Replies to Preliminary Observations of the Hon'ble Commission on APR for FY16 and Revised ARR for FY18

1. Capital Expenditure:

i. Capital Expenditure of CESC for FY16:

The Commission had approved a capital expenditure of Rs.317 Crores for FY16 against which, the CESC has indicated an actual capital expenditure of Rs.488.52 Crores (in the details furnished on page No. 62 of its APR application for FY16). CESC has shown a capital expenditure of Rs.488.52 Crores and the asset categorized value at Rs.673.74 Crores (Format D17 and D15). CESC has indicated a capex of Rs.522.4 Crores as asset categorized in respect of plant & Machinery and Lines, Cable & Networks. But, the data pertaining to categorized and capitalized works submitted for conducting Prudence check was amounting to Rs.590.47 Crores. CESC shall explain the difference in the amount shown in categorization under D16 and that indicated in the list of works submitted for prudence check of categorized works of FY16.

CESC Replies:

Format D-16 shows the difference of addition to fixed assets during the years less addition to depreciation during the year in which the Plant & Machinery & lines & cables & network shows a balance of Rs. 647.71 Crs towards addition to fixed assets and Rs. 125.31 Crs towards addition to depreciation during the year -the net off of which is Rs.522.40 Crs. The figures submitted to prudence check was before the finalization of Statutory/C& AG Audit and also the amount categorized in the administrative offices & Interest capitalized was not included and there were many changes in additions of assets and depreciation during the course of audit.

Hence the final categorized amount after audit for FY2015-16 stands at Rs.673.74 Crs (As per Audited Accounts).

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2. The details of category wise capital expenditure of CESC for FY16:

Amount in Rs. Crores

Sl. No.	Schemes	FY-16 As approved (in Crores)	FY-16 Actuals (in crores)	Difference
1	Extension & improvement	80	75.7588	4.2412
2	NJY	50	247.5256	-197.526

Sl. No.	Schemes	FY-16 As approved (in Crores)	FY-16 Actuals (in crores)	Difference
3	HVDS	20	0	20
4	R-APDRP	50	21.2315	28.7685
5	RGGVY(Restructured)+DDG	0	0.6594	-0.6594
6	Replacement of failed Transformers	10	4.9982	5.0018
7	Service Connections	40	25.7564	14.2436
8	**Rural Electrification(General)**			
A	Electrification of Hamlets/HB/JC under RGGVY	10	87.0922	-77.0922
B	Providing infrastructure to Irrigation Pump sets & energisation of IP SETS			
C	Kutir Jyothi (RGGVY)	-	-	-
9	**Tribal Sub Plan**			
A	Electrification of Tribal Colonies (RGGVY)	3	2	1
B	Energisation of IP sets			
C	Kutir Jyothi (RGGVY)			
10	**Special Component Plan**			
A	Electrification of HB/JC/AC(RGGVY)	10	6	4
B	Energisation of IP sets			
C	Kutir Jyothi (RGGVY)			
11	Tools & Plants	4	8.4004	-4.4004
12	Civil Engineering Works	10	9.0984	0.9016
13	Providing Meters to DTC, BJ/KJ, Street Light for replacement of electromechanical meters, providing modems to meters for communication	30	0.0019	29.9981
	Total	**317**	**488.5231**	-171.523

From the above table, it can be noted that, the overall capital expenditure of CESC for FY16 at Rs.488.52 Crores has exceeded the approved capex of Rs.317 Crores by Rs.171.52 Crores. The CESC has exceeded its approved capex limit in NJY program by Rs.197.52 Crores as compared to the approved capex by Rs.50 Crores. CESC needs to explain the reasons for such a huge difference in the capex achieved as against the approved level and should clearly indicate the breakup of the division wise expenditure and also quantify the benefit accrued to CESC from implementation of the NJY program.

CESC Replies:

The original proposal for FY-16 submitted to the Hon'ble Commission was Rs. 669.00Cr for which Commission accorded approval for 317.00 Cr. In the course of time CESC requested the Hon'ble Commission to revise the CAPEX budget to 883.00 Cr through the following letters:

1. This office letter no. GM(T)/EE(T)/AEE(T)-1/C1-2003/2015-

16/6691 dated: 03.08.2015

2. This office letter no. GM(T)/ EE(T)/AEE(T)-1/C1-2003/2015-16/ 10101 dated: 09.09.2015.
3. This office letter no. GM(T)/ EE(T)/AEE(T)-1/C1-2003/2015-16 12893 dated: 16.11.2015.

In the letter received from the Hon'ble Commission vide No. 1457 dated: 30.11.2015, certain observations were made by the Commission & it was directed to submit the future proposals by keeping in view the observations made. Hence in the anticipation of the approval from the Commission the necessary CAPEX works were taken up by CESC for revised budget of 883 cr.

The NJY project is taken up in two phases in CESC. In phase 1 it is proposed to commission 135 nos 11kV NJY feeders in 10 taluks and 235 nos of11kV NJY feeders in Phase 2 covering 14 taluks, with a total of 370 Nos of 11kV NJY feeders.

NJY Phase 1 works were awarded in 2010 with a completion period of 9 months from date of DWA and NJY phase 2 works were awarded from August 2012 to June 2014 with completion period ranging from 9 months to 15 months from date of DWA. CAPEX for NJY scheme implementation was proposed from FY-10.

Due to various field constraints such as ROW/objections in field due to locals, delay in approvals from railway authorities, pending breaker works etc., the time for completion of works were extended and the expenditure could not be booked against the capex proposed. The CAPEX for balance works were proposed under spill over.

The CAPEX for NJY works in FY 17 was proposed for variation works to be carried out. The works which were completed and could not be commissioned in previous FYs are commissioned in FY-17 & assets are categorized after commissioning. Further advance payments are also made for the materials supplied to work under progress feeders. Hence there is an increase in expenditure booked beyond the approved CAPEX for spill over works. The total expenditure incurred is within the project cost.

As on November 2016, 326 nos of feeders are completed, out of which 306 nos of feeders are commissioned. The balance 20 nos are to be commissioned due to various reasons such as corridor issues/railway crossing approvals/breaker requirement etc Further, it is expected to complete all NJY works by March 2017. The financial progress achieved as on November 2016 is as follows;

Amount in Rs. crores

SN		Project cost	Expenditure	Balance	Remarks
1	Phase 1	248.47	190.76	9.24	
2	Phase2	539.1	400.54	138.56	(including variations)
	Total	787.57	591.3	148.56	

The project is proposed to be completed by March 2017. For any balance spill over works due to indefinite field constraints, the capex of Rs.40 crores is proposed for FY18.

Progress of NJY Phase-1 as at the end of November-2016 and Action plan for completing NJY Phase 1 works are as detailed below:

No. of taluks covered	Total feeders	Feeders				Action Plan		
		completed	Commissioned	Balance	Dec-16	Jan-17	Feb-17	Total
10	135*	130	126	5	1	2	2	5

***** As per DPR, 161 numbers of NJY feeders were proposed. Due to field constraints, work on 26 numbers of feeders could not be taken up and the same is proposed under DDUGJY for which tender is invited and works will be awarded during Jan-17 after approval by the Board of Directors of CESC.

Progress of NJY Phase-2 as at the end of November-2016 and Action plan for completing NJY Phase 1 works are as detailed below:

Out of 235 proposed feeders, works on 198 feeders have been completed, out of which 181 feeders have been commissioned under NJY Phase-2 scheme as at the end of Nov-2016. Action is being taken to commission the completed feeders.

Out of the remaining 37 feeders, works are under progress in 27 feeders & works on 12 feeders are to be taken up.

Progress of NJY Phase-2 works as at the end of Oct-2016 and Action plan for completing NJY Phase 2 works are as detailed below:

No. of taluks covered	Total feeders	Feeders		
		Completed	Commissioned	Balance
14	235	198	181	37

Action Plan				
Dec-16	**Jan-17**	**Feb-17**	**Mar-17**	**Total**
6	7	12	12	37

CESC Mysore is taking all measures to complete and commission the proposed feeder works under NJY scheme as per the action plan.

M/s CPRI has been entrusted with the works of analysing the benefits to the system post implementation of NJY scheme and one report has already been submitted to the Hon'ble Commission in the application for APR for FY-15.

Brief comments on CPRI report furnished for Pandavapura taluk Ragimuddenahalli NJY feeder states as follows;

- The data is evaluated for a period of six months before and after NJY implementation.
- There is a decrease in the unscheduled number of interruptions which is a positive sign.
- There is an increase in the scheduled number of interruptions as well as the duration of interruption and increase in the unscheduled duration of interruption after NJY, which may be due to safety aspects of the repair crew relating to attending troubles of feeders which are mostly run in parallel to the existing lines, existing poles & other infrastructures due to corridor constraints.
- The energy sale after NJY has increased .
- The distribution transformer (DT) failure rate on rural feeders is ranging from 2.78% to 11.11% (before NJY) and is ranging from 5.97% to 10.94% on IP feeders & is 0.00% on NJY feeder (after NJY) which is a positive sign. The DT failure rate on IP feeder is increased as compared to that of rural feeder.
- The average energy loss after NJY is reduced
- The maximum peak load on IP feeders has increased compared to that of rural feeders. The maximum peak load on NJY feeder is 50 A
- The AT&C loss on NJY feeders is ranging from 14.81% to 14.86%. The AT&C loss of all three IP feeders is reduced compared to the rural feeders.

- The tail end voltage levels of IP feeder and NJY feeder have improved after NJY which is a positive sign.

- The scheme provides an equal opportunity for students / educationists in rural areas to improve their educational prospects & is indirectly contributing towards improved literacy.

- In all, "Niranthara Jyothi Yojana "Scheme has brought an overall socio-economical change in rural areas. There are various HT consumers, MS buildings, Brick factories and many small scale industries benefited thought the scheme. Hence it is a commendable effort by CESC, Mysore.

- It will take some more time before complete benefits of NY is clearly visible.

The evaluation report of CPRI for the Nallurupala feeder in Hunsur Division is enclosed for the kind information of the Hon'ble Commission as **Annexure-1.**

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3. In respect of HVDS, CESC has not at all utilized the approved capex of Rs.20 Crores. CESC has replied in the directives on HVDS implementation that, at present, CESC is putting up one DTC for each Ganga Kalyana IP set as well as Water supply installation and is providing one DTC for every three numbers of UNIP installations. DTCs provided for the above works are large in number and are analogous to HVDS concept. That as on 30.09.2016 there are 1495 feeders in CESC area (Agri-372, Rural-413, NJY-266, Urban-444). That bifurcating non-agricultural loads from rural feeders is being undertaken and this addresses all our load needs. That for this reason, the Board of Directors have decided to do away with HVDS in CESC.

Though CESC has taken a decision on installing new transformers to Ganga Kalyana and each transformer for three new IP Sets, it is to be noted that, there is a huge length of LT lines involved in IP Set connections already existing. Hence, CESC should explore the possibility of reducing the LT line length and consequent distribution loss. Keeping this in view, CESC should explain the reasons for not implementing the HVDS programme.

CESC Replies:

It has been CESC's view that HVDS is not required in its area as the coverage of NJY under phase-1 and phase-2 is massive (no of feeders added 306, no of transformer added 9495 nos) and also in view of the company providing one DTC for each GK/WS installations and one DTC for every three UNIP installations.

The table below gives an overview of the DTCs added, HT/LT line added and HT/LT ratio in CESC for the past five years.

Year	11-12	12-13	13-14	14-15	15-16
DTCs added	3780	6004	10829	10057	10172
HT line added	1313.43	1726.42	4514.02	5164.98	4323.80
LT line added	971.30	1082.26	1800.56	1842.36	4260.55
HT lines	31252.12	32978.55	37492	42657	46981
LT lines	70392.07	71474.33	73275	75117	79378
HT/LT ratio	1:2.25	1:2.16	1:1.95	1:1.76	1:1.68

It can be seen from the above that there is a huge jump in number of DTCs added & HT lines added during every year from 2013-14 onwards. This activity has effectively decreased HT/LT ratio to 1:1.68 by FY-16. The trend is maintained even in the current year FY17. Commensurately, distribution loss is also seen in the downward trend and CESC is achieving the stipulated target figure by the Commission in this regard.

4. In respect of Rural Electrification(General)- CESC has achieved a capex of Rs.77.09 Crores, in excess of the Commission approved capex of Rs.10 Crores. CESC shall furnish the breakup of expenditure of each of the sub-scheme and also the reasons for such an excess capex over the approved limit.

CESC Replies:

The budget provision made by CESC in respect of Rural Electrification(General)including providing infrastructure to IP set works was Rs.70.00 Cr. for FY-16 even though the approved budget was 10.00 Cr.(out of a total of Rs. 317 Cr). As these works are of social obligation and are Government's priority works, hence these were executed on top priority.

5. In respect of Tools & Plants, CESC has achieved a capex of Rs.8.4 Crores against the approved capex of Rs.4 Crores. CESC shall explain the reasons for excess capex and also submit the list of major tools and plants procured along with explaining their usefulness to the Company.

CESC Replies:

The budget provision for T&P was Rs. 4.0 crores in FY-16 and the purchase orders were placed within this budget limit only. The major tools and plants procured are as shown below

- 3 Phase Energy Meter Test bench -Rs 2.70 Cr
- PGRS soft ware - Rs 1.18 Cr.
- Other T&P materials for day to day works

The reason for excess expenditure booked is that the bills of the materials procured during 2014-15 were realized during 2015-16.

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6. In respect of Providing Meters to DTC, BJ/KJ, Street Light, Replacement of Electromechanical Meters, Providing Modems to Meters for Communication, CESC has incurred a very negligible capex of Rs.0.0019 Crore against the approved capex of Rs.30 Crores. It is to be noted that, the Commission has been directing CESC to complete DTC metering and conduct energy audit to quantify the distribution loss and take remedial measures. But, CESC has failed to achieve its own set targets in these categories. CESC shall explain the reasons for not achieving the target.

CESC Replies:

CESC has proposed for providing meters to DTC, BJ/KJ, and replacement of Electro-mechanical meters under DDUGJY/IPDS Schemes. Delay in completion of this scheme is due to delay in finalization of technical specification and standard bidding documents by MoP, GoI. As per the guidelines of GoI under the above schemes, tenders will be invited and works will be taken up on top priority.

Further GoK is funding for providing modems to DTC meters to establish remote communications for which Tenders will be invited along with DDUGJY metering component tenders.

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7. Further, CESC shall furnish the details of the works which are being funded through grants from the GoI or GoK, along with the details of amount sanctioned, utilized and the balance yet to utilized, in the following format:

CESC Replies:

The details are furnished below:

Amount in Rs. Crores

Sl. No.	Type of Work	Total Cost of the Project	Cost of works award	Sanctioned source of Funding		Actual amount received/availed		Cost of the completed works as on Nov'16	Cost of works which are in progress (WIP)
				Loan	Grants	Loan	Grants		
	1	2	3	4	5	6	7	8	9
1	RAPDRP Part-A	28.91	32.51	28.9		16.64		19.78	9.13
2	RAPDRP Part-B	228.91	228.91	179.56	0	83.18		96.51	110
3	DDUGJY	280.29	For IPDS & DDUGJY schemes GoI grant is 60% and loan is 30% and the balance 10% is DISCOM fund.						
4	IPDS	170.03							
5	NJY Phase-1	248.47	200	115	172.32	62.32	172.32	190.76	9.24
6	NJY Phase-2	356.12	539.12	450.37		309.97		400.54	138.58
7	HVDS								
8	RGGVY	31.32	44.37	3.1324	28.19	0.8695	7.82	1.0144	2.2143
9	DDG	20.74	20.74	18.66	2.08	-	-	-	-
10	Feeder wise data analysis & outage management	0.55	0.55	0.55	-	0.55	-	-	-
11	Solar Roof Top	16.57	16.57	-	16.92	-	16.92	-	-
12	Replacement of ACSR Conductor tender invited.	10			10		10		
13	SGPP		32.59		16.3	4.07		10.8	
14	Shifting of SMC Meters	7.67	7.67	--	--	--	--	2.56	5.11

Sl. No.	Type of Work	Cost of Balance works	Scheduled /targeted date of completion	Actual date of completion of work	Delay if any	Whether the grant has been converted to Loan due to delay	Amount of loan converted to loan	Interest on the converted grant into loan	Reason for the Delay
		10	11	12	13	14	15	16	17
1	RAPDRP Part-A		31.3.2017	31.3.2017	No	No	-	-	-
2	RAPDRP Part-B	22.4	Dec-16	Sep-16	-	No	-		Dasara Festival season approval from MMC for cable works, Permission from

Sl. No.	Type of Work	Cost of Balance works	Scheduled /targeted date of completion	Actual date of completion of work	Delay if any	Whether the grant has been converted to Loan due to delay	Amount of loan converted to loan	Interest on the converted grant into loan	Reason for the Delay
									Roads & building department, site erecting issues from local people and LC problem
3	DDUGJY								For IPDS & DDUGJY scheme GOI grant is 60% & 30% is loan & 10% if DISCOM fund.
4	IPDS								
5	NJY Phase-1		Dec-16	-	Yes	No			
6	NJY Phase-2		Mar-17	-	Yes	No			
7	HVDS								
8	RGGVY	41.1413	Dec-16	Not yet completed					
9	DDG		15.08.2016						Out of 29 hamlets only 3 hamlets are electrified & renaming 26 hamlets are pending for want of forest clearance & same is pending with forest department.
10	Feederwise data analysis & outage management								
11	Solar Roof Top								
12	Replacement of ACSR Conductor tendor invited.								
13	SGPP	21.79	31.10.2015	-	14Months	-	-	-	-
14	Shifting of SMC Meters	5.11	30.6.2016	26.2.2015	--	--	--	--	--

Note:

1. In respect of IPDS and DDUGJY, tender process has been completed and waiting for Board approval to award the works.

2. The Projects in respect of R-APDRP Part-A&B will be completed within March'17, the Loan amount released by GoI will be converted into Grant as per the terms & Conditions of sanction for Loan.

~~**8.** CESC shall furnish the stages of progress of implementation of the time bound~~ programs such as DDUGJY and IPDS taken up by it during FY17.

CESC Replies:

The tendering process is completed and it will be placed before the next meeting of Board of Directors of CESC for approval. DWA is proposed to be issued during January 2017.

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ii. 1. Capital expenditure of CESC for FY18:

CESC has indicated a revised capex of Rs.889 Crores against the MYT approved capex of Rs.552 Crores, mentioning the action plan for each of the category of work for the proposed capex of FY18. CESC has also indicated achieved capex till September, 2016 at Rs.111.53 Crores. The proposed capex and the category wise variations are shown below:

Amount in Rs. Crores

<table>
<tr><th>Sl. No.</th><th>Schemes</th><th>FY-17Actuals Upto Sept-16 in lakhs</th><th>FY-18 KERC Approved under MYT</th><th>FY-18 CESC Proposal</th><th>Difference</th></tr>
<tr><td>1</td><td>Extension & improvement</td><td>4571.44</td><td>230</td><td>320</td><td>-90</td></tr>
<tr><td>2</td><td>NJY</td><td>1722.47</td><td>40</td><td>40</td><td></td></tr>
<tr><td>3</td><td>HVDS</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>4</td><td>R-APDRP</td><td>26.11</td><td>25</td><td>25</td><td></td></tr>
<tr><td>5</td><td>IPDS</td><td></td><td>50</td><td>100</td><td>-50</td></tr>
<tr><td>6</td><td>DDUGJY</td><td></td><td>100</td><td>150</td><td>-50</td></tr>
<tr><td>7</td><td>RGGVY(Restructured)+DDG</td><td></td><td></td><td>45</td><td>-45</td></tr>
<tr><td>8</td><td>Replacement of failed Transformers</td><td>3021.7</td><td>5</td><td>5</td><td></td></tr>
<tr><td>9</td><td>Service Connections</td><td>1283.97</td><td>40</td><td>50</td><td>-10</td></tr>
<tr><td>10</td><td>Rural Electrification(General)</td><td></td><td></td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of Hamlets/HB/JC under RGGVY</td><td rowspan="11">146.25</td><td rowspan="3">34</td><td rowspan="3">50</td><td rowspan="3">-16</td></tr>
<tr><td>B</td><td>Providing infrastructure to Irrigation Pump sets &energisation of IP SETS</td></tr>
<tr><td>C</td><td>Kutir Jyothi(RGGVY)</td></tr>
<tr><td>11</td><td>Tribal Sub Plan</td><td></td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of Tribal Colonies (RGGVY)</td><td rowspan="3">2</td><td rowspan="3">3</td><td rowspan="3">-1</td></tr>
<tr><td>B</td><td>Energisation of IP sets</td></tr>
<tr><td>C</td><td>Kutir Jyothi (RGGVY)</td></tr>
<tr><td>12</td><td>Special Component Plan</td><td></td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of HB/JC/AC(RGGVY)</td><td rowspan="3">7</td><td rowspan="3">10</td><td rowspan="3">-3</td></tr>
<tr><td>B</td><td>Energisation of IP sets</td></tr>
<tr><td>C</td><td>Kutir Jyothi(RGGVY)</td></tr>
<tr><td>13</td><td>Tools & Plants</td><td>205.83</td><td>4</td><td>4</td><td></td></tr>
<tr><td>14</td><td>Civil Engineering Works</td><td>175.63</td><td>5</td><td>12</td><td>-7</td></tr>
<tr><td>15</td><td>Providing Meters to DTC, BJ/KJ, Street Light for replacement of electromechanical meters, providing</td><td></td><td>10</td><td>40</td><td>-30</td></tr>
</table>

	modems to meters for communication				
16	Software Development and smart grid project			35	-35
	Total	11153.4	552	889	-337

CESC has indicated additional capex in some particular categories of works as shown in the table, but not changed the other category capex for FY18. CESC needs to take into consideration, its own achievements in incurring capex of Rs.111.53 Crores only till September, 2016 which may not increase more than 2 times in the current financial year i.e., FY17. Hence, the CESC should explain the preparedness for such a huge capex of Rs.889 Crores for FY18 along with submitting the status of preparation of DPRs, tendering etc., with proper reasons for not increasing the capex of some of the category of works.

CESC Replies:

Under Extension & Improvement category works, it is proposed to provide additional DTCs to release the overload on 1500 nos of overloaded centres and provide 500 nos of new transformers for enhancement works during FY-18. It is also planned to take up feeder improvements works for providing GOS at various places for which DPRs are being prepared and details are as shown below. Suitable budget provision has also been made for these works.

SL.No	Division	No. Of Feeders selected	No of GOS proposed		DPR Cost Rs. In Lakhs
			200 Amps	400 Amps	
1	NRM	26	122	25	51.62
2	VVM	23	72	16	40.72
3	N.Gud	80	331	3	142.1
4	Hassan	85	528		181.85
5	Sakleshpur	64	517		205.68
6	HNPura	116	300		129.9
7	Arsikere	65	500		214.39
Total		459	2370	44	966.26

Along with above works Elephant corridor works, new feeders for evacuation of load from new sub-stations commissioned by KPTCL, Link line works are also included in proposed works.

Further, CESC has submitted DPR for Rs.180.79 cr. for providing infrastructure to UNIP and DPR for extension & improvement works for Rs. 205 crores for FY-18 to avail loan from Financial institutions. Hence an additional 90 Cr. was proposed under Extension & improvement category.

In the proposal for FY-16, the provision for IPDS was made for 150Cr but the tendering process was not finalized during 15-16. Hence, Provision is made for 100 cr in FY-18 & proposal for DDUGJY & DDG is also included as work awards are being issued to various agencies for these works. As NJY is in its completing stage the budget provision was kept as it is.

In anticipating more applications under service connections provision is made for Rs 50.00 Cr in FY-18.

In UDAY scheme the target fixed for metering of DTCs is 28233 nos and for achieving the target budget provision of Rs 40.00 Cr is made for FY-18.

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2. Further, CESC shall furnish the details of infrastructure created for un-authorized IP sets in the following format, as to find out whether, CESC is going to achieve 100% creation of infrastructure during FY18 or not:

CESC Replies:

The details of infrastructure created for un-authorized IP sets is as shown below.

Year	Total Number of Un-IP sets as on 1-4-2015	Total Number of Un-IP sets added during FY16	Total No. of IP Sets provided with infrastructure in FY16	Balance Un-authorized IP sets to be provided with Infrastructure	Target date within which all Un-IP set will be covered	Reasons for not covering all the Un-IP Sets
2015-16	54170	7046	21392	39824	-*	-*
2016-17(as on Nov'16)	39824	11200	7723	43301	-*	-*

*The process is on going and infrastructure has to be provided to all UNIPs. Hence the target dates have not been mentioned.

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3. Further, the CESC shall explain the status of schemes like DDUGJY and IPDS it has proposed to take up in FY17 and whether these schemes are continued in FY18 or

not. If CESC is going to incur the cost for spill-over works / new works during FY18, the same shall be factored in the revised capex proposal.

CESC Replies:

The DWA for DDUGJY and IPDS scheme works will be issued after approval by Board of Directors of CESC during FY-17. The works will spill over to FY18 and FY19. Provision has been made both for DDUGJY and IPDS scheme works under DDUGJY for FY-17. For FY18 separate provision for both DDUGJY and IPDS scheme works has been made.

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4. Though CESC has indicated the action plan for FY18 by giving reasons for additional capex, the CESC has not indicated whether, it has followed the "**Capital Expenditure Guidelines for ESCOMs"** issued by the Commission. If so, CESC needs to project its capex commensurate with:
   a) The network strengthening and expansion requirement,
   b) Improvement of power supply reliability
   c) The target date for each of the project
   d) Loss reduction trajectory

   Also, CESC should mandatorily follow the **"Capital Expenditure Guidelines for ESCOMs"** in which the capital investment planning process, prioritization and post commissioning analysis is to be adopted by the ESCOMs are elaborated. CESC shall furnish details as to whether it has carried out the works according to the guidelines issued by the Commission.

CESC Replies:

CESC has carried out the works according to the guidelines issued by the Commission. The overall goal of CESC while taking up projects under E&I or any other scheme is to achieve the following:

a. The network strengthening and expansion requirement,
b. Improvement of power supply reliability
c. The target date for each of the project
d. Loss reduction trajectory

These are evident from the clearing of prudence check by third party agencies fixed by the Hon'ble Commission from time to time.

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5. The Commission has been directing the ESCOMs to conduct energy audit by listing out high loss making 11kV feeders and take up strengthening works to reduce losses. CESC should also move in this direction and list the high loss making feeders based on the input energy to each of the feeders and sale of energy in that feeder. Prioritization of such projects to be taken up for execution shall be based on payback period & benefit to cost ratio. CESC shall furnish the list of 11kV feeders having losses above the targeted percentage of distribution system losses in the descending order.

CESC Replies:

The list of 11kV feeders having losses above the targeted percentage of distribution system losses in the descending order is furnished as **Annexure-2.**

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6. Further, CESC shall furnish the details of the works which are being funded through grants from the GoI or GoK. along with the details of amount sanctioned, utilized and the balance yet to utilized, in the following format:

CESC Replies:

The details have been furnished in1. i.7 above.

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7. CESC shall also submit the physical and financial progress as on 31st October, 2016 (or Latest as on 30th November, 2016) as against the approved capex for FY17 in the format approved for FY17, indicating the capex incurred against each category.

CESC Replies:

The details are as furnished below:

Sl. No.	Schemes	FY-17 KERC Recognised CAPEX (Rs. in Lakhs)	CAPEX FY-17 for tariff computation (Rs. in Lakhs)	FY-17 Actuals Upto Nov-16 (Rs. in Lakhs)
1	Extension & improvement & 33 KV station Improvement works	25000.00	20000.00	7753.29
2	NJY	10000.00	8000.00	4797.59
3	HVDS	500.00		
4	R-APDRP	5000.00	4000.00	80.49
5	IPDS			
6	DDUGJY	10000.00	8000.00	
7	RGGVY(Restructured)+DDG	1000.00	800.00	0.00

<table>
<tr><th>Sl. No.</th><th>Schemes</th><th>FY-17 KERC Recognised CAPEX (Rs. in Lakhs)</th><th>CAPEX FY-17 for tariff computation (Rs. in Lakhs)</th><th>FY-17 Actuals Upto Nov-16 (Rs. in Lakhs)</th></tr>
<tr><td>8</td><td>Replacement of failed Transformers</td><td>500.00</td><td>400.00</td><td>3992.93</td></tr>
<tr><td>9</td><td>Service Connections</td><td>4000.00</td><td>3200.00</td><td>2309.88</td></tr>
<tr><td>10</td><td>Rural Electrification(General)</td><td></td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of Hamlets/HB/JC under RGGVY</td><td rowspan="3">6500.00</td><td rowspan="3">5000.00</td><td rowspan="11">268.66</td></tr>
<tr><td>B</td><td>Providing infrastructure to Irrigation Pump sets &energisation of IP SETS</td></tr>
<tr><td>C</td><td>KutirJyothi(RGGVY)</td></tr>
<tr><td>11</td><td>Tribal Sub Plan</td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of Tribal Colonies (RGGVY)</td><td rowspan="3">300.00</td><td rowspan="3">300.00</td></tr>
<tr><td>B</td><td>Energisation of IP sets</td></tr>
<tr><td>C</td><td>KutirJyothi (RGGVY)</td></tr>
<tr><td>12</td><td>Special Component Plan</td><td></td><td></td></tr>
<tr><td>A</td><td>Electrification of HB/JC/AC(RGGVY)</td><td rowspan="3">1000.00</td><td rowspan="3">1000.00</td></tr>
<tr><td>B</td><td>Energisation of IP sets</td></tr>
<tr><td>C</td><td>KutirJyothi(RGGVY)</td></tr>
<tr><td>13</td><td>Tools & Plants</td><td>400.00</td><td>400.00</td><td>270.25</td></tr>
<tr><td>14</td><td>Civil Engineering Works</td><td>500.00</td><td>400.00</td><td>368.17</td></tr>
<tr><td>15</td><td>Providing Meters to DTC, BJ/KJ, Street Light for replacement of electromechanical meters, providing modems to meters for communication</td><td>6000.00</td><td>4700.00</td><td>1.29</td></tr>
<tr><td>16</td><td>Software Development and smart grid project</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Total</td><td>70700.00</td><td>56200.00</td><td>19842.56</td></tr>
</table>

8. CESC shall furnish the details of high value works proposed for FY18, so as to indicate the number of DPRs have been prepared, Tendered /ready to be tendered, cost of each project and what are the timelines within which the works are going to be completed.

CESC Replies:

The details are as follows:

CESC is implementing GoI's Schemes such as DDUJY and IPDS as per the guidelines. The project cost sanctioned by MoP for these schemes is as follows:

IPDS

(Amount Rs. in Crores)

SL No	Name of the Circle	Strengthening & Solar Components	Metering	Total DPR Cost
1	Mysore	43.13	8.08	51.21
2	CH Nagara-Kodagu	34.42	4.67	39.09
3	Mandya	34.46	5.26	39.72
4	Hassan	30.67	9.34	40.01
	Total	142.68	27.35	170.03

DDUGJY

(Amount Rs. in Crores)

District	SAGY	Access to RHHs	Feeder Segregation	System Strengthening	Metering	Total cost
Mysuru	2.83	3.29	27.59	0.71	25.50	59.92
Kodagu	0	6.00	5.62	1.00	3.50	16.12
Ch Nagar	0	5.99	20.55	1.01	22.30	49.85
Mandya	0	3.25	44.51	0.75	34.48	82.99
Hassan	0.59	10.94	25.07	2.61	30.80	70.01
Total	**3.42**	**29.47**	**123.34**	**6.08**	**116.58**	**278.89**

- DPRs for the DDUGJY have been submitted to REC/MoP, GoI and the proposal is sanctioned.
- DPRs for the IPDS have been submitted to PFC/MoP, GoI and the proposal is sanctioned.
- Tender has been invited for implementation of DDUGJY in 5 Districts of CESC covering SAGY(Sansad Adarsh Gram Yojana) , Access to RHHs(Rural Households), Feeder Segregation and System Strengthening components mentioned above on 02/09/2016(excluding metering). Tenders have been evaluated and to be placed before Board of Directors of CESC for approval to award the works.
- Further tenders for IPDS has been invited circle wise excluding metering activity. Tenders have been evaluated and to be placed before Board of Directors of CESC for approval to award the works.

- As per the guidelines issued by MoP, the time line for completion of works for both the schemes is 24 months from the date of award of contract. It is expected that the works will be awarded during Jan-2017 after approval of Board of Directors of CESC. Thus the project is expected to be completed by Jan-2019.
- Tenders for metering components are to be invited separately.

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9. Though, CESC has indicated the present status of the implementation of Smart Grid Pilot Project in Mysuru City, it has not mentioned anything about the commissioning or roll out of the SG Pilot project and operationalizing it. CESC shall clearly indicate a realistic target date on which it is going to declare the SG Pilot project as operational.

CESC Replies:

Enzen has been appointed as "System Integrator for Smart Grid Pilot Project in CESC" on 30/04/2014 under PPP model at a cost of 32.59 crores with a project delivery period of 18 months with 2 years of FMS period i.e support at post implementation period.

Being the first project of its kind in India, the project required development and implementation of advanced Smart Grid functionalities, products and applications for the first time suiting Indian network conditions. All the major Smart Grid functionalities such as Smart metering, AMI, Peak Load Management, Demand Response, SCADA-Outage Management, Transfer Condition Manager, Feeder monitoring, Advanced Analytics and integration with existing systems are developed. These functionalities are under testing and deployment in the project area.

The present status of the Smart Grid Pilot Project in CESC is narrated below:

1. **Single phase smart meters**: As the demand for smart meters in India did not pick up due to no other Smart Grid project coming up apart from CESC Mysuru, there were no meter manufacturers ready to take up the large scale modification that were needed to be done to meet our smart meter specifications. The changes required were major calling for a total system redesign with hardware and firmware changes. This is a long drawn process which System Integrator worked

with their AMI partners and meter manufacturers. Finally first set of single smart meters were manufactured, tested, delivered and installed at site in August 2015 and performance was monitored. All modifications like providing dual pole relay, a few component changes and firmware changes have been completed. 18750 meters are delivered and 18000 meters are installed at site.

2. **Three phase smart meters**: Meter manufacturer L&T have redesigned their meter to suit CESC specifications and have built necessary firmware to include net metering, prepaid metering etc. integration tests of meter data flow to MDM are being tested now. L&T and M/s Cyan have offered inspection in December 2016 and agreed to offer inspection of GPRS based meters in January 2017.
3. **Three phase LT CT meters**: Meters from M/s Elster have been proposed by M/s Enzen and approval is given by CESC. The meter modifications including firmware changes to meet the CESC requirements are carried out by the manufacturer. The meters with GPRS communication nodes are being offered for inspection of CESC during the month December 2016. The meters with RF communication shall be offered for CESC inspection in January 2017.
4. **Transformer Monitoring Units**: Two sets of Transfer monitoring units were designed and installed in Mysore in Dec 2014. After their performance study and incorporating the modifications advised by CESC, final product has been rolled out. 165 units are delivered and installed at site. Balance quantities are scheduled for delivery and installation in the next two months.
5. **HT meter Modems**: installation of modems for industrial HT consumers has been completed. About 80 nos of HT installations are communicating to the Smart Grid Control Center. We are in the process of establishing complete communication.

With this background, M/s Enzen has revised the project milestone period and has assured that the complete rollout will be made with in 31/03/2017.

Revised (Proposed) schedule: CESC Smart Grid Pilot Project

Sl No.	Task Name		Start	Revised start date	Finish	Revised finish date
	CESC Smart Grid Pilot Project		30-Apr-14		31-Aug-16	31-Mar-17
1.0	Project Initiation				Completed	
2.0	Project Planning				Completed	
3.0	Project Implementation - Planning & Design				Completed	
	3.1	Field Study & AS IS study			Completed	

Sl No.	Task Name		Start	Revised start date	Finish	Revised finish date
	3.2	GIS Survey			Completed	
	3.3	SGPP Solution Design Documentation			Completed	
	3.4	Submission & approval of SG Software Solution Architecture Design with Modules Functional Specifications & Data flow - Exchange / Data Blueprint			Completed	
	3.5	SG Hardware Design Requirement Sheets (DRS), Network Configuration & Test Procedures.			Completed	
4.0	PROJECT IMPLEMENTATION - DEVELOPMENT, DELIVERY, INSTALATION & DEPLOYMENT		15-Sep-14		30-Aug-16	28-feb-17
4.1	SMART GRID SYSTEM IMPLEMENTATION - Field Equipments / Systems		15-Sep-14		30-July-16	28-Feb-17
	4.11	AMI - Smart Meters implementation (Pilot batch 500 meters)			Completed	
	4.12	AMI - Smart Meters implementation - Balance quantity	15-Mar-16		30-June-16	28-Feb-17
	4.13	AMI LT CT Meters	15-May-16	25-Dec-16	30-July-16	28-Feb-17
	4.14	AMI LT 3 PH WC meters	15-June-16	25-Dec-16	30-July-16	28-Feb-17
	4.15	Manufacturing and Supply of Modems for HT Meters			Completed	
	4.16	Delivery & Installation of CFPI	01-Mar-16		30-Jul-16	28-Feb-17
	4.17	Manufacturing and Supply of TMU	15-Feb-16		30-July-16	28-Feb-17
	4.18	Manufacturing and Supply of Data logger / DCU at KPTCL substations (5 s/s)	15-Feb-16		completed	
4.2	SMART GRID SYSTEM IMPLEMENTATION - SG CONTROL CENTER INFRASTRUCTURE DEPLOYMENT		01-Oct-14		30-Dec-15	
	4.21	SG Control Centre availability			Completed	
	4.22	Detailed Design Review			Completed	
	4.23	SGCC Hardware and Networking			Completed	
	4.24	SG Control Centre Infrastructure - Deployment & Execution			Completed	
	4.25	System Hardware Setup			Completed	
	4.26	System Software Setup			Completed	

Sl No.	Task Name			Start	Revised start date	Finish	Revised finish date
	4.27	Standard Software Setup				Completed	
	4.28	Inspection, Acceptance and Commissioning				Completed	
	4.29	Application Software installation at SGCC				Completed	
		i	Meter Data Acquisition and Management			Completed	
		ii	SCADA - OMS, WFM, FMS, TMS			Completed	
		iii	SCADA - OTS and LFA			Completed	
		iv	PLM-DSM/DR			Completed	
		v	Billing Determinant Calculator			Completed	
		vi	Energy Accounting			Completed	
		vii	MIS, Analytics and Visualization			Completed	
		viii	Portals			Completed	
4.3	SMART GRID SYSTEM IMPLEMENTATION - Application Software Development			28-Nov-14		30-Jul-16	30-Jan-17
	4.31	Design and Finalize UI Standards				Completed	
	4.32	Meter Data Management System (MDAS / MDM)		28-Nov-15		Completed	
	4.33	SCADA – OMS		28-Nov-15		30-Jul-16	30-Jan-17
	4.34	PEAK LOAD MANAGEMENT , DSM / DEMAND RESPONSE		28-Nov-15		30-Jul-16	30-Jan-17
	4.35	Billing Determinant Calculator		28-Nov-15		Completed	
	4.36	Energy Accounting		28-Nov-15		Completed	
	4.37	MIS, Analytics and Visualisation		28-Nov-15		Completed	
	4.38	Portals		28-Nov-15		30-Jul-16	30-Jan-17
5.0	SMART GRID SYSTEM TESTING - USER ACCEPTANCE TESTING			01-Aug-16	01-Mar-17	25-Aug-16	25-Mar-17
6.0	GO LIVE			28-Aug-16		30-Aug-16	31-Mar-17
7.0	POST GO LIVE			31-Aug-16	1-Apr-17	30-Aug-19	31-Mar-20

CESC has also requested MoP GoI to consider the request of M/s Enzen for successful completion of the project.

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10. The CESC shall furnish the sources of funding such as loans, grants from Central/ State Governments, internal sources, borrowings and equity, to meet the capex for FY18

CESC Replies:

- Funding for IPDS / DDUGJY schemes as per GoI guidelines is as follows.

Agency	Nature of support	Quantum of support(Percentage of project cost) Other than special category states
Govt of India	Grant	60%
Discom Contribution	Own fund	10%
Lender (REC/FIs/Banks/Discom's own fund	Loan	30%
Additional Grant from GOI on achievement of prescribed milestones	Grant	50% of total loan component (30%)i.e. 15%
Maximum Grant by GOI (including additional grant) on achievement of prescribed mile stones)	Grant	75%

RGGVY XII Plan: Funding mechanism: 90% of Project cost will be released by GoI as Grant, 10% will be met by CESC through Loan.

NJY: Rs.172.32 Crores released by GoK as equity till Nov-2016, the remaining project cost will be through Loan tie-up with M/s REC..

Solar Rooftop: 100% grant released by 13th Finance commission through GoK.

Replacement of ACSR Conductor: 100% equity released by GoK.

UNIP: Loan from Commercial Banks or Financial Institutions (M/s REC-Proposal Submitted) and Equity from GOK.

E&I Works: Loan from Commercial Bank or Financial Institutions and Equity from GOK.

Ganga Kalyana Works : Funds from SC and ST Development Corporations & Equity from GOK and Internal Resources.

SCSP, TSP and SDP: Equity from GOK and Internal Resources.

T&P, Civil and Other Works : Internal Resources.

II. Sales:

I. Annual Performance Review for FY-15

The Commission in its Tariff Order 2015 dated 02.03.2015 had approved total sales to various consumer categories at 5744.83 MU as against the CESC proposal of 5798.94 MU. The Actual sales of CESC as per the current APR filing [d-2 FORMAT] is 5405.24 MU indicating a short fall in sales to the extent of 339.59 MU with respect to the approved sales. The reduction in sales is 288.66 MU in LT-categories and 50.93 MU in HT-categories. It is noted that, as against approved sales of 3084.08 MUs to categories other than BJ/KJ and IP sets, the actual sales achieved by CESC is 3060.24 MU, resulting in the reduction of sales to these categories by 23.84 MU. Further, CESC has sold 2345.00 MU to BJ/KJ and IP category against approved sales of 2660.75 MU resulting in decreased sales to these categories by 315.75 MU.

The category wise sales approved by the Commission and the actuals for FY 16 are indicated in the table below:

Energy in MU

Category	Approved	Actuals	Actuals- Approved
LT-2a*	959.03	954.37	-5.18
LT-2b	7.37	7.85	0.48
LT-3	262.46	259.57	-2.89
LT-4b	1.17	1.12	-0.05
LT-4c	11.57	11.59	0.02
LT-5	137.80	136.56	-1.24
LT-6	135.53	162.96	27.43
LT-6	90.66	99.90	9.24
LT-7	13.66	12.95	-0.71
HT-1	438.07	420.40	-17.67
HT-2a	794.17	750.08	-44.09
HT-2b	127.18	107.17	-19.99
HT-2c	31.09	45.15	14.06
HT-3a & b	65.14	82.46	17.32
HT-4	7.75	5.27	-2.48
HT-5	0.92	2.84	1.92
Sub total	**3084.08**	**3060.24**	**-23.84**
BJ/KJ	36.28	38.13	1.85
IP	2624.47	2306.87	-317.60

Sub total	2660.75	2345.00	-315.75
Grand total	5744.83	5405.24	-339.59

***Including BJ/KJ installations consuming more than 18 units/month**

From the above table it is noted that the major categories contributing to the reduction in sales are HT Industries (44.09 MU), HT Commercial (19.99 MU) and IP sets (317.60 MU).

CESC has attributed the above reduction in sales to the following:

i. Reduction in IP set sales is due to reduction in the specific consumption to 7384units/year/IP-set as against the approved figure of 8195 units/yr/IP-set, consequent to segregation of Agri-feeder under NJY scheme.
ii. Reduction in HT-2a sales is due to twelve industries consuming 180.82 MU under Open Access.

Further, CESC has stated that the increase in sales to LT-water supply is due to servicing of 1252 new installations.

The Commission has noted the replies of CESC. Further, to validate the sales estimate, CESC shall furnish the following information:

a) In order to analyze reduction in HT sales, CESC shall furnish the data of sales to HT2(a) and HT2(b) categories along with the consumption from open access / wheeling for the period 2011-12 to 2015-16 in the following format:

<u>CESC Replies:</u>

The details are furnished below:

HT2a **Energy in MU**

Year	Energy procured from CESC	Energy procured under open access / wheeling	Total
2011-12	719.86	6.31	726.17
2012-13	760.58	43.38	803.96
2013-14	740.85	115.02	855.87
2014-15	744.27	127.48	871.75
2015-16	750.08	253.474	1003.55

Note: The consumption of HT2(c) is included under HT 2(a) category.

HT2b **Energy in MU**

Year	Energy procured from CESC	Energy procured under open access / wheeling	Total
2011-12	95.42	0.80	96.22
2012-13	109.02	0.78	109.8

2013-14	113.80	0.79	114.59
2014-15	108.46	2.05	110.51
2015-16	107.17	4.206	111.376

b) To estimate the impact of shifting of installations from HT2a, HT2b and HT-4 to HT-2c category, the number of installations shifted from these categories and the corresponding sales figures shall be furnished for FY14, FY15 and FY16.

CESC Replies:

The details are furnished as **Annexure -3.**

II. Category wise sales for the FY18:

CESC in its filing has stated that for estimating sales for FY-17 and FY18, three years or five year CAGR is considered. It is observed that the CAGR which is annual growth rate has been applied for the half-year data of FY-17 for estimating the sales for second half of FY17, which is not appropriate, as CAGR stands for compounded annual growth rate and is to be applied for annual data and not on half-year data. For the current year, where the half-year data is available, the estimate could be done on pro-rata basis or considering the actual sales upto 30.09.2016 and estimating the sales for remaining period based on the growth rate of the previous year for the corresponding period.

The observations of the Commission on sales forecast for the control period are as follows:

i) LT(1) – BJ/KJ category:

It is noted that while the number of installations in this category has been reduced from 497094 installations in FY16 to 496020 in FY18, the sales has been increased from102.75 MU to 118.52 MU. Further, it is noted that, though the number of installations for FY18 is retained at FY17 level, the allocation between less than 18 units and above 18 units has been altered in FY18. CESC shall explain the reasons for the same. Further the number of installations is indicated as 496020 at pg.12 and as 496780 at pg. 22. The figures shall be reconciled.

CESC Replies:

- CESC wishes to inform the Hon'ble Commission that there is a decrease in the number of installations under LT1 category consuming less than 18 units year on year from FY-13 and an increase in the number of installations under

LT1 category consuming more than 18 units year on year from FY-13.As such, there is a slight alteration in allocation between the number of installations under LT1 category consuming more than 18 units and in the number of installations under LT1 category consuming less than 18 units during FY-18.

- The number of installations under LT1 category is 496020 for the years FY-17 and FY-18 as indicated in page 12. But the number of installations under LT1 category is 496780 for the year FY-16 as indicated in page 22.

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2. The table indicating the growth rates for the no. of installations is furnished as below:

Category	Percentage Growth Rates			
	2010-11 to 2015-16 CAGR	**2012-13 to 2015-16 CAGR**	**FY16 growth over FY15**	**Overall Growth rate proposed by CESC**
LT-2a	3.77	4.28	4.64	4.28
LT-2b	6.27	6.12	8.50	3.73
LT-3	5.63	6.76	8.83	5.48
LT-5	4.86	5.71	7.99	4.86
LT-6 WS	7.41	9.96	5.87	7.41
LT-6 SL	2.73	2.59	3.43	2.59
LT-7	8.06	6.32	-5.04	6.32
HT-1	12.22	14.31	5.22	11.76
HT-2 (a)	5.13	4.01	6.69	5.18
HT-2 (b)	5.77	3.93	9.31	5.78
HT-3(a)& (b)	4.69	3.90	5.06 -5.88	9.89
HT-4	-17.55	-28.07	-5.88	5.88

It is noted that:

a) The growth rate considered for HT3 and HT4 categories is on the higher side when compared to the normal growth rate indicated above.

b) The growth rate considered for LT-2b and HT-1 categories is on the lower side when compared to the normal growth rate indicated above.

3. The table indicating the growth rates for the energy sales is furnished as below:

Category	Percentage Growth Rates			
	2010-11 to 2015-16 CAGR	**2012-13 to 2015-16 CAGR**	**FY16 growth over FY15**	**Growth rate proposed by CESC**

Category	Percentage Growth Rates			
	2010-11 to 2015-16 CAGR	2012-13 to 2015-16 CAGR	FY16 growth over FY15	Growth rate proposed by CESC
LT-2a	6.62	7.08	4.97	6.62
LT-2b	8.80	10.74	8.88	8.79
LT-3	7.55	7.38	5.56	7.38
LT-5	1.64	1.30	-1.57	1.30
LT-6 WS	4.39	3.97	15.59	4.39
LT-6 SL	7.07	9.10	10.51	9.10
LT-7	10.73	7.79	11.73	10.78
HT-1	6.52	9.54	1.55	6.52
HT-2 (a)	4.71	-0.46	0.78	4.71
HT-2 (b)	6.39	-0.57	-1.19	6.39
HT-3(a)& (b)	27.14	49.20	63.35	27.15
HT-4	-5.63	-14.26	-9.45	2.06

a) Considering the negative growth rate in the previous year as also negative growth in the 3-year CAGR [which represent the latest trend], the estimated growth rates for HT-2b and HT-4 categories is higher. Similarly, the estimates for HT-2a is also higher.

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

<u>CESC Replies:</u>

i. No. of Installations

	2014-15 Actuals		2015-16 Actuals		2016-17	
Category	As on 30th Nov 2014	As on 31st March 2015	As on 30th Nov 2015	As on 31st March 2016	As on 30th Nov 2016	As on 31st March 2017 (Estimate)
LT-2a	1600230	1623571	1677573	1698903	1744361	1771616
LT-2b	2582	2625	2827	2848	2889	2953
LT-3	193307	197353	209934	214783	221241	226553
LT-4 (b)	203	203	209	200	196	201
LT-4 (c)	5208	5439	6095	6270	6656	6874
LT-5	33868	34484	36424	37238	38074	39048
LT-6	20635	21173	21908	22415	23482	24076
LT-6	19292	19464	19857	20132	20742	20653
LT-7	30499	32275	33288	30649	32703	32586
HT-1	112	115	121	121	122	136

	2014-15 Actuals		2015-16 Actuals		2016-17	
Category	**As on 30th Nov 2014**	**As on 31st March 2015**	**As on 30th Nov 2015**	**As on 31st March 2016**	**As on 30th Nov 2016**	**As on 31st March 2017 (Estimate)**
HT-2 (a)	777	792	834	845	863	888
HT-2 (b)	492	494	537	540	552	571
HT2C	153	171	206	214	230	246
HT-3(a)& (b)	78	79	84	83	88	91
HT-4	19	17	18	16	12	17
HT-5	6	8	11	14	15	19
Sub Total (Other than BJ/KJ and IP)	1907461	1938263	2009926	2035271	2092226	2126528
BJ/KJ	498455	497469	497277	497094	496861	496020
IP	293159	300070	313493	317674	327786	340102
Sub Total (BJ/KJ and IP)	791614	797539	810770	814768	824647	836122
Grand Total	2699075	2735802	2820696	2850039	2916873	2962650

ii. Energy Sales

	2014-15 Actuals		2015-16 Actuals		2016-17	
Category	**1st April 2014 to 30th Nov 2014 (cumulative)**	**1st Dec 2014 to 31st March 2015 (cumulative)**	**1st April 2015 to 30th Nov 2015 (cumulative)**	**1st Dec 2015 to 31st March 2016 (cumulative)**	**1st April 2016 to 30th Nov 2016 (cumulative actuals)**	**1st Dec 2016 to 31st March 2017 (cumulative Estimate)**
LT-2a	568.68	278.94	593.16	296.58	641.77	362.38
LT-2b	4.61	2.60	5.11	2.74	5.86	3.24
LT-3	164.46	81.44	172.84	86.73	183.78	105.68
LT-4 (b)	0.61	0.28	0.72	0.40	0.60	0.15
LT-4 (c)	5.22	4.55	6.00	5.59	10.59	3.80
LT-5	92.12	46.62	89.65	46.91	94.25	51.08
LT-6	91.93	49.05	100.88	62.09	134.92	72.53
LT-6	58.91	31.48	64.25	35.65	65.68	36.55
LT-7	7.35	4.25	7.82	5.13	9.11	5.17
HT-1	274.73	139.24	281.33	139.07	282.19	156.02
HT-2 (a)	499.18	245.09	521.86	228.23	461.17	280.85
HT-2 (b)	74.25	34.22	71.51	35.66	79.13	44.95
HT2C	23.72	12.90	30.44	14.72	32.69	21.68
HT-3(a)& (b)	27.47	23.01	60.64	21.82	45.78	9.94
HT-4	4.39	1.43	3.62	1.64	2.54	1.34
HT-5	0.53	2.18	2.07	0.77	2.61	2.22
Sub Total (Other than BJ/KJ and IP)	1898.14	957.27	2011.89	983.72	2052.68	1157.59
BJ/KJ	56.55	33.78	67.04	35.71	68.57	39.20

Category	2014-15 Actuals		2015-16 Actuals		2016-17	
	1st April 2014 to 30th Nov 2014 (cumulative)	1st Dec 2014 to 31st March 2015 (cumulative)	1st April 2015 to 30th Nov 2015 (cumulative)	1st Dec 2015 to 31st March 2016 (cumulative)	1st April 2016 to 30th Nov 2016 (cumulative actuals)	1st Dec 2016 to 31st March 2017 (cumulative Estimate)
IP	1393.29	901.04	1269.76	1037.10	1905.76	884.85
Sub Total (BJ/KJ and IP)	1449.85	934.82	1336.80	1072.82	1974.34	924.04
Grand Total	3347.98	1892.09	3348.69	2056.54	4027.02	2081.63

III. **Wheeling charges**:

CESC at page -65 of the petition has considered distribution ARR as Rs. 566.46 Crs for computing wheeling charges for FY18. However, at Pg.95, the distribution ARR is indicated as Rs. 790.74 Crs. for FY18. CESC shall reconcile the figures.

CESC Replies:

Revised Wheeling charges for FY-18 are as given below:

Distribution ARR-Rs. Crs.	790.74			
Sales -MU	6506.22		**Loss allocation**	% loss
Wheeling charges-paise/unit:	121.54		HT	4.22
Paise/unit			LT	7.25
HT-Network @ 30%	36.46			
LT-Network @ 70%	85.08			

IV. **RPO Compliance**:

1. For validating the RPO compliance and to work out APPC, CESC shall furnish the data as per the format indicated below, duly reconciling the data with audited accounts:

CESC Replies:

a. Non-solar RPO:

No.	Particulars	Quantum in MU	Cost- Rs. Crs.
1	Total Power Purchase quantum from all sources	6444.85	2717.75
2	Non–solar Renewable energy purchased under PPA route at Generic tariff including Non-solar RE purchased from KPCL	457.39	158.17
3	Non –solar Short-Term purchase from RE sources, excluding sec-11 purchase	127.55	65.47
4	Non –solar Short-Term purchase from RE sources under sec-11	138.63	70.36
5	Non-solar RE purchased at APPC	0.00	0.00
6	Non-solar RE pertaining to green energy sold to consumers under green tariff	0.00	0.00
7	Non-solar RE purchased from other ESCOMs	0.00	0.00

8	Non-solar RE sold to other ESCOMs	0.00	0.00
9	Non-solar RE purchased from any other source like banked energy purchased at 85% of Generic tariff	0.16	0.06
10	Total Non-Solar RE Energy Purchased [No 2+ No.3+No.4+No.5 +No.7+No.9]	723.73	294.06
11	Non-Solar RE accounted for the purpose of RPO [No.10- No.5-No.6-No.8]	0.00	0.00
12	Non-solar RPO complied in % [No11/No1]*100	11.23	

b. Solar RPO:

No.	Particulars	Quantum in MU	Cost- Rs. Crs.
1	Total Power Purchase quantum from all sources	6444.85	2717.75
2	Solar energy purchased under PPA route at Generic tariff including solar energy purchased from KPCL	12.65	9.31
3	Solar energy purchased under Short-Term, excluding sec-11 purchase	0.00	0.00
4	Solar Short-Term purchase from RE under sec-11	0.00	0.00
5	Solar energy purchased under APPC	0.00	0.00
6	Solar energy pertaining to green energy sold to consumers under green tariff	0.00	0.00
7	Solar energy purchased from other ESCOMs	0.00	0.00
8	Solar energy sold to other ESCOMs	0.00	0.00
9	Solar energy purchased from NTPC (or others) as bundled power	12.56	13.51
10	Solar energy purchased from any other source like banked energy purchased at 85% of Generic tariff	0.00	0.00
11	Total Solar Energy Purchased [No2+ No.3+No.4+No.5+No.7+No.9+No.10]	25.22	22.82
12	Solar energy accounted for the purpose of RPO [No.11- No.5-No.6-No.8]	0.00	0.00
13	Solar RPO complied in % [No12/No.1]*100	0.39	

III. CESC shall furnish the estimates for complying with solar and non-solar RPO for 2017-18, including any cost implication for purchasing RECs, if any. In this regard CESC shall furnish the following details pertaining to CESC duly tallying with the renewable energy purchase estimates made for FY18:

CESC Replies:

Source	Capacity under PPA in MW as on 30.11.2016	Anticipated MW capacity addition under PPA during the remaining period of FY-17	Anticipated capacity addition under PPA during FY-18
Wind	121.25	-	-
Mini-Hydel	117.7	5	-
Co-generation	28	93.14	16.5
Biomass	7.8	-	-
Waste to Energy	-	-	-
Solar	26	79	255
Purchase from IEX	73.29 MU		

1. CESC will get 11.6%of its share in 501MW of Co-gen plants who are signing the PPA with ESCOMs for 05 Years.
2. M/s Coromandel Sugars Ltd., K.R Pet have enhanced their exportable capacity to 22.2MW from 6.4MW.
3. M/s Chamundeshwari Sugars, Srinivasapura, Channarayapatna Tq, Hassan District will be entering into a PPA with CESC Mysore for 16.5MW exportable capacity.
4. Energy over and above the RPO in respect of Solar energy is proposed to be carried over to Non-Solar energy.

IV. The contribution of Solar Power shall be computed duly considering the present status of the Solar projects for which CESC has entered into PPA. The following data shall be furnished:

CESC Replies:

Type of Solar Plant	Capacity in MWp	Estimated Energy contribution and cost for FY17		Estimated Energy contribution and cost for FY18	
		Qnty (MU)	Cost(Rs Crs)	Qnty(MU)	Cost(Rs.Crs)
Solar Rooftop plants of ≤ 500KW	0.5	1.495	0.227	-	-
Solar Rooftop plants of >500KW	1.827	-	-	-	-
1-3 MW Projects allotted to Farmers by KREDL.	21	8.7381	7.34	-	-

20 MW Projects Taluk wise issued by KREDL.	145	-	-	211.7	106.8
Other MW scale projects	58	25.4	17.46	96.3	43.3

Considering the RPO targets for FY18, CESC shall confirm as to whether it will furnish its readiness to meet the targets of both Solar and Non- Solar RPO for FY18.

CESC Replies:

CESC will meet the Solar RPO for FY 18. CESC will make all efforts to meet the Non Solar RPO for FY 18.

V. **Cross Subsidy Surcharge:**

At page 66, CESC has worked out the CSS. CESC shall clarify as to whether the above CSS is computed as per the Tariff Policy-2006 or Tariff Policy-2016.

CESC Replies:

The CSS has been computed as per the National Tariff Policy 2016.

VI. CESC in its petition shall indicate that the wheeling charges worked out is not applicable to NCE sources and that the prevailing wheeling and banking charges would continue for such sources. Further, CESC shall include in its Prayer, approval for wheeling charges, cross-subsidy surcharge and RPO compliance.

CESC Replies:

CESC hereby states that the wheeling charges worked out in the application for ARR for FY 18 is not applicable to NCE sources and that the prevailing wheeling and banking charges would continue for such sources. CESC requests the Hon'ble Commission to kindly approve the wheeling charges, cross-subsidy surcharge and RPO compliance for FY-18.

3. Observations on projected IP Set consumption for FY18:

Sales to IP Set: CESC

i. APR 2016

As regards sales to IP-sets, the Commission notes that, the overall sales have decreased by 317.6 MU as against the approved sales of 2,624.47 as per the Tariff Order dated 2nd March 2015 for FY16. Further, the Commission had approved a specific consumption of IP-sets as 8,195 units / installation / annum for FY16. As per the consumption reported in format D2 of the filing by the CESC, the specific consumption works out to 7,469 units / installation/annum for FY16. This indicates a decrease of 726 units / installation/annum in specific consumption for FY16. Also, the actual number of installations for FY16 has decreased by 14,955 to the approved number of installations of 3,32,629. However, the CESC in its Tariff application has mentioned the specific consumption for FY16 as 7,384 units/installation/annum and the same needs to be clarified by CESC as the specific consumption worked out for FY16 is 7,469 units/installation/annum.

CESC Replies:

The specific consumption of IP sets for FY-16 is worked out as follows:

Total sales for Fy-16 : 2306.868 MU

Mid year installations: 312399 Nos

Specific Consumption: 2306.868 x 1000000/312399

= 7384 units/installation/annum

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ii. Further, CESC, under sales analysis in page 48 of the APR application has stated that actual sales in respect of LT4(a) for FY15 is less by 317.6202 MU and the number of installations have gone up by 17,604. This amounts to inconsistency in data furnished for FY16 as indicated in page 47 to that of the data mentioned in page 48 and the same needs to be clarified whether the data furnished is for FY 15 or FY16.

CESC Replies:

There has been a typographical error in page 48 of the APR application wherein FY-15 has been indicated in place of FY-16. It is hereby clarified that the data furnished is for FY-16.

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iii. Also, CESC in its letter dated 7.9.206 has submitted the data of IP-sets for FY16. As observed from the data, there is inconsistency in the number of installations as well as total consumption between the data submitted to the Commission and the data as reported in D2 format of the Tariff application. Total number of installations for FY 16 as submitted to the Commission are 3,20,937 whereas the number of installations reported in D2 are 3,17,674 indicating a difference of 3,263 numbers. Similarly, the consumption for FY16 as submitted to the Commission was 2,024.25 MU (under one column) & 2319.576 MU (under another column), whereas the consumption reported in D2 format is 2,306.97 MU, indicating a large variation in the data. CESC shall clarify as to which data is correct with its justification for the same.

CESC Replies:

- 320937 installations in CESC letter dated 7-09-2016 are live IP installations pertaining to LT4a,LT4b and LT4c categories.
- 317674 installations are the total number of IP installations under LT4a category for FY-16.
- 2024.25 MU is the average consumption of IP sets worked out on the basis of agricultural feeder consumption. This figure will not tally with the total IP consumption as many feeders are yet to be bifurcated and IP sets are existing in other feeders.
- 2319.576 MU is the total consumption of IP sets in LT4a,LT4b and LT4c categories. The same figure has been mentioned in D2.
- 2306.87 MU is the actual consumption of LT4a category for FY-16 and the same has been indicated in D2.

iv. The Commission in its Tariff Order dated 2nd March, 2015 had directed CESC to furnish feeder wise IP-set consumption based on feeder energy meter data to the Commission, every month in respect of agriculture feeders segregated under NJY. CESC has submitted the consumption data deducting energy losses at uniform level of 15% in 11 kV, distribution transformers & LT system from the gross consumption to arrive at the net consumption. However, CESC should have computed IP-set consumption duly deducting actual losses prevailing in the distribution system. Hence, CESC shall justify the rationale for considering energy loss of 15% in its distribution system.

CESC Replies:

42.91% of the total sales in CESC is towards IP set consumption which is the highest sales in any category. The work of bifurcation of agricultural feeders under NJY programme is under progress. After all the feeders are bifurcated, the actual losses on each feeder will be worked out and the same deducted from the feeder consumption. Hence energy loss of 15% has been considered at present.

v. ARR 2018

The Commission in its Tariff Order dated 30th March, 2016 had directed CESC to furnish the consumption of IP-sets based on the readings from the meters provided to 11 kV feeders at the sub-station level duly allowing for 11 kV and LT distribution system losses (as per the formats prescribed by the Commission). CESC was also directed to furnish feeder wise IP-set consumption based on the feeder energy meters' data to the Commission, every month in respect of agriculture feeders segregated under NJY. CESC has furnished the IP-set consumption data to the Commission. CESC has submitted the consumption data deducting energy losses at uniform level of 15% in 11 kV, distribution transformers & LT system from the gross consumption to arrive at the net consumption. However, CESC should have computed IP-set consumption duly deducting actual losses prevailing in the distribution system. Therefore, CESC is required to justify its projection of IP-consumption for FY18 based on the energy recorded on the segregated agricultural feeders.

CESC Replies:

42.91% of the total sales in CESC is towards IP set consumption which is the highest sales in any category. The work of bifurcation of agricultural feeders under NJY programme is under progress. After all the feeders are bifurcated, the actual losses on each feeder will be worked out and the same deducted from the feeder consumption.

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vi. Therefore, CESC shall submit the month wise consumption of all the agricultural feeders segregated under NJY Scheme for FY16 (from April,2015 to March, 2016) and also for FY 17 (from April to October 2016) in the following format.

CESC Replies:

CESC has already submitted the month wise consumption of all the agricultural feeders segregated under NJY Scheme for FY16 (from April,2015 to March, 2016) and also for FY 17 (from April to June 2016) in the prescribed format vide lr. No.

TL/Com/01/16-17/10558 dated 07-09-2016 . The month wise consumption of all the agricultural feeders segregated under NJY Scheme for FY17 (from July to September 2016) in the prescribed format has also been submitted vide lr. No. TL/Com/)01/16-17/15879 dated 03-10-2016. The consumption of all the agricultural feeders segregated under NJY Scheme for October FY17 in the prescribed format is furnished as **Annexure -4.**

vii. As per format D2, CESC has projected a specific consumption of IP-sets for FY18 as 8,368 units/installation /annum respectively, whereas the approved specific consumption for FY18 in the Tariff Order dated 30th March 2016 was 7,843 units/installation /annum and the actual specific consumption reported for FY16 was 7,469 units/installation /annum. CESC shall justify the basis for projecting IP set consumption considering the higher specific consumption of 8,368 units/installation /annum for FY18 as against the specific consumption of 7,469 units/installation/annum achieved for FY 16.

CESC Replies:

The details furnished in the ARR application in page No 13 is reproduced below:

“So far, as at the end of Sep 2016, **324468** Nos of IP Sets are existing . The 5 year CAGR sales growth of 6.38% has been considered for projection of sales for the period Oct’16 – March’17 as also for FY-18 . Further, the sales in this category has increased during the first half of 2017 due to the following reasons:

a) Failure of monsoon

b) Augmentation of 400 kV Bastipura Station by providing additional 500 MVA ICT.

c) Arranging power supply to IP feeders as per GoK orders.

d) Unauthorised IP sets that have not been identified and regularized.

The IP set consumption is highly unpredictable because it is dependent on the hours of power supply given. The hours of power supply depends on the availability of power at that point of time and hence proper historical data is not available. The agricultural consumption pattern is different in the first and second half of each financial year. Generally the first half consumption is low compared to the second half due to monsoon. The pattern has been studied for the past 5 years and the average variation is found to be in the range of 1:1.25. Hence the 5 year CAGR sales growth of 6.38% has been considered for projection of sales for the period

Oct'16 – March'17 as also for FY-18 as there is a growth of 35.37% for the period April'16 – Sep'16 over April'15 – Sep'15."

Because of the above facts, a sales of 2968.65 MU has been projected for FY18. Consequently, the specific consumption has increased. The same may kindly be approved.

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viii. Further, CESC was directed to take up enumeration of IP-sets to identify defunct/dried up wells in the field & complete it by October, 2016 and take further necessary action to arrive at correct number of IP-sets in its account on the basis of enumeration report. CESC has not complied with this direction. CESC shall furnish compliance on this in order to arrive at correct number of IP-set installations/consumption and also for projecting correct number of installations/consumption for FY18. **In the absence of submission of GPS based survey report of actual number of live IP sets, the Commission will not consider the revised IP set consumption for FY18 as proposed by CESC.**

<u>CESC Replies:</u>

The status of enumeration of IP sets has been furnished in pages 44 and 45 of the application for APR for FY 16.

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4. Distribution Losses:

The actual distribution losses reported by CESC for FY16 is 13.60% as against 14.50% approved by the Commission in its Order dated 2nd March, 2015. Considering the actual losses of 13.88% reported by CESC for FY15, the reduction in distribution losses is 0.28% in FY16.

The Commission, in its Order dated 30th March, 2016 has fixed distribution losses at 13.00% for FY18 after considering the status of distribution losses in FY15. The distribution losses projected for FY17 is at 13.25% (as approved in MYT Order dated 30th March, 2016) which shows a reduction of 0.35% from the loss levels reported for FY16. CESC is required to furnish the distribution losses for FY17 based on actuals as at the end of November, 2016 and projections for the balance period.

Considering the capital investment being incurred and also proposed, CESC is required to reassess the distribution losses for FY18 based on the losses projected for FY17.

CESC Replies:

The distribution loss for FY-15,FY-16 and FY-17(as on Nov 2016)is furnished below:

Particulars	2014-15	2015-16	April-16 to Nov-16 (provisional)
Input at distribution level in Mus	6084.89	6256.07	4692.09
Total sales in Mus	5240.09	5405.23	4027.02
Total Distribution loss in MU	844.80	850.84	665.07
% distribution loss	**13.88%**	**13.60%**	**14.17%**

As could be seen from the above table, the distribution loss during FY-17 upto November 2016 is on the higher side. As such, the Hon'ble Commission is kindly requested to retain the distribution loss at the approve levels for FY-17 and FY-18.

5. Power Purchase:

I. Annual Performance Review for FY-16

1. CESC shall confirm whether it has finalized the power purchase quantum and cost as per the finalized reconciliation among the ESCOMs for FY16 and if so, shall furnish the basis for the same.

CESC Replies:

Yes. CESC has finalized the power purchase quantum and cost as per the finalized reconciliation among the ESCOMs for FY16. The details are enclosed as **Annexure-5.**

2. The details of Energy balancing and charges indicated in D1 format for FY16 shall be furnished.

CESC Replies:

The details of Energy balancing and charges for FY-16 have already been furnished in the application of ARR for FY-18 vide page numbers 58,59,60 and 61.

II. Annual Revenue Requirement for FY-18:

1. The quantum and cost of source wise energy for FY17 in Format D1 shall be furnished duly considering the actual data upto November, 2016 and projected data for the balance period.

CESC Replies:

The quantum and cost of source wise energy for FY-17 in Format D1 duly considering the actual data upto November 2106 and projected data for the balance period has been furnished in **Annexure-6**.

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2. CESC shall furnish the basis for projecting the energy procurement for FY18. Further, BTPS Unit III has not been considered for power purchase in FY18. Also, the new Yeramarus Thermal Power Station is scheduled to be commissioned in FY18. Hence, CESC is required to furnish reasons for not considering BTPS Unit III, YTPS and Kudgi Unit-1 & 2 of CGS, in its power purchase computation for FY18 under Format-D1.

CESC Replies:

CESC has incorporated the D1 statement furnished by PCKL which is the nodal agency for power procurement.

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3. The computation sheets for considering the variable charges of the Central Generating Stations shall be furnished.

CESC Replies:

CESC has incorporated the D1 statement furnished by PCKL which is the nodal agency for power procurement.

V. Issues pertaining to items of Revenue and Expenditure:

CESC in its application for ARR for FY18, under format D6 has indicated an amount of Rs.282.63 Crores as contribution to P&G Trust. The Commission notes that, the above issue has already been decided in its Tariff Order dated 30th March,2016 wherein, it was noted that, as per GO dated 31.05.2002 and 19.12.2002, GoK is liable to meet the P&G requirement of the existing pensioners and such liability cannot be passed on to the consumers. However, it is now reported by CESC that, as per the present directions of the Government of Karnataka, it has included an amount of Rs.282.63 Crores towards contribution to be claimed for FY18. CESC shall furnish the reasons /justifications along with Government Orders, if any for inclusion of this amount as an item of expenditure in ARR of FY18 to be recovered from consumers in contravention of the Commission's decision in Tariff Order 2016. Further, it may be noted that, inclusion of this amount will have substantial tariff implications which cannot be passed to the consumers.

CESC Replies:

As Directed by Additional Chief Secretary to Government, Energy Department vide letter No. EN 26 PSR 2016/P3 dated 16.9.2016 **(Copy Enclosed as Annexure-7)** has directed KPTCL and ESCOMs to take into cognizance the liability pertaining to their companies as worked out and intimated by KEPGT, assume and account the same as a special case and as one time measure in the Annual Accounts of FY 2015-16 being finalized pending further appraisal of the issue to Finance Department and requesting for re-examining the decision communicated in the past with regard to availability of funds on this account.

Based on the above letter the Director(Finance), KPTCL & Chairperson Pension & Gratuity Trust has addressed a letter to All Managing Directors vide letter No.KEPGT/KCO123/P46/2015-16/881-94 dated 16.9.2016 **(Copy Enclosed as Annexure-8)** in which it has been clearly mentioned as follows:

" Since So far , there is no communication from GOK in releasing the pending amount. As the said liability is neither agreed to be made good by the GoK nor allowed by the KERC in the Tariff order as a pass through in the tariff, the Corpus of Fund held by the Trust which has already been eroded cannot be restored back unless liabilities are assumed by KPTCL and ESCOMs to the extent of their respective portion. It is also a matter of concern that if same trend continues, the

existence and future functioning of P& G Turst will be in question as the Corpus is gradually and constantly being diminishing.

It is learnt that KPTCL has taken action to consider its portion of liability in accounting the same by making a suitable Provision in the Accounts of FY-16. Similar action also needs to be taken by all the ESCOMs in the interest of ensuring the financial viability of KEPGT's in so far as to discharge of pension liabilities and protecting the interest of Pensioners and Employees.

The above facts and recent developments make the issue crystal clear and the alarming situation in which KEPGT is managing the contributions and disbursements. In view of the above facts, it is requested to take cognizance of the events happened recently and make provision for the liability already intimated in this office letter dated 09/03/2016 in the Annual Accounts for FY-16 and arrange to fund the same to KEPGT during FY-16 as a special case and one time measure. Such an action is absolutely necessary to ensure functioning of the KPTCL & ESCOMs Pension & Gratuity Trust without giving room for any default in discharging Pension liabilities."

Based on the above back ground, since Hon'ble Commission has already approved the ARR for FY 17 and has issued the tariff order without considering the above amount, CESC has considered the above amount to be factored in tariff of FY 18.

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i. Subsidy claim submitted to GoK and subsidy received for the year FY16 in respect of IP and BJ/KJ installations needs to be furnished along with the details of energy sales. Whether CESC has received subsidy pertaining to past period during FY16 and if so, details of the amount received may be furnished separately.

CESC Replies:

The details are furnished below:

Particulars	BJ(Below 18 units)	IP(Up to 10 Hp)	Total
i) Subsidy Claimed for FY-16	23.82	1017.96	**1041.78**
ii) Total Subsidy received during FY-16	38.59	1473.64	**1512.23**

a) Subsidy for FY-16	23.82	1034.46	**1058.28**
b) Subsidy for Previous years	14.77	439.18	**453.95**
iii) Energy Sales for FY-16(in Mus)	38.13	2306.85	**2344.98**

Note:- Subsidy of Rs.453.95 Crs for previous Years is received during FY-2016.

ii. The bank / Financial Institution wise amount of long term and short term loans inclusive of overdraft availed during FY17 (upto November, 2016) along with rate of interest and amount of interest, term of loan and the purpose of loan availed shall be furnished.

CESC Replies:

The replies are furnished in **Annexure 9.**

iii. CESC has proposed a revised capex of Rs. 889 Crs as against the approved capex of Rs.552 Crores. CESC is required to furnish justification for such revision along with clarification on the present status of proposed capex and whether CESC will incur such expenses in FY18 itself.

CESC Replies:

Replies are furnished in para ii.1 above.

iv. CESC shall furnish the details in respect of the following items indicated under A&G expenses for FY16:

i) Conveyance & Travel expenses - Rs.9.66Crores

ii) Professional charges - Rs.20.27 Crores

CESC Replies:

The details are furnished in **Annexure-21**.

v. In the D7 Format, CESC has claimed an amount of Rs.2.93 Crores towards expenditure as related to EESL for energy savings for FY16. CESC shall furnish the month wise energy savings achieved on account of the schemes implemented through EESL.

CESC Replies:

The details are furnished in **Annexure- 10.**

vi. The category wise connected loads indicated in Form D21shall be justified with duly certified Distribution Circle wise data.

CESC Replies:

The details are furnished in Annexure-11.

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vii. The category wise slab wise consumption indicated in Form D-21 shall be justified with Division wise details of computation.

CESC Replies:

The details are furnished in Annexure-12.

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viii. The breakup of number of consumers indicated in Form D-21 based on sanctioned load under LT2, LT3 and LT5 categories shall be shall be justified with Division wise details.

CESC Replies:

The details are furnished in Annexure-13.

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ix. CESC, under Format D6 has projected an amount of Rs.77.47 Crores as expenditure towards terminal benefits for FY18. CESC is required to furnish the basis and computations for claiming this amount along with relevant actuarial valuation report. Also, an amount of Rs.63.87 Crores is indicated as revision of pay scale impact for FY18. CESC shall furnish the basis for inclusion of this amount without being backed by any Orders.

CESC Replies:

For Fy16 CESC as accounted P& G Contributions based on the actuarial valuation report submitted to KPTCL and rates has intimated by KPTCL, for FY 18 since actuarial valuation rates are not available its is projected on normative basis.

Pay scale is due w.e.f 1.4.2017 hence on an average 23% is considered.

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x. CESC, under Format D8 has considered an amount of Rs.25.57 Crores as depreciation on assets created out of consumer contribution/grants for FY16 and has projected Rs.53.26 Crores for FY18. CESC is required to furnish the computation for claiming this amount.

CESC Replies:

A sum of Rs.66.36 Crs of Grants which was released in earlier years was converted to equity as per Energy Department letter No. PSR 2015 dated 11.9.2015 for which Depreciation written back is now claimed and reduced in current year.

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xi. As per the balance sheet of the Audited Accounts for FY16, an additional equity of Rs.127.73 Crores is received during FY16. CESC shall furnish the date of receipt of this additional equity along with the copy of the relevant Government Order.

CESC Replies:

There is an equity infusion of Rs.61.37Crores during FY-16.The details have already been furnished in page numbers 93 and 94 of the application for ARR for FY 18 and the remaining Rs.66.36 Crs of Grants which was released in earlier years was converted to equity as per Energy Department letter No. PSR 2015 dated 11.9.2015 The details of Grants released and converted to equity and GOK copy of the said letter is enclosed as Annexure -14.

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7. New Proposals:

i) Proposal to increase fixed Charges for HT Consumers:

CESC has proposed to increase the Fixed/ demand charges by Rs.10 / Rs.30 for all consumers except LT4(c), HT1, HT3 and BJ/KJ Consumers. However, CESC under D21(b), has not proposed any increase in Fixed/ demand charges but has proposed uniform increase of Rs.1.48 per unit for all consumers.

Considering the new proposal, in order to assess the financial implications and impact on each category consumers besides its effect on the cross subsidy, on account of this proposed increase in fixed/ demand charges, CESC shall furnish revised D-21(a) and (b) format indicating revised fixed / demand charges and energy charges required to meet the proposed gap in revenue for FY18. Also, CESC shall furnish the Division wise actual data of demand/fixed charges and energy charges demanded from LT and HT Consumers during FY16 and FY17 (Upto October,2016).

CESC Replies:

The details are furnished in Annexures 15 and 16.

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ii) Inclusion of Morning peak hours under ToD tariff:

CESC has proposed increase in ToD incentives/ charges for off-peak and peak hours of power supply. CESC is required to furnish the details of monthly Minimum and Maximum load recorded during January, 2016 to November, 2016 for the morning/evening peak periods and off-peak periods. Also, for the same period, CESC shall furnish the amount of penalty levied and incentives given under the existing ToD scheme.

CESC Replies:

The details of monthly Minimum and Maximum load recorded during January, 2016 to November, 2016 for the morning/evening peak periods and off-peak periods is as given below:

Month	Peak morning (6am to 10am)		Peak evening (6pm to 10pm)		Off Peak	
	max	min	max	min	max	min
Jan-16	1091	684	1175.19	665	1093	665
Feb-16	1113	746	1059	681	1134	683
Mar-16	1133	545	1059	650	1151.12	622
Apr-16	1052	658	1062	655	1156.83	655
May-16	1154	514	1135	516	1148	514
Jun-16	1032	499	1035.03	300	938	267
Jul-16	914	440	847.47	532	962	418
Aug-16	1083	497	1032	617	1061.56	483
Sep-16	1132	645	1031	661	1185.27	662
Oct-16	1123	565	1082	588	1235.04	555
Nov-16	1151	730	1075	635	1255.87	581

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8. Compliance to directives issued by the Commission

Directive on Energy Conservation		
Sl. No	Observations made	CESC Replies

Directive on Energy Conservation		
Sl. No	Observations made	CESC Replies
1.	The CESC was directed to service all the new installations only after ensuring that the BEE ***** (Bureau of Energy Efficiency five-star rating) rated Air Conditioners, Fans, Refrigerators, etc., are being installed in the applicant consumers' premises and also to service all streetlight installations with LED/energy efficient lamps.The CESC has not submitted the details on the above except indicating that a circular has been issued to all its officers in the matter.The CESC shall submit compliance on the same.	Regarding the service of new installations after ensuring BEE ***** rating a circular has been issued by the CESC vide no. CESC/ GM(T)/ EEE(DSM)/ AEE(DSM)/2016-2017/CYS-65 dated 20.04.2016 . CESC is constantly pursuing the matter, to create awareness among the consumers by giving advertisements through daily newspapers viz a) Vijaya Vani on 06.12.2016 b) Vijaya Karnataka & Times of India on 07.12.2016 and c) The Hindu on 08.12.2016 . Further , GoK vide its circular EN 1 VSC2016 dated 14.07.2016 has mandated that all Government Departments and Public Sectors Undertaking to procure and use only BEE 5 star rated electrical equipment.
2.	**Directive on use of safety gear by linemen** CESC was directed to put in place suitable reporting system on the use of safety gear and also mandate supervisory/higher officers to regularly cross check the compliance by linemen and take disciplinary action on the concerned if violations are noticed. CESC is required to submit compliance on this. Further, of the 2,750 linemen working, only 2,290 linemen are provided with the safety gear, CESC shall submit the details along with timeline within which remaining linemen will be provided with safety gear.	The details have been furnished in page 17 of the application for APR for FY 16. The remaining linemen will be provided with safety gear by March 2017.
3	**Directive on providing Timer Switches to Street lights by ESCOMs** The progress achieved reported in respect of installation of timer switches is the same as last year and also CESC has not submitted the quarterly compliance report to the Commission in this regard. It is stated that installation of timer switches in Mysuru city and other places will be taken up in 2016-17. CESC shall furnish details regarding the number of timer switches to be installed in 2016-17 and the latest progress/status.	Regarding the installation of timer switches to the street light installations, CESC has addressed letters to MCC, Mysuru, but no action was taken by them. CESC on its own has not taken up this case in FY16 / FY 17 because of huge capex requirement. In the meanwhile, on request by Urban Development Department, Bangalore, CESC has submitted a proposal under AMRUT scheme in which the main objective is to optimize energy consumption in street lights including replacement of energy inefficient bulbs by suitable efficient LED bulbs and also fixing timer switches to all street light installations in AMRUT cities i.e Mysuru, Mandya and Hassan .The proposal consists of replacement of 77446 nos. of street light fittings and fixing of 4754 No.s of timer switches in AMRUT cities vide letter no. CESC/GM(T)/DGM(DSM)/AGM (DSM)/2016-17/16885 on 21.12.2016 and CESC is awaiting the approval from Urban Development Department , GoK.
4	**Directive on Load shedding** CESC is not submitting to KERC 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 for approval regularly. CESC shall submit compliance	The details have already been furnished in pages 20,21 and 22 in the application for APR for FY16. • Availability and demand for power and any unavoidable load shedding for every

Directive on Energy Conservation		
Sl. No	Observations made	CESC Replies
	on the same. Also, CESC shall submit the reasons for delay in initiating a system of informing the consumers/public through SMS in case of load shedding due to any reasons.	succeeding month to be submitted in the last week of the preceding month is being submitted to KERC regularly and also to the Nodal Officer for CESC regarding KERC matters to the following email id 1. Kerc-ka@nic.in Note: Please find the attachment of the details submitted from May-2016 to Dec-2016 as **Annexure-17**. • Application software –Feeder wise Data Analysis and outage Management developed through M/S Idea Infinity IT solutions, Bengaluru is being implemented for generating load shedding protocol in case of loss of generation/ emergency and intimate the feeders to be shed by SLDC to ease off loads. • The outage Management module developed is now taken up for improvement to send SMS's to MP's, MLA's, VIP's, HT and EHT consumers at the first instant. Mobile telephone numbers of all the consumers are being collected and sending SMS to all consumers will be taken up in phased manner. • As per REC directive the scheme outage management system (Urja Mitra) in Discoms would provide a web and app enabled platform, establish links between call centres, discom field staff and citizens for facilitation of outage dissemination information to all consumers through SMS and data. Under Urja Mitra CESC is also sharing the available data of all the consumers with REC to develop DISCOM consumer database and they will also be sending SMS in future.
5	**Directive on establishing a 24X 7 fully equipped centralized consumer service centers** CESC has reported that it has established 29 numbers of service stations by providing all the infrastructural requirements along with required men. In this regard, CESC shall furnish the details such as the remaining service stations required to be established in the subdivisions/Sections and the likely time required for establishing such service stations for addressing consumer complaints effectively. Also, CESC shall furnish the number of consumer interaction meetings held at the subdivision levels chaired by the SEEs to redress the consumer complaints during the period April – November,	There are 32 numbers of service stations yet to be established in the subdivisions/sections and the same will be established by March 2018.

<table>
<tr><th colspan="3">Directive on Energy Conservation</th></tr>
<tr><th>Sl. No</th><th>Observations made</th><th>CESC Replies</th></tr>
<tr><td></td><td>2016 and the response of consumer participation in such meetings- Zone wise details shall be submitted.</td><td></td></tr>
<tr><td>6</td><td>ENERGY AUDIT
<u>Energy Audit of cities / towns</u>
CESC has not furnished the energy audit details to the Commission. CESC shall furnish the same from April 2016 and up to Nov 2106 along with the details of measures initiated to reduce loss levels wherever the same are at higher levels. Also. CESC shall furnish the comparative statement of losses recorded in Towns & Cities for FY16 as against FY15.
<u>DTCs Energy Audit</u>:
Out of 27,485 total DTCs metered, only 6,695 metered DTCs are being audited leaving 20,790 metered DTCs unaudited, CESC shall submit the reasons for not taking up the energy audit of 20,790 DTCs where metering has been completed. CESC shall also furnish the remedial measures initiated to reduce losses in those DTCs wherever the losses are at higher level (1,305 DTCs) and the timeline by which all the remaining DTCs will be metered.
Further, CESC shall submit the targeted date of providing meters to remaining DTCs.</td><td>CESC has furnished the energy audit details for FY-16 as well as FY-17 upto September 2016 as Annexures 6a and 6b in the application for APR for FY-16.
However the energy audit details for FY-17 upto November 2016 are enclosed as Annexure-18.
The action plan for reduction of loss levels has been furnished as Annexure-7 in the application for APR for FY-16.
The comparative statement of losses recorded in towns and cities for FY 16 as against FY 15 are enclosed as Annexure- 19.
The reasons for not taking up the Energy audit of all DTCs where meters have been provided are as follows:
Metered DTCs are Idle without loads
Display/ MNR problems.
Meter burnt out
CT failures
Meters are not synchronized in AFT Web Link
Communication issues in rural area. Problems in establishing communication with modems are being encountered.
Tagging of installations to the DTC is underway and Whenever new DTCs are commissioned, Creating new transformer code and transfer installations to these new DTC could not be carried out easily due to software constraint. Now bulk shifting of installations from one DTC to other is made available in the TRM software.</td></tr>
<tr><td>7</td><td>Implementation of HVDS
The concept of HVDS and NJY is totally different, the CESC was directed to submit a detailed report to the Commission for taking a decision in the matter of implementation of HVDS but CESC has not submitted the same yet. CESC shall furnish the same.</td><td>It has been CESC's view that HVDS is not required in its area as the coverage of NJY under phase-1 and phase-2 is massive (no of feeders added 306, no of transformer added 9495 nos) and also in view of the company providing one DTC for each GK/WS installations and one DTC for every three UNIP installations.
The table below gives an overview of the DTCs added, HT/LT line added and HT/LT ratio in CESC for the past five years.<table><tr><td>Year</td><td>2011-12</td><td>2012-13</td><td>2013-14</td></tr><tr><td>DTCs added</td><td>3780</td><td>6004</td><td>10829</td></tr></table></td></tr>
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Directive on Energy Conservation		
Sl. No	Observations made	CESC Replies

HT line added	1313.43	1726.42	4514.02
LT line added	971.30	1082.26	1800.56
HT lines	31252.12	32978.55	37492
LT lines	70392.07	71474.33	73275
HT/LT ratio	1:2.25	1:2.16	1:1.95

2014-15	2015-16
10057	10172
5164.98	4323.80
1842.36	4260.55
42657	46981
75117	79378
1:1.76	1:1.68

It can be seen from the above that there is a huge jump in number of DTCs added & HT lines added during every year from 2013-14 onwards. This activity has effectively decreased HT/LT ratio to 1:1.68 by FY-16. The trend is maintained even in the current year FY17. Commensurately, distribution loss is also seen in the downward trend and CESC is achieving the stipulated target figure by the Commission in this regard.

Sl. No	Observations made	CESC Replies
8	**Implementation of NJY** CESC is required to submit the targeted date of commissioning of remaining 20 feeders under phase 2 and also submit the reasons for delay in completion of the NJY works in its jurisdiction.	Replies have been furnished in1. i.1 above.
9	**DSM in Agriculture** CESC shall briefly indicate the project details and expected benefits of proposed DSM projects covering one lakh IP-sets including 1,753 IP sets in TN Pura and Varuna as reported by it and the timeline by which these projects would be completed.	CESC has furnished the list of one lakh inefficient pump sets in the prescribed format to M/s EESL , New Delhi as per the directions of Energy Department, Government of Karnataka vide letter no. EN37 VSC 2016 dated 11.03.2016 for replacement under Ag DSM new program, where in 1753no.s of pumpsets of Varuna and T.Narasipura were also included in the list and the approval from GoK is awaited.
10	**Electrification of un-electrified Households** CESC shall furnish details such as total number of households identified which are not electrified in its	The total number of households identified which are not electrified in CESC jurisdiction, the total number of

Directive on Energy Conservation		
Sl. No	Observations made	CESC Replies
	jurisdiction, the total number of households electrified up to November, 2016 under various schemes and the timeline for completion of all such works.	households electrified up to August 2016 under various schemes and the timeline for completion of all such works has already been furnished in the application for APR for FY-16 in pages 34,35 and 36. The total number of households electrified up to November 2016 under various schemes is 31508.
11	**Prevention of Electrical Accidents** CESC has not submitted details of number of hazardous installations identified in FY17. CESC is required to furnish details of number of hazardous locations/installations identified in its distribution network and the number of such installations rectified in FY17 up to November 2016.	The details of hazardous installations identified in FY-17 as on October 2016 has been furnished in Annexure-8 in the application for APR for FY-16. However, The details of hazardous installations identified in FY-17 as on November 2016 is enclosed as **Annexure-20.**

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