



## **ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION**

**4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad 500 004**

**Present**

**Sri Justice G. Bhavani Prasad, Chairman**

**Dr. P. Raghu, Member**

**Sri P. Rama Mohan, Member**

**Dated 17<sup>th</sup> April, 2017**

**In the matter of**

**POWER PURCHASE RATE DETERMINATION FOR RESCOS DURING FY2017-18**

**The Kuppam Rural Electric Cooperative Society Ltd.**

**OP.No. 17 of 2017**

**The Anakapalle Rural Electric Cooperative Society Ltd.**

**OP.No. 18 of 2017**

**The Cheepurupalli Rural Electric Cooperative Society Ltd.**

**OP.No. 19 of 2017**

**..... Applicants**

The Tariff filings made by the Anakapalle Rural Electric Cooperative Society Ltd. (Anakapalle RESCO), the Cheepurupalli Rural Electric Cooperative Society Ltd.(Cheepurupalli RESCO) and the Kuppam Rural Electric Cooperative Society Ltd. (Kuppam RESCO) for determination of ARR(Aggregate Revenue Requirement), Expenditure and Power Purchase Rate to be paid to the distribution licensees (from whom the applicants purchase the power) in respect of their distribution and retail supply businesses for FY2017-18 came up for consideration before the Commission. Upon careful consideration of the material available on record and additional information made available by the applicants, the Commission hereby passes the following:

## COMMON ORDER

### Introduction

1. The three Rural Electric Cooperative Societies (RESCOs henceforth) in Andhra Pradesh State purchase electricity from distribution licensees for retail sale of electricity to the consumers connected to Low Tension (LT) network in their designated areas of supply<sup>1</sup>. Under the current regulatory provisions, the electricity purchased from the distribution licensees by RESCOs is sold to retail consumers in their designated areas of supply at the same retail tariff rates that are determined for the distribution licensees. The three RESCOs made filings before the Commission for determination of ARR(Aggregate Revenue Requirement), Expenditure and Power Purchase Rate to be paid to the distribution licensees (from whom the applicants purchase the power) in respect of their distribution and retail supply businesses for FY2017-18<sup>2</sup>. The Commission took these filings on record and used the information provided in these filings and additional information made available by the applicants subsequently, in determination of ARR, Expenditure and the power purchase rate to be paid by each RESCO to distribution licensee(Anakapalle and Cheepurupalli RESCOs to EPDCL and Kuppam RESCO to SPDCL) from whom they draw the electricity during FY2017-18 as detailed hereunder:

### Methodology

2. The methodology for determination of power purchase rate for each RESCO has been devised in such a manner that the RESCO after meeting its prudent expenses towards distribution and retail sale of electricity (excluding power purchase cost) from its revenues, remits the remaining revenue towards power purchase cost to the Distribution licensee who supplies the electricity to the RESCO. In this framework, the Commission;
  - a) Determines the Expenditure/ARR for each RESCO towards distribution and retail sale of electricity (excluding power purchase cost) in its area of supply for each financial year,
  - b) Determines the sales volume in the area of supply of each RESCO and computes the revenue from the sale of such electricity (at approved tariff for retail sale of electricity) for each financial year,
  - c) Determines the power purchase requirement/quantity for each RESCO by grossing up the approved sales volume with the approved losses for each financial year,
  - d) Computes the surplus amount available with each RESCO by deducting the expenditure from the revenue and considers this amount as available for power purchase from the distribution licensee and

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<sup>1</sup> Anakapalle RESCO has the designated area of supply in part of Visakhapatnam district and Cheepurupalli RESCO has the designated area of supply in part of Vizianagaram district, and these two RESCOs draw the electricity from Eastern Power Distribution Company of Andhra Pradesh Ltd (APEPDCL). The Kuppam RESCO has the designated area of supply in part of Chittoor district and draws electricity from Southern Power Distribution Company of Andhra Pradesh Ltd.(APSPDCL).

<sup>2</sup> The filing dates are: Anakapalle RESCO and Cheepurupalli RESCO- 25/11/2016 and 29/11/2016 respectively, Kuppam RESCO- 30 /11/2016.

- e) Computes the power purchase rate payable by each RESCO to the respective DISCOM by dividing the amount available for power purchase with the power purchase requirement/quantity determined for that RESCO.

### **Aggregate Revenue Requirement (ARR)**

3. The gross ARR for each RESCO consists of a) return on capital computed on net capital base and b) expenditure towards distribution and retail supply activities excluding power purchase cost. The gross ARR thus reflects the total expenditure to be recovered from the consumers to meet the capital and operating cost of each RESCO. The net ARR for each RESCO is the gross ARR minus non-tariff income (which is mostly independent of tariff rates). The Commission has computed the net ARR for each RESCO for FY2017-18.

### **Return on Capital**

4. The RESCOs have filed the capital base details for FY2017-18 in accordance with the format issued for this purpose by the Commission. The RESCOs are eligible to claim 16% return on the net capital as return on capital employed in the business. Of the three RESCOs, Anakapalle RESCO claimed the return on capital cost at ₹ 918.12 lakhs, Cheepurupalli RESCO claimed ₹26.27 lakhs and Kuppam RESCO claimed ₹208.29 lakhs for FY2017-18. The Commission after scrutiny modified the above amounts to ₹997.57 lakhs, ₹18.91 lakhs and NIL for Anakapalle, Cheepurupalli and Kuppam RESCOs respectively. In case of Kuppam RESCO, the net capital base has become negative on account of huge consumer contributions to the capital base. The details of capital base and return on capital employed are given in Annexure-01.

### **Expenditure**

5. The three RESCOs have filed the expenditure details for FY2017-18 in accordance with the format issued for this purpose by the Commission. The Commission has approved the expenditure for FY2017-18 as filed by RESCOs with the following modifications/additions/deletions;

- a) Anakapalle RESCO:

Administration & General Expenses: The Commission modified the administration & general expenses from ₹ 300 lakhs to ₹ 220 lakhs based on the historical costs and likely expenditure during FY 2017-18.

The Repairs & Maintenance Cost: Against the claim of ₹800 lakhs by the RESCO, the Commission brought down the cost to ₹.300 lakhs based on the historical costs and likely expenditure during FY 2017-18.

Depreciation: The Commission modified the depreciation amount for the RESCO from ₹1299.56 lakhs to ₹ 1149.20 lakhs.

b) Cheepurupalli RESCO:

The Commission has allowed the expenditure items as claimed by the RESCO for FY2017-18.

c). Kuppam RESCO:

The Commission has disallowed the expenditure item under the head of contribution towards contingency reserve as the same is not required under the present regulatory framework.

6. With these modifications to the filings made by the RESCOs, the Commission has computed the total expenditure at ₹4305.14 lakhs for Anakapalle RESCO, ₹1493.73 lakhs for Cheepurupalli RESCO and ₹2743.12 lakhs for Kuppam RESCO during for FY2017-18. The expenditure details are given in annexure-02.

### Non-Tariff Income

7. The RESCOs also earn some income from non-tariff sources (non-tariff income) such as customer charges, penalties, interest on deposits etc. The Commission has approved the non-tariff income as estimated and filed by RESCOs in their respective ARR filings at ₹694.48 lakhs for Anakapalle RESCO, ₹213.60 lakhs for Cheepurupalli RESCO and ₹130 lakhs for Kuppam RESCO during FY2017-18.

### Aggregate Revenue Requirement (ARR)

8. The Commission has computed the Net ARR for each RESCO (by adding return on capital and expenditure and then deducting the non-tariff income) for FY2017-18 at ₹4608.23lakhs for Anakapalle RESCO, ₹1299.04 lakhs for Cheepurupalli RESCO and ₹2613.12 lakhs for Kuppam RESCO and these details are given in the table below.

Aggregate Revenue Requirement for RESCOs during FY2017-18			₹in lakhs
Item	Anakapalle	Cheepurupalli	Kuppam
01. Return on Capital	997.57	18.91	0.00
02. Expenditure	4305.14	1493.73	2743.12
03. Gross ARR (01+02)	5302.71	1512.64	2743.12
04. Non-Tariff Income	694.48	213.6	130.00
<b>05. Net ARR(03-04)</b>	<b>4608.23</b>	<b>1299.04</b>	<b>2613.12</b>

### Sales, Power Purchase Quantity and Revenue from Sales

9. The Commission has determined the sales volume for the area of supply of each RESCO separately, after considering the historical sales volumes in the respective area of supply, distribution licensees' proposed sales volume to each RESCO and RESCOs' proposed sales volumes, at 217.20 MU for Anakapalle

RESCO, 69.94 MU for Cheepurupalli RESCO and 295.32 MU for Kuppam RESCO during FY2017-18. The Commission has computed the power purchase requirement, by grossing up the sales with applicable loss levels, at 244.05 MU for Anakapalle RESCO, 80.40 MU for Cheepurupalli RESCO and 343.52 MU for Kuppam RESCO during FY2017-18.

10. Since RESCOs also sell electricity at the tariff determined for distribution licensees for retail sale of electricity, the revenue for sales by each RESCO has been estimated considering the above tariffs. The estimated revenues from sales are ₹6714.66 lakhs for Anakapalle RESCO, ₹1410.63 lakhs for Cheepurupalli RESCO and ₹3697.72 lakhs for Kuppam RESCO during FY2017-18 and these details are given in annexure-03 and the summary is given in table below.

**Sales, Power Purchase and Revenue from Tariffs during FY2017-18**

Item	Anakapalle	Cheepurupalli	Kuppam
01. Sales, MU	217.20	69.94	295.32
02. Power Purchase Quantity, MU	244.05	80.40	343.52
03. Revenue from Tariff, ₹lakhs	6714.66	1410.63	3697.72

**Excess Drawals by RESCOs during FY2017-18**

11. The RESCOs may, without any restriction, draw the required additional quantum of energy to meet the requirement of additional sales to non-agricultural consumer categories from respective distribution licensees during FY2017-18. The additional revenue that accrues to RESCOs as a result of higher sales volume to nonagricultural consumer categories will be transferred to Distribution licensees after completion of FY2017-18 after netting off the cost of additional power purchases made by the RESCOs.
12. The RESCOs shall make all possible efforts not to exceed the agricultural sales volume approved in this Order and shall strictly implement the policies of distribution licensee(from whom the RESCOs draw the power) in the matter of agricultural supply.
13. For excess power purchases also i.e. the energy drawn by the RESCOs from the DISCOMs over and above the power purchase quantities approved in this Order, the RESCOs shall continue to pay at the same power purchase rates approved in this Order.
14. At para No.11 of RESCOs order for FY2016-17, the Commission observed that the additional net revenue that accrues to RESCOs as a result of higher sales volume to nonagricultural consumer categories will be transferred to Distribution licensees on completion of FY2016-17 through ARR determination for FY2017-18. However, the details of actual additional revenue of the RESCOs, if any, were not available at the time

of determination of ARR of the DISCOMs for FY2017-18. Therefore, the Commission directs all the RESCO to submit category wise actual sales volume, power purchases and revenue for each category for FY2016-17 (month wise) to take an appropriate view in this regard.

15. While filing the applications before APERC seeking additional subsidy from the GoAP towards additional agricultural sales, the DISCOMs shall take in to account the additional agricultural sales of RESCOs also in their jurisdiction. After receiving the additional subsidy from the GoAP, the DISCOMs shall reimburse to the respective RESCOs, the power purchase costs incurred by the RESCOs towards additional Agricultural sales net off any revenue from such additional Agricultural sales.

### Surplus Available with RESCOs and Power Purchase Rate for FY2017-18

16. The Commission after having determined the net ARR and Revenue from sales as above, has computed the surplus amounts available with RESCOs for power purchases at ₹2206.43 lakhs for Anakapalle RESCO, ₹111.59 lakhs for Cheepurupalli RESCO and ₹1084.60 lakhs for Kuppam RESCO during FY2017-18. The power purchase price for each RESCO has been determined (dividing the available surplus by approved power purchase quantity) at ₹0.90/kWh for Anakapalle RESCO, ₹0.14 /kWh for Cheepurupalli RESCO and ₹0.32/kWh for Kuppam RESCO during FY2017-18. The details are given in the table below:

#### Power Purchase Price for FY2017-18

Item	Anakapalle	Cheepurupalli	Kuppam
01. Net ARR (₹lakhs)	4608.23	1299.04	2613.12
02. Revenue (₹lakhs)	6714.66	1410.63	3697.72
03. Surplus Available for Power Purchase (02-01) (₹In lakhs)	2106.43	111.59	1084.60
04. Power Purchase Quantity Approved (MU)	244.05	80.40	343.52
<b>05. Power Purchase Rate (03/04) ₹/ kWh)</b>	<b>0.86</b>	<b>0.14</b>	<b>0.32</b>

### Conclusion

17. The Commission has not accepted the RESCOs' proposals to the extent modified in this Order and has recomputed the ARR, Expenditure, Power Purchase Requirement, Revenue from sales and the Surplus amounts available power purchases for FY2017-18. The Power Purchase Rate determined for each RESCO in Para 16 above shall be the Rate to be paid by that RESCO for energy drawals from the respective distribution licensee during FY2017-18.
18. The tariff for retail sale of electricity determined by the Commission for the DISCOMs for FY 2017-18 in its Order dt.31.03.2017 is also applicable to the RESCOs for retail sale of electricity in their respective areas

of supply.

19. The details of Revenues to the DISCOMs from the sale of energy to the RESCOs as per the Retail Tariff Order for FY 2017-18 and as per the rates determined now are tabulated below.

**Details of Revenues to the DISCOMs from the sale of energy to RESCOs for FY2017-18**

<b>Name of the RESCO</b>	<b>Located in</b>	<b>DISCOMs revenue from sale of energy to the RESCOs as per the Retail Tariff Order for FY 2017-18 (₹ Crs)</b>	<b>DISCOMs revenue from sale of energy to the RESCOs as per the rates determined in this order (₹ Crs)</b>	<b>Revenue Shortfall (-) /Gain (+) to the DISCOM (₹ Crs)</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)=(4)-(3)</b>
Anakapalle	APEPDCL	38.43	22.18	-16.25
Cheepurupalli				
Kuppam	APSPDCL	10.31	10.85	0.54

The DISCOMs may include in their Retail Tariff Filings for FY2018-19, the shortfall/gain in the revenues from the RESCOs during FY2017-18.

This Order is signed on 17<sup>th</sup> day of April, 2017.

**Sd/-**  
**P. RAMA MOHAN**  
**MEMBER**

**Sd/-**  
**Dr. P. RAGHU**  
**MEMBER**

**Sd/**  
**JUSTICE G.BHAVANI PRASAD**  
**CHAIRMAN**

## Annexure-01: Capital Base and Return on Capital during FY2017-18

₹In lakhs

Capital Base Item	Anakapalle		Cheepurupalli		Kuppam	
	RESCO	APERC	RESCO	APERC	RESCO	APERC
<b>A: Positive Elements (01+...+05)</b>	<b>14392.71</b>	<b>14392.71</b>	<b>2433.66</b>	<b>2433.66</b>	<b>14656.05</b>	<b>12300.07</b>
01. Original Cost of Fixed Assets	13857.71 (Net-off CC)	13857.71 (Net-off CC)	2178.90	2178.90	11473.10	9117.12
02. Cost of works in progress	500.00	500.00	179.97	179.97	3007.95	3007.95
03. Working Capital	0.00	0.00	0.00	0.00	0.00	0.00
04. Average Cost of Stores	25.00	25.00	4.36	4.36	45.00	45.00
05. Avg. Cash and Bank balance	10.00	10.00	70.43	70.43	130.00	130.00
<b>B: Negative Elements (06+...+11)</b>	<b>8654.43</b>	<b>8157.91</b>	<b>2269.49</b>	<b>2315.47</b>	<b>13387.99</b>	<b>13387.99</b>
06. Accumulated Depreciation	7103.43	6606.91	1179.16	1179.16	7440.60	7440.60
07. Approved Loans	1000.00	1000.00	0.00	45.99	1206.59	1206.59
08. Consumer Security Deposit	465.40	465.40	180.65	180.65	497.45	497.45
09. Grants, aids & Subsidies	0.00	0.00	0.00	0.00	0.00	0.00
10. Reserves	85.60	85.60	0.00	0.00	0.00	0.00
11. CC(Consumer Contributions)	0.00	0.00	909.68	909.68	4243.35	4243.35
<b>C: Net Capital Base(A-B)</b>	<b>5738.28</b>	<b>6234.80</b>	<b>164.17</b>	<b>118.19</b>	<b>1268.06</b>	<b>-1087.92</b>
<b>D: Return on Net Capital Base</b>	<b>918.12</b>	<b>997.57</b>	<b>21.47</b>	<b>18.91</b>	<b>190.27</b>	<b>0.00</b>



**Annexure-02: Expenditure Items for RESCOs during FY2017-18**

**₹In Lakhs**

Expenditure Item	Anakapalle		Cheepurupalli		Kuppam	
	RESCO	APERC	RESCO	APERC	RESCO	APERC
01. Wages and Salaries	2098.00	2098.00	1,056.65	1,056.65	1160.92	1160.92
02. Admin. & General Expenses	300.00	220.00	62.38	62.38	45.00	45.00
03. Repairs and Maintenance	800.00	300.00	112.13	112.13	290.00	290.00
04. Rent, Rates & Taxes	10.00	10.00	10.78	10.78	1.30	1.30
05. Approved Loan Interest	0.00	0.00	12.57	12.57	72.40	72.40
06. Depreciation	1299.56	1149.20	70.26	70.26	663.66	663.66
07. Contribution to Employee Funds	150.00	150.00	92.77	92.77	185.00	185.00
08. Gratuity Payments	180.00	180.00	40.00	40.00		
09. Interest on Security Deposit	0.00	0.00	13.05	13.05	26.24	26.24
10. Legal Charges	10.00	10.00	0.03	0.03	0.60	0.60
11. Auditors' Fees	12.00	12.00	9.05	9.05	2.00	2.00
12. Interest on Share Capital	0.00	0.00	14.06	14.06	0.00	0.00
13. Contribution to Contingency Reserves	0.00	0.00	-	-	150.00	0.00
14. Taxes/Others	175.94	175.94	-	-	40.00	40.00
15. Distribution of LED Bulbs	0.00	0.00	-	-	216.00	216.00
16. For building construction	0.00	0.00	-	-	60.00	60.00
17. Efficiency gains	0.00	0.00	-	-	-20.00	-20.00
<b>18. Expenditure</b>	<b>5035.50</b>	<b>4305.14</b>	<b>1,493.73</b>	<b>1,493.73</b>	<b>2893.12</b>	<b>2743.12</b>

**Annexure-03: Sales, Revenue and Purchase Quantity during FY2017-18**

**Anakapalle RESCO**

Consumer Category	RESCO		APERC	
	Sales	Revenue	Sales	Revenue
	(MU)	(₹lakhs)	(MU)	(₹lakhs)
LT-I: Domestic	111.30	2988.29	111.30	3002.57
LT-II: Non-Domestic	14.09	1212.38	14.09	1309.56
LT-III: Industry	30.10	1873.95	30.10	1774.93
LT-IV: Cottage Industries	0.03	1.22	0.03	1.22
LT-V: Agriculture	58.79	0.00	50.22	0.00
LT-VI: Street Lighting	10.31	549.59	10.31	558.22
LT-VII: General	1.11	71.00	1.11	63.45
LT-VIII: Temporary	0.04	4.45	0.04	4.71
<b>Total</b>	<b>225.77</b>	<b>6700.88</b>	<b>217.20</b>	<b>6714.66</b>
<b>Power Purchase Quantity</b>	<b>256.56</b>	<b>n.a</b>	<b>244.05</b>	<b>n.a.</b>

**Cheepurupalli RESCO**

Consumer Category	RESCO		APERC	
	Sales	Revenue	Sales	Revenue
	(MU)	(₹lakhs)	(MU)	(₹lakhs)
LT-I: Domestic	31.48	742.99	25.75	610.47
LT-II: Non-Domestic	3.81	345.95	3.81	373.68
LT-III: Industry	3.79	287.82	3.79	272.61
LT-IV: Cottage Industries	0.00	0.00	0.00	0.00
LT-V: Agriculture	33.97	0.43	33.97	0.30
LT-VI: Street Lighting	2.33	133.85	2.33	135.95
LT-VII: General	0.29	19.72	0.29	17.62
LT-VIII: Temporary				
<b>Total</b>	<b>75.68</b>	<b>1530.76</b>	<b>69.94</b>	<b>1410.63</b>
<b>Power Purchase Quantity</b>	<b>87.00</b>	<b>n.a.</b>	<b>80.40</b>	<b>n.a.</b>

**Kuppam RESCO**

Consumer Category	RESCO		APERC	
	Sales	Revenue	Sales	Revenue
	(MU)	(₹lakhs)	(MU)	(₹lakhs)
LT-I: Domestic	36.12	1085.39	30.42	912.94
LT-II: Non-Domestic	8.55	829.21	8.55	880.49
LT-III: Industry	8.63	678.47	8.63	545.18
LT-IV: Cottage Industries	0.00	0.00	0.00	0.00
LT-V: Agriculture	461.83	130.80	223.78	63.38
LT-VI: Street Lighting	23.09	1159.92	23.09	1220.28
LT-VII: General	0.63	50.41	0.63	50.41
LT-VIII: Temporary	0.23	25.04	0.23	25.04
<b>Total</b>	<b>539.08</b>	<b>3959.24</b>	<b>295.32</b>	<b>3697.72</b>
<b>Power Purchase Quantity</b>	<b>627.05</b>	<b>n.a.</b>	<b>343.52</b>	<b>n.a.</b>