

## **GESCOM- Preliminary Observations on APR for FY16 and Revised ARR for FY18**

### **1. Payment of Fee:**

As per the KERC (Fee) Regulations, 2016, GESCOM is required to pay fee of 0.02% of the expected revenue for FY18. Based on the proposed ARR of Rs.5345.84 Crores, the fee payable is Rs.1,06,91,680. However, GESCOM has paid Rs. 99,57,800. Therefore, the balance of fee of Rs.7, 33,880 is to be paid.

### **2. Capital Expenditure:**

#### **I. Capital Expenditure of GESCOM for FY16:**

The Commission had approved a capital expenditure of Rs.376 Crores for FY16 as against which, the GESCOM has indicated an actual capital expenditure of Rs.299.7 Crores. However, GESCOM has shown a capital expenditure of Rs.522.02 Crores in D17 as revised capital expenditure and the asset categorized value at Rs.450.47 Crores as per Format D17 and D15. GESCOM should explain inconsistency in capex shown as Rs.299.7 Crore and Rs.522.02 Crores under D17 for FY16. Further, the GESCOM has indicated a capex of Rs.263.51 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.252.16 Crores. GESCOM shall explain the difference in the amount shown in asset categorization under D16 and that indicated in the list of works submitted for prudence check of categorized works of FY16.

Details of category wise capital expenditure of GESCOM for FY16 are as below:

Sl. No.	Works	Approved Budget for	Expenditure Booked for FY 2016.	Difference
		FY - 2016		
1	33kV Sub-Stations, 33kV Line works & Augmentation of 33kV Sub-Station.	25	5.92	19.08
2	RGVY Works	75	0	75
3	RAPDRP Works	0	13.6	-13.6
4	Non-RAPDRP Works	0	36.55	-36.55
5	Reconductoring works	18	3.2	14.8
6	DTC Metering works	2	4.22	-2.22
7	Water Supply Works.	5	19.84	-14.84
8	Additional DTC's Works.	9	16.31	-7.31
9	Replacement failed 11kV Transformers & 33kV Power Transformers.	5	4.99	0.01
10	Replacement of MNR Meters.	5	7.26	-2.26
11	Providing ETV Meters.	1	0	1
12	Providing HT Metering Cubicles for Ring Fencing.	0.5	0	0.5
13	Service Connection Works.	17	4.38	12.62
14	SI Works (33kV Link Line / Express Feeders) & (11kV Link Line / Express Feeders).	22	10.54	11.46
15	Nirantara Jyothi Works.	0	33.6	-33.6
16	a) Major Replacement in Sub-Stations & Lines, R&M to 33kV Stations & Lines, 11kV DTC's & Lines.	10.5	0	10.5
17	Civil Engineering works.	8	2.92	5.08
18	It Initiatives	5	0.27	4.73
19	HVDS works.	75	0	75
20	Providing ABC, UG Cables & RMUs.	1	0	1
21	SCADA Works	1	0	1
22	SCP & TSP Works.	3.5	1.81	1.69
23	Ganga Kalyan Scheme works.	25	41.41	-16.41
24	T&P Articles.	0.5	1.07	-0.57
25	Replacing of Electro Magnetic Meters by Static Meters	1	5.03	-4.03
26	Metering of IP / Street Lights/ BJ & KJ Sets.	1	1.3	-0.3
27	Providing Infrastructure to Regularization of Unauthorized IP Sets.	30	15.64	14.36
28	R.E. General Works.	20	0	20
29	Prevention of Electrical Accident & Safety.	5	60.96	-55.96
30	Electrification of Rehabilitation Villages.	5	0	5
31	LT Line Conversion, Fixing of SMC Box to DTC and Replacement of Broken Poles.	0	7.76	-7.76
32	Energization of IP Sets General Electrification of HB/JC's and KJ's	0	1.12	-1.12
33	Providing Times Switches to Street Lights.	0	0	0
34	Shifting of Meters to Outside Premises.	0	0	0
35	Taluka Wise Segregation.	0	0	0
<b>Total</b>		<b>376</b>	<b>299.7</b>	<b>76.3</b>

From the above table, it can be noted that, the overall capital expenditure of GESCOM for FY16 is within the approved capex of Rs.376 Crores. GESCOM has achieved capex of Rs.13.6 Crores and Rs.36.55 Crores towards RAPDRP Works and Non-RAPDRP Works respectively which did not have the Commission's approval. Similarly, in the case of LT Line Conversion, Fixing of SMC Box to DTC & Replacement of Broken Poles and Energization of IP Sets General Electrification of HB/JC's and KJ's, GESCOM has achieved capex which was not proposed by it in its tariff applications and approved by the Commission in the tariff order.

In respect of DTC Metering, water supply works and additional DTCs works, GESCOM has achieved the capex exceeding the approved figures. GESCOM shall explain the reasons for excess capex. GESCOM is yet to conduct energy audit in all the feeders covering all the areas in its jurisdiction. The Commission has been directing GESCOM to complete DTC metering and conduct DTC-wise energy audit and reduce the distribution losses. GESCOM shall explain the reasons for not achieving the target.

In respect of Nirantara Jyothi Works, GESCOM has achieved a capex of Rs.33 .6 Crores. GESCOM shall furnish the details of post-commissioning analysis of NJY feeders and the benefits accrued thereon.

In respect of SI Works (33kV Link Line / Express Feeders) & (11kV Link Line / Express Feeders), GESCOM has achieved a capex of Rs.10.54 Crores as against the approved capex of Rs.22 Crores. GESCOM should note that, the system improvement works are to be completed on priority as they help in network strengthening and expansion as well as loss reduction and improvement of system reliability. Therefore, GESCOM shall explain the reasons for not achieving the capex as approved in this category.

In respect of Ganga Kalyan Scheme works, GESCOM has incurred a capex of Rs.41.41 Crores as against the approved capex of Rs.25 crores. GESCOM shall explain the reason for excess capex achieved in F16.

In respect of Providing Infrastructure to Regularization of Unauthorized IP Sets, GESCOM has achieved capex of only Rs.15.64 Crores against the approved capex of Rs.30 Crores. Creation of infrastructure to Unauthorized IP Sets should have been taken up on priority by GESCOM to provide reliable and quality power supply to the IP Set consumers and reduce the losses. But, GESCOM has not achieved its own target of capex. Hence, GESCOM shall explain the reasons for not achieving the capex in this category.

In case of capex on Prevention of Electrical Accident & Safety, GESCOM has achieved a capex of Rs.60.96 Crores as against the approved capex of Rs.5 Crores. There is a huge difference between the approved and actual capex and GESCOM shall explain the reasons for such increased capex and also furnish the full details of works taken up under this category. Further, GESCOM should note that, any capex of this size should have prior approval of the Commission.

Further, GESCOM shall furnish the details the works which are being funded through grants/loans from the GoI, GoK and financial institutions, along with the details of amounts sanctioned, utilized and the balance yet to utilized, in the following format:

**Amount in Rs. Crores**

SI 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 work	Cost of works which are in progress (WIP)
				Loan	Grants	Loan	Grants		
	1	2	3	4	5	6	7	8	9
1	RAPDRP								
2	DDUGJY								
3	IPDS								
4									
	Any other works								

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

From the above analysis, it is clear that, GESCOM is not taking up the capex program in a well-planned manner for system improvement, improving reliability and reducing the distribution losses. Hence, GESCOM is required to furnish the reasons as to why it is not achieving the capex proposed/approved in the categories of works which helps GESCOM in Improvement of its system.

## II. Capital expenditure of GESCOM for FY18:

GESCOM had stated that, it had planned capex proposal of Rs.1618 Crores FY18, but the likely achievement was stated at Rs.834 FY18. Taking into consideration the past performance of GESCOM and its own statement on achievements, the Commission, while recognizing the stated achievement levels by GESCOM, had considered Rs.500 Crores as capex for tariff computation.

Now, GESCOM has indicated a capex of Rs.694 Crores FY18 by reducing its own capex proposals indicated in the MYT application for FY18, at Rs.834 Crores.

Details of capex proposal of GESCO for FY18 are as below:

**Amount in Rs. Crores**

SI No	Categories of works	Capex of FY18
1	33kV Sub-station, 33kV line works & Augmentation of 33kV S/S's	10
2	RGVY works REC	40
3	RAPDRP works	
	Part-A	3
	Part-B	20
	IPDS	100
4	Reconductoring works:	
	a) 33kV lines	2
	b) 11kV lines	4
	c) L.T Lines	4
5	DTC metering works (RAPDRP area)	2
6	Water supply works	3
7	<b>Additional DTC's works:</b>	
	a) New DTC's	4
	b) Enhancement of DTC's	2
8	<b>Replacement failed 11 KV transformers</b>	10
9	Replacement of Power transformers	1
10	Replacement of MNR meters	3
11	Providing ETV meters	0.5
12	Providing HT metering Cubicles for ring fencing	0.5
13	<b>Service Connection works</b>	
	a) General works	10
	b) IP set works	1
14	SI works (33KV link line /Express feeders)	1
	SI works (11KV Link line /Express feeders,)	10
15	a) Nirantara Jyoti works	80
	b) Deen Dayal Upadhyay Gram Jyothi Yojane	138
16	a) Major Replacements in S/S's & lines	0.5

	b) Replacement of Age old Equipment in existing S/S & lines	4
17	Civil Engineering works	6
18	IT initiatives	2
19	HVDS Works	60
20	Providing ABC , UG Cables & RMUs	100
21	SCADA works	0.5
	<b>SCP &amp; TSP works</b>	
22	a) Energisation of IP sets	0.5
	b) Electrification of HB's/JC's	0.5
	c) KutirJyoti	0.5
23	Ganga kalyan scheme Works	20
24	T & P Articles	0.5
25	Replacing of Electro Magnetic meters by Static Meters	2
26	Metering of IP/St. Lights/BJ&KJ sets	1
27	Providing Infrastructure to Regularisation of Unauthorized IP sets	35
	<b>R.E General works:</b>	
28	a) Kutir Jyoti	8
29	Prevention of electrical accident & safety	3
30	Electrification of Rehabilitation villages	3
32	Feeder Metering	2
<b>Total</b>		<b>694</b>

GESCOM need to explain the inconsistency in proposing the varying capex amounts and justify its category wise capex proposals. GESCOM shall confirm as to whether it is following the Capital expenditure Guidelines issued by the Commission.

In respect of RGGVY works, GESCOM has proposed a Capex of Rs.40 Crores. GESCOM needs to clarify as to whether, these works are different than the proposed in DDUGJY. Further, GESCOM needs to check whether, it can achieve the proposed capex in a year and whether, in the recent past it has achieved a capex nearer to this amount. GESCOM shall furnish the justification for the same.

In the case of NJY works, GESCOM has proposed a capex of Rs.80 Crores for FY18. GESCOM needs to explain, the benefits achieved by implementing the NJY program, and the energy audit and specific consumption arrived at from the segregated feeders of NJY.

In respect of HVDS, GESCOM has proposed a capex of Rs.60 Crores. GESCOM shall furnish the details of the DPRs prepared and the analysis of cost benefit worked out as well as whether, GESCOM has taken approval for the proposed DPRs for HVDS as per the Commission's directions and revised guideline in respect of HVDS.

In respect of Providing ABC, UG Cables & RMUs, GESCOM has proposed a capex of Rs.100 Crores. GESCOM should furnish the details of the places where it is proposed to implement the conversion to UG cable distribution system and the status of preparation of DPRs and tendering process.

In respect of Prevention of electrical accident & safety, GESCOM has proposed a capex of Rs.3 Crores only, whereas in the actual expenditure, GESCOM has shown a huge capex incurred at Rs.60.96 Crores. GESCOM shall furnish the details of capex incurred during FY17 till 30th November, 2016 and also furnish the reasons for proposing Rs.3 crores only for FY18.

In respect of infrastructure to be created for un-authorized IP sets, GESCOM is incurring capex and is proposing capex every year. GESCOM needs to furnish the details of infrastructure created for un-authorized IP sets in the following format:



Sl No	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

Further, GESCOM shall explain as to when it is going to complete the infrastructure creation work for Un-authorized IP sets through which it will improve its distribution system reliability and reduce losses.

Though GESCOM has proposed a revised capex for FY18, it has not indicated as to whether it has followed the “**Capital Expenditure Guidelines for ESCOMs**” issued by the Commission. If so, GESCOM 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.

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

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. Prioritizing of such projects to be taken up for execution are to be based on payback period & benefit to cost ratio GESCOM 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. GESCOM shall furnish the list of 11kV feeders having losses above the target figure in the descending order.

In respect of IPDS and Deen Dayal Upadhyay Gram Jyothi Yojane (DDUGJY), GESCOM has proposed a capex of Rs. 100 Crores and Rs.138 Crores respectively for FY18. GESCOM shall furnish the details of the works which are being funded through grants or loans from the Gol, GoK and financial institutions, along with the details of amount sanctioned, utilized and the balance yet to utilized, during FY17 and is likely to be continued in FY18, in the following format:

**Amount in Rs. Crores**

SI 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 work	Cost of works which are in progress (WIP)
				Loan	Grants	Loan	Grants		
	1	2	3	4	5	6	7	8	9
1	RAPDRP								
2	DDUGJY								
3	IPDS								
4	NJY								
5	HVDS								
	Any other works								

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

GESCOM shall also submit the physical and financial progress as on 31<sup>st</sup> October, 2016 of the capex achievements as against the approved capex for FY17 in the format approved for FY17, indicating the capex incurred against each category.

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

The GESCOM 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.

### **3. Sales:**

#### **I. Annual Performance Review for FY-16:**

The Commission in its Tariff Order 2015 dated 02.03.2015 had approved total sales to various consumer categories at 6435.90 MU as against the GESCOM's proposal of 6542.05 MU. The actual sales of GESCOM as per the current APR filing [D-2 format] is 6507 MU indicating an increase in sales to the extent of 71.87 MU with respect to the approved sales. There is an increase in sales to LT-categories by 158.61 MU and there is a reduction in sales to HT-categories by 86.74 MU.

It is noted that, as against the approved sales of 3172.41 MU to categories other than BJ/KJ and IP sets, the actual sales achieved by GESCOM is 3191.33 MU, resulting in increase of sales to these categories by 18.92 MU. Further, GESCOM has sold 3316.45 MU to BJ/KJ and IP set categories against approved sales of 3263.50 MU resulting in increased sales to these categories by 52.95 MU.

The actual share of sales to categories other than BJ/KJ and IP sets is 49.04% as against the estimated share of 49.29% resulting in 0.25% decrease in share to these categories, while the actual share of sales to BJ/KJ and IP sets has increased by the same percentage point.

The category wise sales approved by Commission and the actuals for FY 15 are indicated in the table below:

Category	Approved	Actuals	Approved-Actuals
LT-2a*	1000.68	1059.35	58.67
LT-2b	9.04	9.64	0.60
LT-3	264.41	274.89	10.48
LT-4b	24.67	2.98	-21.69
LT-4c	0.78	1.28	0.50
LT-5	158.39	166.37	7.98
LT-6	721.10	183.23	11.13
LT-6	174.39	210.84	36.45
LT-7	15.91	17.45	1.54
HT-1	78.72	84.14	5.42
HT-2a	1047.88	1003.50	-44.38
HT-2b	66.10	70.32	4.22
HT-2c	21.74	13.27	-8.47
HT-3a & b	118.70	76.19	-42.51
HT-4	12.07	12.87	0.80
HT-5	6.83	5.01	-1.82
<b>Sub total</b>	<b>3172.41</b>	<b>3191.33</b>	<b>71.87</b>
BJ/KJ	124.13	91.90	-32.23
IP	3139.37	3224.55	85.18
<b>Sub total</b>	<b>3263.50</b>	<b>3316.45</b>	<b>71.87</b>
<b>Grand total</b>	<b>6435.91</b>	<b>6507.78</b>	

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

From the above table it is noted that the major category contributing to the reduction in sales with respect to the estimate is HT industries (44.38 MU), HT-3(42.51 MU) and LT -4(b) (21.69 MU). Further, it is observed there is increase in sales to LT-6 SL (36.45 MU), LT-2a (58.67 MU) and IP sets (85.18 MU). GESCOM shall analyze the reasons for the above.

In the light of the above GESCOM shall furnish the following information:

- a) In order to analyze reduction in HT sales, GESCOM 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 2014-16 in the following format:

**Energy in MU**

Year	Energy procured by GESCOM	Energy procured under open access / wheeling	Total
2011-12			
2012-13			
2013-14			
2014-15			
2015-16			

- b) Furnish the number of installations shifted from HT2a, HT2b and HT-4 categories to HT-2c category and the corresponding sales figures for FY14, FY15 and FY16, in order to estimate the impact of shifting of these installations.
- c) GESCOM has considered 17 units/installation/month for BJ/KJ category, whereas the same has to be based on actual specific consumption of FY-16. Hence, to assess the sales in BJ/KJ category, the breakup of installations consuming less than or equal to 18 units and above 18 units shall be furnished for FY16 to FY18 in the following format:

Particulars	No. of Installations	Consumption in MU
Installations Consuming less than 18 Units		
Installations consuming more than 18 units and build under LT 2a		

**II. Category wise sales for the control period:**

GESCOM in its filing has stated that the energy sales for the FY18 has been estimated on the basis of actual consumption available for FY15 to FY16 for metered categories and for LT4(a) on the basis of sample studies and for BJ/KJ based on 17 units per installation per month.

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

1. The Commission notes that GESCOM has considered only one-year data for estimating the sales. Therefore, it does not capture the trend in the category wise sales. Also, while forecasting for the future period, a minimum period of three to five years past data need to be considered. GESCOM, has also not indicated the category-wise working details of estimates made for the number of installations and the sales along with their growth rates. GESCOM shall furnish the same. In this context the growth rates for number of installations and sales indicated below, shall be considered as applicable while making the forecast:

- i) The table indicating the growth rates for the number 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	Growth rate proposed by GESCOM
LT-2a	4.43	4.60	6.74	4.59
LT-2b	9.40	9.32	11.97	9.49
LT-3	5.35	5.48	7.03	5.50
LT-5	5.51	5.13	4.85	5.18
LT-6 WS	1.68	1.86	3.73	3.88
LT-6 SL	5.79	7.13	2.86	7.33
HT-1	13.26	13.11	6.96	13.48
HT-2 (a)	8.65	7.18	8.34	7.36
HT-2 (b)	8.55	9.12	16.20	8.89
HT-3(a)& (b)	13.38	15.64	13.68	15.58
HT-4	-0.65	-13.90	-3.23	6.25

**It is observed that growth rate considered for LT-6, HT-1, HT-3 and HT-4 categories is higher compared to normal growth rates indicated above. GESCOM may reconsider revising its estimates for these categories**

- ii) 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 GESCOM
LT-2a	9.20	9.97	15.82	7.94
LT-2b	11.64	11.10	21.11	7.31
LT-3	8.57	8.22	10.63	8.06
LT-5	0.69	0.66	1.27	1.19
LT-6 WS	13.03	13.25	22.88	9.97
LT-6 SL	6.39	14.73	3.64	7.88
HT-1	5.85	4.43	7.98	4.83
HT-2 (a)	2.47	1.62	-4.60	9.06
HT-2 (b)	8.79	9.90	12.98	8.64
HT-3(a)& (b)	2.88	0.11	-25.01	6.92
HT-4	-2.95	-6.57	1.50	1.53

It is observed that while the growth rate considered for LT-5, HT-2a, HT-3 and HT-4 categories is higher, it is lower for LT2a, LT2b and LT-3 categories compared to normal growth rates indicated above. GESCOM may reconsider revising its estimates for these categories.

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

i. **No. of Installations**

Category	2014-15 Actuals		2015-16 Actuals		2016-17	
	As on 30 <sup>th</sup> Nov 2014	As on 31 <sup>st</sup> March 2015	As on 30 <sup>th</sup> Nov 2015	As on 31 <sup>st</sup> March 2016	As on 30 <sup>th</sup> Nov 2016	As on 31 <sup>st</sup> March 2017 (Estimate)
LT-2a						
LT-2b						
LT-3						
LT-4 (b)						
LT-4 (c)						
LT-5						
LT-6 WS						
LT-6 SL						
LT-7						
HT-1						
HT-2 (a)						
HT-2 (b)						
HT2C						
HT-3(a)& (b)						
HT-4						
HT-5						
<b>Sub Total (Other than BJ/KJ and IP)</b>						
BJ/KJ						
IP						
Sub Total ( BJ/KJ and IP )						
<b>Grand Total</b>						

ii. **Energy Sales**

Category	2014-15 Actuals		2015-16 Actuals		2016-17	
	1 <sup>st</sup> April 2014 to 30 <sup>th</sup> Nov 2014 (cumulative)	1 <sup>st</sup> Dec 2014 to 31 <sup>st</sup> March 2015 (cumulative)	1 <sup>st</sup> April 2015 to 30 <sup>th</sup> Nov 2015 (cumulative)	1 <sup>st</sup> Dec 2015 to 31 <sup>st</sup> March 2016 (cumulative)	1 <sup>st</sup> April 2016 to 30 <sup>th</sup> Nov 2016 (cumulative actuals)	1 <sup>st</sup> Dec 2016 to 31 <sup>st</sup> March 2017 (cumulative Estimate)
LT-2a						

LT-2b						
LT-3						
LT-4 (b)						
LT-4 (c)						
LT-5						
LT-6 WS						
LT-6 SL						
LT-7						
HT-1						
HT-2 (a)						
HT-2 (b)						
HT2C						
HT-3(a)& (b)						
HT-4						
HT-5						
<b>Sub Total (Other than BJ/KJ and IP )</b>						
BJ/KJ						
IP Set						
Sub Total ( BJ/KJ and IP )						
<b>Grand Total</b>						

**III. RPO Compliance:**

1. GESCOM has furnished the details of RPO compliance of solar and non-solar RPO for FY-15 to FY18 at page 110 of the Petition. It is noted that the total power purchased indicated in this page for FY16 is 8244.385 MU, whereas the same is indicated as 8260.75 MU in A-1 format. Further, the figures indicated for FY15 are not consistent with the data approved by the Commission in its Tariff Order 2016[Pg.24] GESCOM shall reconcile the figures. Further, it is noted that the write-up for Non-solar and solar RPO, is not consistent with the table at page -110.
  
2. For validating the RPO compliance for FY-16, GESCOM shall furnish the data as per the format indicated below, duly reconciling the data with audited accounts:



**a. Non-solar RPO:**

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

**b. Solar RPO:**

<b>No.</b>	<b>Particulars</b>	<b>Quantum in MU</b>	<b>Cost- Rs. Crs.</b>
1	Total Power Purchase quantum from all sources		
2	Solar energy purchased under PPA route at Generic tariff including solar energy purchased from KPCL		
3	Solar energy purchased under Short-Term, excluding sec-11 purchase		

4	Solar Short-Term purchase from RE under sec-11		
5	Solar energy purchased under APPC		
6	Solar energy pertaining to green energy sold to consumers under green tariff		
7	Solar energy purchased from other ESCOMs		
8	Solar energy sold to other ESCOMs		
9	Solar energy purchased from NTPC (or others) as bundled power		
10	Solar energy purchased from any other source like banked energy purchased at 85% of Generic tariff		
11	Total Solar Energy Purchased [No.2+No.3+No.4+No.5+No.7+No.9+No.10]		
12	Solar energy accounted for the purpose of RPO [ No.11- No.5-No.6-No.8]		
13	Solar RPO complied in % [No.12/No.1]*100		

1. GESCOM 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 GESCOM shall furnish the following details pertaining to GESCOM duly tallying with the renewable energy purchase estimates made for FY18:

Source	Capacity under PPA in MW as on 30.11.2016	Anticipated MW capacity addition under PPA during the remaining period of FY17	Anticipated capacity addition under PPA during FY18
Wind			
Mini-hydel			
Co-generation			
Biomass			
Waste to Energy			
Solar			

#### IV. Wheeling and Banking

1. GESCOM while computing wheeling charges at page 146 of the filing has indicated distribution network cost as Rs. 4978.90 Crores, whereas the same is indicated as Rs.1198.05 Crores. for FY18. GESCOM shall reconcile the figures.

2. GESCO, for Renewable Sources, has requested the Commission to maintain parity in wheeling charges and not to allow banking during summer months. It is noted that the distribution ARR indicated at Page - 147 does not tally with the figures indicated at page-120. GESCO shall reconcile the same.
3. Further, at page 150 of the petition, GESCO has prayed for the following on Open Access Transactions:
  - a. The banking facility shall be allowed for a period of 3-months from the date of generation.
  - b. Withdrawal of banked power should not be allowed during peak and ToD hours.
  - c. If banked energy is not utilized within the period of three months from the date of power banked, it shall automatically lapse and no charges shall be paid.
  - d. Additional surcharge on OA consumers who draw power from utility even after opting for OA.

**In view of the above prayer, GESCO shall justify the above in terms of detailed financial impact analysis regarding banking and levying of additional surcharge.**

**V. Cross subsidy surcharge:**

GESCO shall clarify as to whether CSS is calculated as per the Tariff Policy 2006 or Tariff Policy 2016. Further, it is observed the calculations made by GESCO is not correct and needs to be rectified. Also GESCO has to indicate CSS for all HT-categories.

Further, GESCO shall include in the prayer, prayer for approval of wheeling charges and cross subsidy surcharge and on RPO.

**VI. Energy Flow Diagram:** GESCO shall furnish energy flow diagrams for FY17.

3. **Observations on projected IP Set consumption for FY18:**

**APR 2016 :**

As regards sales to IP-sets, the Commission notes that, the overall sales have increased by 85.18 MU (2.7%) as against the approved sales of 3,139.37 MU as per the Tariff Order dated 2nd March 2015 for FY16. Further, the Commission had approved a specific consumption of IP-sets as 9,503 units / installation / annum for FY16. As per the consumption reported in format D2 of the filing by the GESCOM, the specific consumption works out to 10,131 units / installation/annum for FY16. This indicates an increase of 628 units / installation/annum in specific consumption. However, the actual number of installations for FY16 has decreased by 8,008 numbers to the approved number of installations of 3,38,881. GESCOM shall furnish the reasons for increase in IP-set specific consumption as well as total consumption despite decrease in the number of installations serviced when compared to the approved number of installations for FY16. Further, GESCOM in its analysis of NJY scheme (*as stated in compliance of directives*) has stated that energy input to the feeders after implementation of NJY has decreased. In that case, it is not clear as to how the energy consumption for FY16 has increased over the consumption reported for FY15. GESCOM shall clarify on this issue with its justification.

The Commission in its Tariff Order dated 2nd March, 2015 had directed GESCOM to furnish feeder-wise IP-set consumption based on energy meter data to the Commission, every month in respect of agricultural feeders segregated under NJY. GESCOM has not submitted in its application such data indicating the loss in 11 kV, distribution transformers & LT system that has been deducted from the gross consumption to arrive at the net consumption and the methodology adopted to arrive at the loss figures for FY 16.

**GESCOM shall also furnish necessary data as per the formats given in the subsequent para and justify its claims of IP Set-consumption for FY16.**

**ARR 2018:**

The Commission in its Tariff Order dated 30th March 2016 had directed GESCOM to furnish the consumption of IP sets based on the readings from the meters provided to 11 kV feeders at the Sub-stations duly deducting the 11 kV and LT distribution system losses (as per the formats prescribed by the Commission) instead of assessing the IP-set consumption based on the readings obtained from energy meters fixed to DTCs feeding predominantly IP-set loads. GESCOM 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. But, GESCOM has not furnished the monthly IP-set consumption regularly to the Commission. Therefore, GESCOM is required to justify its projection of IP Set consumption for FY18 as per the energy recorded on the segregated agricultural feeders.

GESCOM shall submit the month-wise, feeder-wise consumption of all the agricultural feeders segregated under NJY Scheme from April, 2015 to October, 2016 in the following format indicating/calculating actual losses prevailing in 11 kV, distribution transformers & LT system to be deducted from the gross consumption to arrive at the net consumption and the methodology adopted to arrive at the loss figures.

Month	Name of Sub-division	No. Segregated Agricultural Feeders in the subdivision	Monthly Consumption in MU as recorded in all the agricultural feeders at the substations pertaining to the division	Distribution loss(11kV line, DTCs,& LT line) Plus sales to other consumers if any, in MU ( losses in all the agri feeders only to be considered)	Net consumption duly deducting the Distribution loss (11kV & LT) & any other loads if any	No. of IP sets connected to the agri feeders in the subdivision	Average consumption of IP / month (specific cons in units /IP/month)	Total no of IP sets in the subdivision (as per DCB)	Total sales of IP sets in MU
1	2	3	4	5	6=(4-5)	7	8	9	10=8*9
April 2015	Subdiv-1 Subdiv-2 Subdiv-3 Subdiv ....								

March 2016	Subdiv- 1 Subdiv- 2 Subdiv- 3 Subdiv ....								
Total									
April 2016	Subdiv- 1 Subdiv- 2 Subdiv- 3 Subdiv ....								
October 2016	Subdiv- 1 Subdiv- 2 Subdiv- 3 Subdiv ....								
Total									

As per format D2 of its Tariff application, GESCOM has projected a specific consumption of IP-sets for FY18 as 9,743 units/installation /annum. GESCOM is required to furnish the rationale for projecting IP set -consumption based on the higher specific consumption for FY18 whereas the approved specific consumption for FY16 was 9,503 units / installation / annum. GESCOM shall furnish the revised IP set consumption for FY18.

Further, GESCOM was directed to take up enumeration of IP-sets to identify defunct/dried up wells in the field & complete the same 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. GESCOM has not complied with this direction. GESCOM shall furnish compliance on this in order to arrive at correct number of IP installations/consumption and for projecting correct number of installations/consumption for FY18 also.

**4. Distribution Losses:**

The actual distribution losses reported by GESCOM for FY16 is 18.10% as against 16.50% approved by the Commission in its Order dated 2<sup>nd</sup> March, 2015.

Considering the actual losses of 18.50% reported by GESCOM for FY15, the reduction in distribution losses is 0.40% in FY16. As discussed in the observations on sales to IP Set categories, the Commission notes that while there is increase in IP Set consumption, there is a decrease in metered category sales. Since the IP Set sales is not backed by justified data of consumption based on separated feeders, the Commission cannot accept the distribution loss figures indicated by GESCOM.

Hence, GESCOM shall furnish the feeder wise number of IP sets along with consumption based on separated feeders besides Division wise data of numbers and consumption of IP sets as per DCB.

The Commission, in its Order dated 30<sup>th</sup> March, 2016 has fixed distribution losses at 16.00% for FY18 after considering the status of distribution losses in FY15. The distribution losses projected for FY17 is at 17.60% as against approved losses of 17.00% in MYT Order dated 30<sup>th</sup> March, 2016. The revised proposal shows reduction of 1.10percentage point from the loss levels reported for FY16. GESCOM is required to furnish the details of 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 proposed, GESCOM is required to reassess the distribution losses for FY18 based on the losses projected for FY17.**

Further, GESCOM shall furnish the data of Energy Audit for Town and Cities in the following format:

Name of the Town/City	FY16			FY17 ( Cumulative as at the end of Nov, 2016)		
	Energy Input in MU	Energy Sold in MU	% Distribution Losses	Energy Input in MU	Energy Sold in MU	% Distribution Losses
<b>TOTAL</b>						

**5. Power Purchase:**

**I. Annual Performance Review for FY-16**

1. GESCOM 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, it shall furnish the basis for the same.
2. The details of Energy balancing and charges indicated in D1 format for FY16 shall be furnished.
3. The details of infirm power and charges indicated in D1 format for FY16 shall be furnished.

**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.
2. GESCOM shall furnish the basis for projecting the energy procurement for FY18. Further, BTPS Unit III has not been considered for power purchase in FY18. Further, the new Yeramarus Thermal Power Station is scheduled to be commissioned in FY18. Hence, GESCOM 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.
3. The computation sheets for considering the variable charges of the Central Generating Stations shall be furnished.

**Generator wise short term power purchase details for 3610.27 MU at a cost of Rs.1835.32 Crores for FY16 shall also be furnished.**



**6. Issues pertaining to items of Revenue and Expenditure:**

- i. Format D1 for FY17 is to be furnished with data of actual energy and cost up to November, 2016 and projections thereon for the balance period.
- ii. Format D6 (a) indicating the number of employees sanctioned and working for FY16, FY17 & FY18 shall be furnished. GESCOM shall indicate the details of cadre wise employee strength duly considering the retirement and proposed recruitment along with cost for the period FY16 to FY18. Further, employee cost for FY18 is projected by considering 15% increase due to revision of pay scale. GESCOM shall furnish the basis such projection which is not being backed by any Orders.
- iii. GESCOM in its application for ARR for FY18, under format A1 has indicated an amount of Rs.262.49 Crores as 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 decided that, as per GO dated 31.05.2002 and 19.12.2002, GoK is liable to meet the P&G requirement of existing pensioners and such liability cannot be passed on to the consumers. However, it is now reported by GESCOM that, as per the present directions of the Government of Karnataka, it has included an amount of Rs.262.49 Crores towards arrears of P&G Trust for FY18. GESCOM shall furnish the reasons /justifications along with Government Orders if any for inclusion of this amount as an item of expenditure in ARR to be recovered from consumers during FY18 in contravention to the Commission's decision in Tariff Order 2016. **Further, it is to be noted that, inclusion of this amount will have substantial tariff implications which cannot be passed to the consumers.**
- iv. 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. GESCOM to clarify whether it has received subsidy pertaining to past period during FY16 and if so, details of the amount received may be furnished separately.

- v. 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.
- vi. The Commission in its Tariff Order dated 2<sup>nd</sup> March, 2015 has directed GESCOM to furnish detailed plan of action for utilisation of funds towards consumer relation / education and to maintain separate accounts of these funds and furnish the same at the time of APR. GESCOM under D7 format has reported that, it has spent an amount of Rs.9.00 Lakhs towards consumer relation / education. GESCOM is required to furnish the break-up of expenditure incurred under separate head of account towards consumer relation / education during FY16.
- vii. GESCOM shall furnish the details in respect of the following items indicated under A&G expenses for FY16:
- |                         |                   |
|-------------------------|-------------------|
| i) Professional charges | - Rs.32.78 Crores |
| ii) Travelling expenses | - Rs.13.01 Crores |
- ix. In case of LT4 (a)(i) – IP Sets upto 10 HP, GESCOM shall furnish the Division wise breakup of IP sets, connected load and estimated consumption for FY16 to FY18.
- x. The category-wise connected loads indicated in Form D21 shall be justified with duly certified Distribution Circle wise data.
- xi. The category-wise slab-wise consumption indicated in Form D21 shall be justified with Division wise details of computation.
- xii. The breakup of number of consumers indicated in Form D21 based on sanctioned load under LT2, LT3 and LT5 categories shall be justified with Division wise details.

- xiii. GESCO, under Format D6 has projected an amount of Rs.68.47 Crores as expenditure towards terminal benefits for FY18. GESCO is required to furnish the basis and computation for claiming this amount along with relevant actuarial valuation report.
- xiv. GESCO has reported that an additional equity of Rs.99.61 Crores is received during FY16. GESCO shall furnish the date of receipt of this additional equity along with the copy of the Government Order.
- xv. GESCO 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).
- xvi. GESCO has proposed ToD for morning peak hours of power supply from 6.00AM to 10.00 AM. GESCO is required to furnish the details of monthly Minimum and Maximum load recorded during January, 2016 to November, 2016 for the proposed morning/evening peak periods and off-peak periods. Further, for the same period, GESCO shall furnish the amount of penalty levied and incentives given under the existing ToD scheme.

## 8. Compliance to directives issued by the Commission

Sl. No	Directives issued by the Commission	Observations made
1	<b>Directive on Energy Conservation</b>	<p>The GESCO 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.</p> <p>The GESCO has not submitted compliance regularly to the Commission on the above directive. GESCO shall submit the compliance on the above.</p> <p>GESCO has also not submitted compliance regarding the program undertaken by it to educate all the existing domestic, commercial and industrial consumers, through media / distribution of pamphlets along with monthly bills, regarding the benefits of using five star rated equipment in reduction of their monthly electricity bills and</p>

		<p>conservation of energy.</p> <p>The GESCOM shall submit the details of the programs undertaken by it to educate the consumers to use BEE star rated equipment.</p>
2.	<b>Directive on implementation of Standards of Performance (SoP)</b>	<p>As observed from the SoP achieved for April –September 2016, GESCOM has not achieved targeted SoP in respect of servicing of IP sets/ other category Applications, replacement of failed distribution transformers / faulty meters, etc. GESCOM shall submit the reasons for delay in achieving the specified SoP in respect of the above services and action taken to improve such services.</p>
3.	<b>Directive on use of safety gear by linemen:</b>	<p>The Commission had directed GESCOM to take action to sensitize the linemen about the need for adoption of safety aspects in their work through suitably designed training / awareness programmes and devising 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.</p> <p>GESCOM is required to submit the compliance on the above.</p>
4	<b>Directive on providing Timer Switches to Street lights by ESCOMs</b>	<p>GESCOM has not submitted the quarterly compliance report in respect of installation of timer switches, to the Commission. GESCOM shall furnish the reasons for delay in taking up the work. Also, GESCOM shall furnish the latest progress of installation of timer switches by the local bodies since the meeting on 22.10.2016.</p>
5	<b>Directive on Load shedding</b>	<p>GESCOMs is not submitting regularly 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, GESCOM shall submit the same and also furnish the reasons for delay in not initiating a system of informing the consumers/public through SMS in case of load shedding due to any reasons.</p>
6	<b>Directive on establishing a 24X 7 fully equipped centralized consumer service centers</b>	<p>GESCOM has not submitted the progress of establishing the service stations in the subdivisions/Sections for attending to consumer complaints.</p> <p>GESCOM shall furnish the details such as the total number of service stations established in the subdivisions/Sections, remaining service stations required to be established and the likely time for establishing the remaining service stations for addressing consumer complaints effectively.</p> <p>Also, GESCOM has not conducted consumer interaction meetings in subdivisions regularly once in two months as directed. GESCOM shall furnish the reasons for not conducting such meetings regularly.</p>
7	<b>ENERGY AUDIT</b>	<p><b>Energy Audit of cities / towns</b></p> <p>GESCOM is not furnishing the energy audit reports regularly to the Commission. GESCOM shall furnish the same up to October 2016 along with the details of specific measures initiated to further reduce</p>

		<p>loss levels wherever the same are above 15% since in most of the towns/cities the loss levels are reported as being more than 15%.</p> <p><b>DTCs Energy Audit:</b></p> <p>GESCOM is required to furnish the details of energy audit conducted in respect of 60,123 DTCs for which meters have already been provided and remedial measures initiated to reduce losses in those DTCs wherever the loss levels are at higher levels. Also, GESCOM shall furnish the reasons for delay in conducting the energy audit of 60,123 metered DTCs.</p> <p>Further, GESCOM has not furnished the consolidated energy audit report for the FY16 and FY17(up to October, 2016) and GESCOM shall furnish the same as per the formats <b>Annex-A &amp; B</b> prescribed by the Commission vide letter No. KERC/D/137/14/91 dated 20.04.2015.</p>
8	<b>Implementation of HVDS</b>	<p>In the ESCOMs' Review meeting, GESCOM was directed to submit a detailed report to the Commission on the implementation of HVDS for taking a view on the matter but GESCOM has not submitted the same yet.</p> <p>Also, GESCOM is required to share the details of the study it has undertaken to implement the HVDS in its jurisdiction.</p>
9	<b>Implementation of NJY</b>	<p>GESCOM shall furnish the reasons for delay in execution of 65 feeders under both phase-1&amp;2 and furnish the latest progress/status of NJY works under phase-3. Also, GESCOM shall furnish the comprehensive analysis report in respect of feeders commissioned under NJY.</p>
10	<b>DSM in Agriculture</b>	<p>GESCOM has not complied with the directive. GESCOM shall furnish the latest details/progress of replacing the inefficient pump sets by efficient pump sets along with project details in Aland taluk.</p>
11	<b>Electrification of un-electrified Households</b>	<p>GESCOM has stated that it has taken up electrification of 88,797 BPL households and 2,15,755 Rural households under RGGVY XII plan but has not furnish the details of progress achieved in this regard.</p> <p>GESCOM shall furnish the latest progress of BPL &amp; Rural households electrified under RGGVY XII plan.</p>
12	<b>Subdivision as Strategic Business Units (SBU)</b>	<p>GESCOM has not implemented the directive on Financial Management Framework in its jurisdiction on the basis of M/s PWC's report. GESCOM shall furnish the reasons as to why it has not so far implemented the directive on Financial Management Framework to assess the performance of the divisions/subdivisions in its jurisdiction, to the Commission.</p>
13	<b>Prevention of Electrical Accidents</b>	<p>GESCOM has not submitted the Division wise action plan to minimize accidents. It has also not submitted the details of number of hazardous installations identified and rectified in the distribution system for FY16.</p> <p>GESCOM is required to furnish the details of number of hazardous locations/installations identified in its distribution network in FY16 and</p>

		the number of such installations rectified in FY17 up to November 2016. Also, GESCOM shall furnish the action taken to minimize the accidents, on the basis of the Safety Technical Manual which was already forwarded by the Commission.
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