and FY-17.

Approved level of depreciation for FY-19, in the Tariff Order dated 30th March 2016 is as follows:

Approved Depreciation for FY19:

Table 4.37

(Rs. In Crore)

| Particulars | FY19 |
|-----------------------------|---------------|
| Buildings | 4.92 |
| Civil | 0.18 |
| Other Civil | 0.09 |
| Plant & M/c | 116.25 |
| Line, Cable Network | 350.8 |
| Vehicles | 1.05 |
| Furniture | 0.63 |
| Office Equipment's | 0.95 |
| Intangible assets | 0.01 |
| Sub Total | 474.87 |
| Depreciation Withdrawn AS12 | 160.32 |
| Total | 314.54 |

Due to change in the capital base for FY-17, approved modifications for FY-18 capital investment plan and proposed modifications for FY-19 capital investment plan warrants modifications of depreciation of FY-19.

Depreciation for FY-19 considering the following:

- a) As stated in the previous para under capital investment plan FY-18 & FY-19, government of Karnataka and Government of India initiated new capital works which amounts to Rs. 1714.46 Crs. & 1175.30 Crs. for FY-18 & FY-19 respectively. These investments are met through grants / subsidies depreciation is not computed for these projects since, this is to be reversed as per Accounting Standard 12.

- b) It is assumed, out of total capex plan only 75% of the capex will invested during the year.
- c) It is assumed, out of total capex invested only 90% of investment will capitalized during the year.

Computation of FY-19 capital base is tabulated below:**Table 4.38**

Amount in Crs.

| Sl No. | Particulars | Approved for FY18 | Proposed for FY19 |
|----------|---|-------------------|-------------------|
| A | CAPEX | 3272.32 | 2837.00 |
| B | Sponsored Project | | |
| 1 | Ganga kalyana Works | 75.76 | 80.30 |
| 2 | Water Works | 47.73 | 54.09 |
| 3 | SDP Works. | 44.77 | 39.48 |
| 4 | Providing Infrastructure to Un authorised IP sets | 420 | 418.00 |
| 5 | NJY | 459.89 | 183.96 |
| 6 | DDUGJY | 150 | 60.00 |
| 7 | IPDS | 290 | 266.00 |
| 8 | RGGVY 12th plan | 42 | 0.00 |
| 9 | DAS | 60.04 | 0.00 |
| 10 | DSM | 81.42 | 67.57 |
| 11 | RAPDRP A | 42.86 | 5.90 |
| C | Total (1-11) | 1714.47 | 1175.30 |
| D | Capex with Own funds | 1557.85 | 1661.70 |
| E | 75% of CAPEX will invested | 1168.39 | 1246.28 |
| F | 90% of the investment capitalized | 1051.55 | 1121.65 |
| G | Proposed for capitalization | 1051.55 | 1121.65 |

Computation of FY-19 modified depreciation is tabulated below:**Table 4.39**

| PARTICULARS | Amount in Rs. Crs. |
|---|--------------------|
| Gross Asset Base as at the end of FY17 | 10471.23 |
| Asset Base added for FY18 (Provisional) | 1251.55 |
| Deductions | 200.00 |
| Expected Gross fixed asset at the beginning of FY-19 | 11522.78 |
| Additions | 1121.65 |
| Deductions | 210 |
| Gross fixed asset at the end of FY-19 | 12434.43 |
| 051 Depreciation provided @ rate of 5.28% | 590.88 |
| Assets created on Contributions, subsidies and grant at the beginning of the year | 3414 |
| Depreciation with drawn as per AS-12 @ rate of 5.28% | 162.23 |
| Depreciation proposed for FY-19 | 428.65 |

Commission is requested to consider Rs. 428.65 Crs. as modified depreciation for FY-19.

INTEREST AND FINANCE CHARGES:

Commission approved the interest finance charges for FY-19 is tabulated below:

Table 4.40

| Particulars | FY19 |
|--|---------------|
| Interest on Loan Capital | 337.99 |
| Interest on Working Capital | 342.08 |
| Interest on Consumers Security Deposit | 303.95 |
| Other Interest & Finance Charges | 10.19 |
| Less Interest & other expenses | -86 |
| Total Interest & Finance | 908.21 |

Due to increase in the long term loan and change in the interest rate by RBI interest finance charges are proposed for modification of FY-19.

LONG TERM LOAN:

Interest on long term loan for FY-19 is tabulated below:

Computation Fresh Loans for capex of FY-18 & FY-19:

Table 4.41

| Particulars | FY-18 | FY-19 |
|---------------------------------|--------------|--------------|
| Capex plan envisaged | 3272.32 | 2837.00 |
| Less: GOK / GOI sponsored works | 1714.46 | 1175.30 |
| Funds required | 1557.86 | 1661.70 |
| Equity (@ 30%) | 467.36 | 498.51 |
| Borrowings | 1090.50 | 1163.19 |

Calculation interest on long term loan for FY-19:

Table 4.42

| Particulars | FY-19 |
|---|--------------|
| Long term loan as on end of FY17 | 3772.77 |
| As on Sept' 17 Rs. 311.64 Crs. Of Fresh loans are drawn for FY-18 | 311.64 |
| Fresh loans envisaged for FY-18 Rs. 778.86 Crs. (Rs.1090.50 Crs. - Rs.311.64 Crs.) | 778.86 |
| New loans borrowings for FY-19 | 1163.19 |
| total loans for FY-19 | 6026.46 |
| Repayment FY18 & FY 19 | 509.12 |
| Net Loan | 5517.34 |

| | |
|------------------------------------|---------------|
| Average Rate of Interest for FY-19 | 10.41% |
| Interest on long term loan | 574.32 |
| less interest capitalized | 80.00 |
| Net interest | 494.32 |

INTEREST ON WORKING CAPITAL:

Interest on working capital is modified taking into consideration of modified GFA, O&M Expenditure and 2 months receivable and considering the interest on working capital at prime lending rate of SBI. Modified calculations are as under.

Table 4.43

| Particulars | FY-19 |
|---|---------------|
| 1/12th Operation and Maintenance | 138.43 |
| GFA at beginning of the year FY-19 | 11522.78 |
| 1% of Gross fixed assets at the beginning of the year | 115.22 |
| 2 months Receivables | 2,763.00 |
| Estimated Working Capital | 3017.902 |
| Rate of Interest | 12.45% |
| Interest on working capital | 375.73 |

INTEREST ON CONSUMER SECURITY DEPOSIT:

As per the final accounts of FY-17, closing balance consumer security deposit is Rs. 3622.77 Crs.

As per the RBI notified WEEKLY STATISTICAL SUPPLEMENT dated 24th march 2017, Bank rate as on 01.04.201 was 6.75%.

Consumer security deposits estimated to be added in FY-18 and FY-19 is considered at Rs. 320 Crs.

Considering the above factors modified Interest on consumer security deposit worked out as under:

Table 4.44

| Particulars | FY-18 | FY-19 |
|--|--------------|--------------|
| Consumer Security Deposit | 3622.77 | 3942.77 |
| Addition during the year | 320 | 320 |
| Consumer Security Deposit at the end of the year | 3942.77 | 4262.77 |
| Rate of Interest | 6.75% | 6.75% |
| Interest on consumer security deposit | 266.14 | 287.74 |

OTHER INTEREST AND FINANCE CHARGES:

Other interest and finance charges for FY-19 is considered at actuals of FY-17 i.e., is Rs. 11.63 Crs.

Table 4.45

| Particulars | FY-18 | FY-19 |
|-------------------------------------|-------|-------|
| Other interest and finance charges. | 11.63 | 11.63 |

Consolidated, modified FY-19 interest and finance charges:**Table 4.46**

| Particulars | FY19 |
|--|----------------|
| Interest on Loan Capital | 574.32 |
| Interest on Working Capital | 375.73 |
| Interest on Consumers Security Deposit | 287.74 |
| Other Interest & Finance Charges | 11.63 |
| Less Interest & other expenses | -80 |
| Total Interest & Finance | 1169.42 |

OTHER DEBITS AND PRIOR PERIOD CREDITS:

The Commission has not been considering the projections for other debits and Prior period Credits for the reason that, the same cannot be estimated beforehand. Hence, no modifications proposed.

RETURN ON EQUITY:

Commission in principle is not allowing Return on equity for the reason that the net worth is eroded.

In several filings BESCOM pleaded to allow return on equity, as the electricity distribution business is an regulated business. Loss incurred will be made good at the time of truing up exercise as the loss incurred is only due to higher power purchase cost which is uncontrollable.

Earlier statements are reiterated for the kind consideration of the Commission:

“It is submitted before the Commission, that the distribution business is regulated and

income and expenditure are determined by KERC. The difference in the expenditure and the receipts will be validated by the regulator and appropriately loss will be compensated. Such being the case, any loss in the distribution business will be compensated in the future years which compensate the loss and restore the equity. Treatment of ROE on the principles laid down is applicable for business which shows profit but it is not true for Companies with loss.

For Instance, during FY-09, BESCO suffered loss to an extent of Rs.537 Crs. However, while truing up FY-09, Commission approved the additional subsidy to an extent of Rs.626 Crs and directed GoK to pay the same in 36 monthly installments. Such being the case, FY-09 accounts are to be redrafted duly creating the receipts receivable from GoK. This results in the restoration of the equity in full. It is true that the Commission trued up the figures for FY-08 and FY-09 during FY-11; it is only a time run case. Thus, to conclude that the net worth is eroded after viewing the final accounts is not convincing as Commission approved the expenditure and approved additional subsidy to BESCO and the source from whom the additional subsidy is recoverable.

The same scenario of FY-09 is repeated during FY-13. Loss incurred due to increase in the Power purchase cost and the truing up of FY-13 is submitted along with this filing, Commission is requested to allow increase in power purchase cost. By this, the eroded net worth will be restored in full. Hence it is requested to allow the Return on equity for the share capital held by BESCO”

Further, Commission without commenting anything on the submission made by BESCO, chose to disallow return on equity, considering the equity is eroded.

Further, following judgments of the Hon’ble Tribunal is placed for kind consideration of the Commission.

Appeal No. 192 of 2013:

It is clear that the Return on Equity can be allowed only when the **equity is used for creation of capital assets** and not when the amount claimed to be equity by the Appellant is used to meet the revenue expenditure.

Appeal No.27 of 2013:

*It is also the settled position of law **that if two interpretations are possible then the interpretation which is beneficial to the subject should be accepted.***

*As per audited accounts, Note No. 30 General Notes, Government of Karnataka induced (disbursed) an equity to an extent of Rs.340.96 Crs. from FY-2005 to FY-2012. Further, Rs.248.10 Crs are disbursed towards share deposits from FY-13 to FY-16. Hence, as per the Appellate judgment vide appeal No. 192/2013, **equity used for creation of capital assets** and eligible for return.*

*Commission is allowing return on equity, considering the opening balance of equity, whereas BESCO is requesting for the closing balance of equity. It is also pleaded before the Commission that equity employed during the year should also earn returns. For the difference of interpretations, it is settle law **that if two interpretations are possible then the interpretation which is beneficial to the subject should be accepted.***

Disallowance on ATE Appeal No. 46/2014:

In accordance with the Order of the Hon'ble ATE in Appeal No.46 of 2014 dated 17th September, 2014 an amount of Rs.100 Crores is deducted as recapitalized consumer security deposit as networth.

In earlier chapter, i.e., truing up of FY-16, it is elaborately briefed that Rs.85.97 Crs. of consumer meter security deposit was capitalized instead of Rs. 100/- Crs. as considered by the Commission. Further, Commission kind attention is drawn for the Annual Account of BESCO for the year 2011-2012, 2012-13 and 2013-14 vide Note No.20 'Other Income' head. Amount received from the Government of Karnataka under tripartite agreement was credited to other income instead of reducing the receivable from the Government of Karnataka. Since the amount is credited to other income, BESCO requested the Commission to credit this amount against the capitalized consumer security deposit and balance to be considered for reduction in the equity.

During the FY-17 GOK induced Rs. 218.68 Crs. of equity. For FY-18, as on October 2017 an amount of RS. 138. Crs. is induced as equity. It is excepted another Rs. 62 Crs. of equity investment of GOK for the rest of the period of FY-18. Hence, it is assumed that Rs. 200 Crs. of equity will be induced by the Government for FY-18 and FY-19.

On the above said grounds, modified return on equity for FY-18 is tabulated as under:

Table 4.47

| Sl. No. | Particulars | Amount in Crs. |
|----------|--|----------------|
| 1 | Opening Equity | 546.91 |
| 2 | Share deposit | 248.1 |
| 3 | Equity Addition During the Year | 218.68 |
| 4 | excepted additions for FY-18 & FY-19 (Rs. 200 + 200) | 400.00 |
| Less: | Consumer meter security deposit capitalized | 54.81 |
| 3 | Closing Equity During the Year | 1358.88 |
| 5 | Return on Equity @15.5% | 210.63 |

Commission is requested to approve modified return on equity of Rs. 210.63 Crs.

OTHER INCOME:

Commission considered the other income of Rs.213.00 Crs. for FY18 and Rs 223 Crs for FY19 recognizing prompt payment incentive under “Other income”. BESCO is proposing other income to the extent of Rs 72.42 Crs for FY18 and Rs 75.82 Crs for FY 19 only without taking prompt payment incentive earned for the reason that incentive income for prompt payment against Power purchase is unforeseen and largely dependent on external environments

Fund towards Consumer Relations / Consumer Education:

Commission approved funds towards consumer relations/consumer education to an extent of Rs.1 Cr for FY-19. BESCO is not proposing any modification on this expenditure.

Abstract of Approved and Modified ARR for FY-19 is shown in the table below:

Table 4.48

| Sl.No | Particulars | Approved | Modified | Variation |
|----------|---------------------------------------|-----------------|------------------|----------------|
| 1 | Revenue from tariff and Misc. Charges | | 14,885.79 | |
| 2 | Tariff Subsidy | | 2491.62 | |
| 3 | Total Revenue (1 + 2) | | 17,377.41 | |
| | Expenditure | | | |
| 4 | Power Purchase Cost | 12457.21 | 13486.7 | 1029.49 |
| 5 | Transmission charges of KPTCL | 1781.99 | 1781.99 | 0.00 |
| 6 | SLDC Charges | 14.29 | 14.29 | 0.00 |
| 7 | Total PP cost (4 TO 6) | 14253.49 | 15282.98 | 1029.49 |

| | | | | |
|----|---|-----------------|-----------------|----------------|
| 8 | O&M Expenses | 1688.27 | 1634.49 | -53.78 |
| 9 | Depreciation | 314.54 | 428.65 | 114.11 |
| | Interest and Finance Charges | | | |
| 10 | Interest on Loans | 337.99 | 574.32 | 236.33 |
| 11 | Interest on Working capital | 342.08 | 375.73 | 33.65 |
| 12 | Interest on consumer deposits | 303.95 | 287.74 | -16.21 |
| 13 | Other Interest & Finance charges | 10.19 | 11.63 | 1.44 |
| 14 | Less: interest & other expenses capitalized | -86 | -80 | 6.00 |
| 15 | Interest & Finance charges (10 to 14) | 908.21 | 1169.42 | 261.21 |
| 16 | Funds towards Consumer Relations/Consumer | 1.00 | 1.00 | 0.00 |
| 17 | Other debits | 0.00 | 0.00 | 0.00 |
| 18 | Prior period credits | 0.00 | 0.00 | 0.00 |
| 19 | ROE | 46.83 | 210.63 | 163.80 |
| 20 | Income tax | 0.00 | 0.00 | 0.00 |
| 21 | P&G Trust | 0.00 | 0.00 | 0.00 |
| 22 | Other Income | 223.00 | 75.82 | -147.18 |
| 23 | ARR (7 +8 +9 +15 +16 to 21 - 22) | 16989.34 | 18651.35 | 1662.01 |

Segregation of ARR into Distribution and Retail Supply Business:

The Consolidated ARR has been segregated into ARR for Distribution Business and ARR for Retail Supply Business based on Commission approved ratio of segregation of ARR.

Segregation of Costs

Table 4.49

| Particulars | Distribution Business | Retail Supply Business |
|-------------------------------|------------------------------|-------------------------------|
| O&M | 56% | 44% |
| Depreciation | 88% | 12% |
| Interest on Loans | 100% | 0% |
| Interest on Consumer Deposits | 0% | 100% |
| RoE | 50% | 50% |
| GFA | 88% | 12% |
| Non-Tariff Income | 19% | 81% |

Accordingly, the following are the ARR for the Distribution Business and the Retail Supply Business:

ARR for Distribution Business & Retail business– FY19:

Table 4.50

| Particulars | Modified | (Rs. In Crore) | | | |
|---|-----------------|-----------------------|---------------|-----------------------|------------------------|
| | | Allocation % | | Segregation | |
| | | Distribution Business | Retail Supply | Distribution Business | Retail Supply Business |
| Expenditure | | | | | |
| Power Purchase Cost | 13486.7 | 0% | 100% | 0 | 13486.7 |
| Transmission charges of KPTCL | 1781.99 | 0% | 100% | 0 | 1781.99 |
| SLDC Charges | 14.29 | 0% | 100% | 0 | 14.29 |
| Total PP cost (4 TO 6) | 15282.98 | | | 0 | 15283 |
| O&M Expenses | 1634.49 | 56% | 44% | 915.31 | 719.18 |
| Depreciation | 428.65 | 88% | 12% | 377.21 | 51.44 |
| Interest and Finance Charges | | | | 0 | 0 |
| Interest on Loans | 574.32 | 100% | 0% | 574.32 | 0 |
| Interest on Working capital | 375.73 | 0% | 100% | 0 | 375.73 |
| Interest on consumer deposits | 287.74 | 0% | 100% | 0 | 287.74 |
| Other Interest & Finance charges | 11.63 | 19% | 81% | 2.21 | 9.42 |
| Less: interest & other expenses capitalized | -80 | 100% | 0% | -80 | 0 |
| Interest & Finance charges (10 to 14) | 1169.42 | | | 496.53 | 672.89 |
| Funds towards Consumer Relations/Consumer | 1 | 0% | 100% | 0 | 1.00 |
| Other debits | 0 | 19% | 81% | 0 | 0.00 |
| Prior period credits | 0 | 19% | 81% | 0 | 0.00 |
| ROE | 210.63 | 50% | 50% | 105.32 | 105.32 |
| Income tax | 0 | | | 0 | 0 |
| P&G Trust | 0 | | | 0 | 0 |
| Other Income | 75.82 | 19% | 81% | 14.41 | 61.41 |
| ARR | 18651.35 | | | 1879.97 | 16771.38 |

Gap in Revenue for FY19:

Table 4.51

(Rs. In Crore)

| Particulars | FY-19 |
|----------------------------|----------------|
| NET ARR | 18651.4 |
| Revenue from Sale of power | 17377.4 |
| Revenue Gap | 1273.94 |