

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present: **Shri. R. Preman Dinaraj, Chairman**
Shri. S. Venugopal, Member
Shri. K. Vikraman Nair, Member

OA 02/2019

In the matter of Application for the approval of ARR& ERC for the control period 2018-19 to 2021-22 filed by M/s Smartcity, Kochi

Applicant(s) : The Chief Executive Officer,
Smart City (Kochi) Infrastructure Private Limited
Smart City Pavilion
Brahmapuram P.O
Kochi 682303

Applicant(s) represented : Sri. Manoj Nair, CEO, Smart City,
Smt. Sini.P.S, Director-Projects
Sri.Jinu John, Director- Finance & Company Secretary
Sri.Ranjithlal, Senior Manager- Asset & Infrastructure

Order dated 08-11-2019

1. M/s Smartcity (Kochi) Infrastructure Private Limited (SCK) (*hereinafter referred to as SCK or the licensee*) is an Information Technology Special Economic Zone in Kochi, Kerala. The Kerala State Electricity Regulatory Commission (*hereinafter referred to as 'the Commission'*) had granted Distribution licence to Smartcity (Kochi) Infrastructure Private Limited vide notification No. 1756/C.Engg/SCK/2013 dated 17-7-2014. The said venture is a joint venture company formed by Government of Kerala (16% holding) and Dubai holding (84% holding) for development of infrastructure for knowledge based industries. The project is spread over an area of 246 acres (99.6 ha) envisions a minimum of 8.8 million sq.ft builtup space, out of which 6.21 million sqft will be specifically utilised for information technology services. The total area of SCK is divided in to Land -A (131.41 acre), Land -B (100.66 acre) and Land -C (13.94 acre). The phase 1, presently operating with 6.5lakh sqft of IT building named SCK-01 and associated infrastructure, came into being in 2016. The licensee has a Power purchase Agreement with KSEB Ltd for contracted demand of 1500 kVA and the present recorded power demand is around 1250 KVA. The licensee presently receives power through one no 11kV feeder from nearby 220 kV Brahmapuram substation of KSEB Ltd. This 11 KV feeder is connected to 2 Nos 2000 KVA transformers and LT distribution system at Smart City utility substation.

This utility substation is operated and maintained by Smart City distribution Licensee. According to the licensee, this 11kV feeder arrangement is on temporary basis, which will be replaced with 33/11kV system.

- M/s Smartcity (Kochi) filed its first petition for approval of ARR& ERC for the control period, 2018-19 to 2021-22 as per the KSERC (Terms and Conditions for Determination of Tariff) Regulation 2018 (*hereinafter referred to as the Regulations*) in the Multi Year Tariff Framework. After the initial scrutiny, the petition was admitted as OA 2/2019. Summary of the petition is as shown below:

Table -1
Summary of the Projected ARR&ERC for the Control period

Particulars	Control Period Estimates			
	2018-19	2019-20	2020-21	2021-22
	Projection (Rs.lakh)	Projection (Rs.lakh)	Projection (Rs.lakh)	Projection (Rs.lakh)
Income				
Revenue from sale of power	230.95	749.44	774.78	1120.09
Other income	2.04	2.09	2.09	2.10
Total income	232.99	751.53	776.87	1122.19
Expenditure				
Purchase of power	228.00	674.00	692.00	974.00
Repairs and Maintenance	27.45	30.20	33.12	36.54
Employee cost	28.28	31.11	34.22	37.64
Administration & General Expenses	11.85	13.04	14.34	15.78
Depreciation	84.00	131.00	131.00	131.00
Return on equity	-	-	-	-
Total Expenditure	379.58	879.35	904.68	1194.96
Revenue Deficit	-146.59	-127.82	-127.81	-72.77

- During the detailed scrutiny of the petition, the Commission has noted several shortcomings in the details furnished in the petition and hence sought clarifications on the petition vide its letter dated 6-2-2019 giving time till 18-2-2019 for furnishing the details. The licensee furnished its clarifications vide letter dated 21-2-2019. While submitting the clarifications, the licensee has revised many components of the ARR furnished as part of the original petition. After receiving the clarifications, the hearing of the petition was conducted at the Conference Hall of Smart City on 22-03-2019. The licensee was represented by Sri. Manoj Nair, CEO, Smart City, Smt. Sini.P.S, Director-Projects, Sri.Jinu John, Director- Finance & Company Secretary and Sri.Ranjithlal, Senior Manager- Asset & Infrastructure. Smt. Sini.P.S presented the details of the application and Sri.Jinu John & Sri.Ranjithlal furnished the clarifications during the hearing.
- During the hearing, KSEB Ltd furnished its comments on the petition. According to KSEB Ltd, the assumptions taken for projection and the base value for projection for the years are not explained in the ARR petition. The O&M expense of the licensee

is to be fixed based on the prudence check conducted on the actual expense during previous years. KSEB Ltd further stated that the distribution loss stated by the licensee for 2017-18 is 4.43% and the loss calculated for the control period is on the higher side considering the consumer base of just about 50 consumers in a confined area. According to KSEB Ltd, the Distribution loss can be reduced to less than 2%. Further, the Power purchase cost projected seems to be unrealistic and the same may be reviewed. KSEB Ltd further submitted that, the eligible GFA is to be approved for claiming depreciation.

5. The Commission, during the hearing sought further clarifications on the petition and directed the licensee to submit the following:
 - The reason for sudden decrease proposed in the distribution loss for the control period in comparison with the actual distribution loss for 2017-18.
 - Distribution loss reduction targets proposed for the control period and its justification.
 - Details of power purchase and connectivity agreements proposed by the licensee.
 - Details of the number of employees for distribution business and their salary
 - Apportionment details of A&G Expenses, R&M Expenses & Employee Cost
 - Details of the Operation & Maintenance contract, number of persons engaged&Annual Maintenance Contract of the licensee, the nature of the contract and the type of work done
 - Mismatch in the claims in the write up and forms submitted are to be addressed (R&M Expenses, A&G expenses)
 - Details of the source of funding of distribution assets
6. The Commission allowed time till 20-4-2019 for the licensee to furnish the additional clarifications and the reply if any on the comments raised by KSEB Ltd. The licensee furnished the details as sought by the Commission on 27-09-2019 The Commission notes that the licensee further revised the figures while furnishing the clarifications.

Analysis and decision of the Commission

Sales and Number of consumers

7. As per Regulation 10 (8) of Tariff Regulations 2018, the applicant/distribution licensee shall develop the forecast of expected revenue from existing charges based on the estimates of contract demand and quantum of electricity to be supplied to the consumers and to be wheeled on behalf of the users of the distribution system for each financial year of the control period. Further, Regulation 71 provides as follows:

71.Sales forecast. –(1) The distribution business/licensee shall submit, along with the petition for approval of Aggregate Revenue Requirement and determination of tariff, a forecast of expected demand and sale of electricity to different categories of consumers and to each consumption slab within each tariff category, in its area of supply for the Control Period.

(2) Sale of electricity, if any, to electricity traders or other distribution licensees shall be separately indicated.

(3) The Commission shall examine the forecasts for its reasonableness based on the growth in number of consumers and consumption per consumer, the demand of electricity in the preceding financial years, anticipated growth in the succeeding financial years and any other factor, which the Commission may consider relevant and approve forecast of sale of electricity to the consumers with such modifications as deemed appropriate.

8. As furnished by the licensee, the licensee started its operations in the year 2016. As per the revised petition, the licensee has projected the number of consumers and sales as shown below:

Table - 2
Projections of number of consumers during the control period

	Number of consumers					
	Actual		Projections			
LT category	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Industrial IT &IT Enabled	0	31	26	30	32	38
Construction	23	0	8	5	3	3
HT Categories						
HT 1 B (SCK01)	1	1	1	1	1	1
HT-VI GENERAL (F) (S G Academy)				1	1	1
HT-VI GENERAL (F)(Sands Infra)				1	1	1
HT-IVB-Industrial IT &IT Enabled						1
Total	24	32	35	38	38	45
<i>Annual increase in no. of consumers</i>		8	3	3	0	7

9. As shown above, the total number of consumer at the end of 2017-18 is 32, which consisting mainly of LT industrial consumers. It is expected that LT IT consumers would increase to 38 from the present level at the end of the control period. In the case of HT consumers, the licensee is expecting to add one consumer each in HT-VI General and HT IV category, during the control period

10. The following table shows the projection of energy sales for the control period

Table -3
Energy sales projections for the control period

	Energy sales (Lakh units)					
	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
LT category						
Industrial IT &IT Enabled	-	9.78	16.72	26.80	28.48	32.68
Construction	1.98	-	4.96	4.96	3.36	3.36
HT Categories	-	-	-	-	-	-
HT 1 B (SCK01)	7.09	10.58	10.58	10.58	10.58	10.58
HT-VI GENERAL (F)(S G Academy)	-	-	-	5.67	5.67	5.67
HT-VI GENERAL (F)(Sands Infra)	-	-	-	27.22	40.82	51.41
HT-IB-Industrial IT &IT Enabled	-	-	-	-	-	24.19
Total	9.07	20.36	32.26	75.22	88.91	127.89
<i>Annual increase</i>		124.5%	58.4%	133.2%	18.2%	43.8%

11. As shown above, since the consumer additions are expected in both LT and HT level, there is drastic increase in sales projected for the control period. The energy sales is projected to increase from 32.26 lakh units in 2018-19 to about 128 lakh units at the end of the control period. As shown above, there is no increase projected under HT I B and HT VI category as no increase in number of consumer is projected under this category. The projections of connected load as per the revised filing is as shown below:

Table - 4
Projections of consumer category wise connected load

	Connected load (KW)					
	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
LT category						
Industrial IT &IT Enabled	0	298	995	1595	1695	1945
Construction	118	0	295	295	200	200
HT Categories						
HT 1 B (SCK01)	350	350	350	350	350	350
HT-VI GENERAL (F)(S G Academy)				250	250	250
HT-VI GENERAL (F)(Sands Infra)				450	675	850
HT-IVB-Industrial IT &IT Enabled						400
Total	468	648	1640	2940	3170	3995
<i>Annual increase (%)</i>		38.5%	153.1%	79.3%	7.8%	26.0%

12. As in the case of sales, similar projection pattern is used for estimating the future connected load requirements for the consumers.

13. The Commission has examined the energy projections of the licensee. Since the operations of the licensee has started recently, there is no considerable historical data available to have a meaningful cross check on the projections. The licensee is in the initial period of operations, the sales projected are erratic and not uniform.

The average annual growth in sales varies from 18% to 133% on a yearly basis. It is also noted that there is no increase in sales projected for HT 1 and HT VI consumers. Under such situation wherein there is lack of details of the historical data, the Commission has analysed the energy sales per kW of connected load. The results are given below:

**Table - 5
Projected Sales per kW of connected load**

LT category	Sales/kW of connected load					
	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Industrial IT &IT Enabled		3,281	1,680	1,680	1,680	1,680
Construction	1,680		1,680	1,680	1,680	1,680
HT Categories						
HT 1 B (SCK01)	2,024	3,024	3,024	3,024	3,024	3,024
HT-VI GENERAL (F)(S G Academy)				2,268	2,268	2,268
HT-VI GENERAL (F)(Sands Infra)				6,048	6,048	6,048
HT-IVB-Industrial IT &IT Enabled						6,048
Total	1,938	3,142	1,967	2,559	2,805	3,201

14. As shown above, the licensee has projected energy sales based on the sales/kW connected load. In the case of LT consumers, 1680 kWh is taken and that of HT I B it was 3024 kWh. The load factor works out to be 19% for LT consumers, 35% for HT 1(B), 69% for HT IV and HT IV consumers. Thus, the licensee has used simplistic assumptions for sales projections, and the projections seems to be optimistic. The licensee has not provided any information in support of the projections. In the absence of better historical details and supporting data, the Commission accepts the sales projections of the licensee for the control period.

Distribution loss

15. As per Regulation 72, the licensee is to provide voltage level distribution loss and distribution loss trajectory for the control period with supporting studies along with the application. The Commission has to approve the target level of losses based on the opening level of losses, the figures filed by licensee and other relevant factors.
16. The licensee in the petition had not submitted any details of distribution loss as required as per the Regulation nor had submitted the details as per the forms specified in the regulations.
17. The licensee has estimated the energy input into the system based on the energy sales projected for the control period. In the initial filing the licensee has projected the distribution loss at 4.43%. However, after the hearing, the licensee has furnished revised data for the sales and purchase of energy and in the said details,

the distribution loss is estimated at 2.20% for the control period. The latest details furnished by the licensee as part of the clarification are as shown below:

Table - 6
Energy sales, input and losses proposed for the control period

Year	Energy purchase (Lakh units)	Energy sales (Lakh Units)	Distribution loss (%)	
2016-17	10.79	9.07	15.98%	Actuals
2017-18	27.29	20.36	25.39%	
2018-19	32.98	32.26	2.20%	Projections
2019-20	76.91	75.22	2.20%	
2020-21	90.91	88.91	2.20%	
2021-22	130.77	127.89	2.20%	

18. The Commission has examined the details furnished by the licensee. At present, the licensee receives the power from one 11kV feeder from nearby Brahmapuram substation of KSEB Ltd. This feeder is connected to 2 nos of 2000kVA and LT distribution system of the licensee. It can be seen that in 2016-17 and 2017-18 the distribution loss recorded was to the tune of 16% and 25% respectively, which is substantially high. The licensee also stated that the present power supply arrangement is temporary and since the estimated power requirements in 2020 would be about 5 to 6 MVA, construction of 2 nos of 33/11kV substations in Land A and Land B has commenced in order to source power from the 220 kV/33kV substation of Infopark.
19. In the letter dated 27-09-2019, the licensee has proposed that the distribution loss for the control period would be 2.2% since the licensee is planning to switch over to distribution voltage level of 33kV. However, there are no additional details given for substantiating the estimated loss. Further, according to the licensee, higher losses in the past is due to the low consumer base and connected load and the no load loss of the transformers resulting in high distribution loss.
20. Based on the details furnished and the reasons given by the licensee it is established that the licensee is still in an evolving system and sufficient measures have not been taken to analyse the level of losses in the system. Though the licensee has claimed that connected load would increase to 5 to 6 MVA in 2020, the projections of consumers connected load for the control period is much lower. The licensee has stated that there is a plan to shift the distribution system from the present, though no time line has been given. In its absence, the Commission is not in a position to realistically assess the distribution loss for the licensee. The licensee has projected increase in the number of consumer especially 1 to 3 new HT connections during the control period, resulting in increase in loading. Hence the

Commission is of the considered view that for the purpose of approving the ARR for the control period, the loss level proposed by the licensee ie., 2.2% is taken during the control period. Accordingly the approved energy input and distribution loss is as shown below:

Table - 7
Distribution loss approved for the control period

Particulars	2018-19	2019-20	2020-21	2021-22
Energy sales (lakh units)	32.26	75.22	88.91	127.89
Energy input (lakh units)	32.98	76.91	90.91	130.77
Distribution loss (lakh units)	0.73	1.69	2.00	2.88
Distribution loss (%)	2.20%	2.20%	2.20%	2.20%

Power purchase cost

21. As per Regulation 75, the licensee has to submit a power procurement plan for the control period consistent with the sales forecast of unrestricted demand for electricity within the area of supply from each tariff category over each financial year. Tariff for estimating the cost of power purchase shall be the tariff determined by the Commission for such purchase. Hence, the power purchase cost shall be based on the forecast of sales and existing approved tariff. The licensee has projected the power purchase cost based on the pre-revised BST for the control period as shown below:

Table - 8
Power purchase cost projected for the control period

	Energy purchase (lakh units)	Fixed Charges (Rs.lakhs)	Energy charges (Rs. Lakhs)	Bank Charges (Rs.lakhs)	Total Charges (Rs.lakhs)
2016-17	10.79	40.50	59.90	-	100.40
2017-18	27.29	40.50	150.19	-	190.69
2018-19	32.98	43.20	181.40	3.11	227.71
2019-20	76.91	81.00	446.87	3.91	531.78
2020-21	90.91	81.00	528.21	4.16	613.37
2021-22	130.77	108.00	759.76	4.85	872.61

22. The Commission vide order dated 08-07-2019 in OA No.15/2018 has revised the BST applicable for the purchase of power by the licensee from KSEB Ltd as shown below.

	Demand charges	Energy Charges
Pre-revised Tariff	Rs.300/kVA	Rs.5.50/kWh
Revised Tariff (wef 08-07-2019)	Rs.340/kVA	Rs.5.65/kWh

23. Based on the revision of BST, the licensee had estimated the power purchase cost for the remaining three years of the control period, keeping the pre-revised estimates for 2018-19 as shown below:

Table - 9
Revised power purchase cost for the control period

Particulars	2018-19	2019-20	2020-21	2021-22
	Pre-revised	Revised Tariff	Revised Tariff	Revised Tariff
Energy Purchase(MU)	32.98	76.91	90.91	130.77
Maximum Demand(kVA)	1250	3000	3000	4000
Contract Demand(KVA)	1500	3000	4000	5000
Demand Charges(Rs)	300	340	340	340
Total Demand Charges(Rs lakh)	43.20	89.10	91.80	122.40
Energy Charges (Rs./kwh)	5.50	5.65	5.65	5.65
Wheeling Charge (Rs./Kwh)		0.55	0.55	0.55
Total unit energy Charge	5.50	6.20	6.20	6.20
Total energy charges(Rs lakh)	181.40	468.81	563.67	810.75
Total Purchase Charges	224.60	557.91	655.47	933.15

24. It is seen that in the initial filing, the licensee has included bank charges as part of the power purchase cost. The licensee had not provided details of the bank charges proposed as part of the power purchase cost. However in the revised filing the same has been excluded and wheeling charges has been included. Since the licensee has proposed to change the interconnection point of energy drawal from Brahmapuram substation to Infopark, the wheeling charges approved for the open access consumers has been included. The licensee has also proposed that the contract demand would be increased during the control period to cater to the projected demand growth. While calculating the fixed charges, the licensee has taken only 75% of the contract demand.
25. The Commission has examined the estimation of the licensee. The licensee has estimated the power purchase cost including the wheeling charges in anticipation of the changes in drawal point. However the licensee has adopted the wheeling charge of Rs.0.55/kWh which is the KSEB wheeling charge for Open Access consumers. Since the licensee is proposing to use the substation at Infopark and the Commission is yet to fix the wheeling charges for Infopark, the Commission has not considered the same at present while approving the power purchase cost. The wheeling charges if any applicable for change in the drawal point will be considered as and when the same is approved. Further, the licensee has estimated that the contract demand will be increased to 5000 kVA at the end of the control period. However, the licensee has now requested KSEB Ltd to increase the contract demand to 3000kVA for which the Commission has given approval. Further, as per the projections of the licensee the total connected load estimated at the end of the control period is below 4000kVA. Hence, the Commission is of the view that for the purpose of estimating the power purchase cost contract demand of 3000kVA only needs to be considered. Accordingly, the approved power purchase cost is as shown below:

Table - 10
Approved power purchase cost for the control period

Particulars	2018-19	2019-20	2020-21	2021-22
	Pre-revised	Revised Tariff	Revised Tariff	Revised Tariff
Energy Purchase(MU)	32.98	76.91	90.91	130.77
Contract Demand(KVA)	1,500.00	3,000.00	3,000.00	3,000.00
75% of the contract demand (kVA)	1,125.00	2,250.00	2,250.00	2,250.00
Demand Charges(Rs/kVA)	300.00	300/340.00	340.00	340.00
Total Demand Charges(RS lakh)	43.20	89.10	91.80	91.80
Energy Charges (Rs./kwh)	5.50	5.65	5.65	5.65
Total energy charges(Rs lakh)	181.40	431.68	513.66	738.83
Total Purchase Charges (Rs. Lakhs)	224.60	520.78	605.46	830.63

O&M expenses

26. O&M expenses relating to the distribution licensees are referred to in Regulation 79 of the Tariff Regulations 2018. . As per Regulation 5 the norms of operation specified under these Regulations are the ceiling norms. However, in the said Regulations, norms for O&M expenses of the licensee M/s SCK has not been specified.
27. The licensee has estimated the O&M expenses separately for R&M expenses, A&G expenses and employee expenses. The Commission has not determined the O&M expenses for the licensee in the Regulations. The proposed O&M expenses by the licensee is as shown below:

Table - 11
O&M costs projected by the licensee for the control period

Particulars	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs
Employee expenses	32.89	18.75	31.01	34.12	37.53	41.28
A&G expenses	11.93	11.45	16.51	32.32	35.55	39.11
R&M expenses	10.76	10.86	14.94	64.01	70.41	77.45
Total O&M expenses	55.59	41.05	62.46	130.44	143.49	157.84
%increase		-26%	52%	109%	10%	10%
Per unit O&M cost (Rs./kWh)	6.13	2.02	1.94	1.73	1.61	1.23

28. As per the details furnished by the licensee, for the control period 10% increase in O&M cost is proposed for the last 3 years of the control period. The per unit cost works out to be more than Rs.1/unit for the control period though the same is decreasing owing to sales increase. The justification given by the licensee for each of the item is given below:

Employee expenses

For the purpose of employee costs, the licensee has proposed the expenses of a resident engineer, an accountant and an engineer towards the distribution business. The details of the projections given by the licensee is as shown below:

Table - 12
Employee costs projected by the Licensee for the control period

Particulars	Actual	Actual	Projection	Projection	Projection	Projection
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Basic Pay	15.33	10.00	12.24	13.46	14.81	16.29
HRA	7.67	5.80	7.33	8.07	8.87	9.76
Conveyance	4.24	2.80	3.02	3.33	3.66	4.02
Other Allowances	9.05	5.81	5.69	6.26	6.88	7.57
PF Employer Contr.	2.05	1.09	1.59	1.75	1.93	2.12
Gratuity	0.57	0.27	0.59	0.65	0.71	0.78
Medical Insurance / Expenses	-	0.19	0.45	0.50	0.54	0.60
Life Insurance / Expenses	-	0.09	0.10	0.11	0.12	0.13
Total	38.90	26.05	31.01	34.12	37.53	41.28
Less: Staff Cost Capitalization	-6.01	-7.30	-	-	-	-
Balance debited in P&L A/c	32.89	18.75	31.01	34.12	37.53	41.28
Increase (%)		-43%	65%	10%	10%	10%

30. As per the details furnished by the licensee, employee cost for the control period was estimated for three persons viz., resident engineer, accountant and an engineer. For the last three years of the control period 10% increase over the previous year was taken. However, for the first year 65% increase in cost was considered. The historical details shows that there is a decrease in employee cost from 2016-17 to 2017-18. The reason furnished by the licensee is that in the year 2016-17, senior staff was employed for project implementation, which led to higher employee cost.

31. The details furnished by the licensee are examined. The licensee has projected 65% increase in employee cost for the year 2018-19 from the previous year actuals. Further, the licensee has capitalised about 28% of the employee cost in 2017-18, whereas the same was not considered for the other control period estimates. If the same is considered, the rate of increase would be considerably lower as shown below:

Table - 13
Employee cost estimates for the control period

	2017-18	2018-19	2019-20	2020-21	2021-22
Total employee cost (Rs. Lakh)	26.05	31.01	34.12	37.53	41.28
Employee cost capitalised (Rs.lakh)	-7.30	-8.69	-9.56	-10.52	-11.57
Capitalisation %	-28%	-28%	-28%	-28%	-28%
Balance charged to P&L A/c (Rs.lakh)	18.75	22.32	24.56	27.01	29.71
Percentage increase (%)		19%	10%	10%	10%

32. Prima facie, the projections given by the licensee is high, much more than the average level inflation. The licensee has at present only minimum level of operations as reflected in the sales and projections of the consumers. The licensee has fully allocated the employee cost to the distribution business, which is also doubtful considering the level of operations at present.

R&M expenses

33. The licensee has stated that the R&M works are generally outsourced based on competitive tenders. The outsourced shift staff is used for breakdown maintenance also. Since the defect liability period is over for many systems, the AMC contracts is signed with contractor finalised through competitive bidding process. The licensee has in the initial estimates projected the R&M costs as shown below:

Table -14
R&M cost estimated by the licensee for the control period

Year	R&M costs (Rs. Lakh)
2018-19	27.45
2019-20	30.2
2020-21	33.12
2021-22	36.54

34. The above projections were completely revised and in the revised projections R&M expenses is projected as shown below:

Table - 15
Revised Projections of R&M expenses

Particulars	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Rs. lakh	Rs. Lakh	Rs. lakh	Rs. lakh	Rs. lakh	Rs. lakh
R &M_Plant& Machinery				14.45	15.90	17.48
R &M Buildings	0.46			3.00	3.30	3.63
Annual Maintenance Contract				6.88	7.57	8.33
Operations & Maintenance Contract	10.30	10.86	14.94	39.68	43.65	48.01
Total	10.76	10.86	14.94	64.01	70.41	77.45

35. As can be seen that the actual R&M booked for the year 2017-18 is only Rs.10.86lakhs. Whereas for the last three years of the control period, the licensee has estimated the R&M expenses 6 to 7 times higher than the actuals. The items proposed for the year 2019-20 was escalated at 10% for the rest of the years. The estimation for the year 2019-20 for various items are as shown below:

Table - 16
Projections of R&M of Plant and Machinery for 2019-20

Particulars	Rs. Lakh
Replacement of UPS batteries	3.60
APFC panel Rectification	0.75
Relays, VCBs ,ACB testing	1.50
PTs and CTs testing& replacement	1.60
Meter Calibration	1.00
SS spares	6.00
Total	14.45

36. As shown above, some of these items are capital in nature and 10% escalation is used for projecting for the rest of the control period. In this context it may be noted that the chance of recurrence of such items for the rest of the control period is also remote. The licensee has projected the AMC cost for the control period as shown below:

Table - 17
Projections of cost for AMC

	Rs. Lakh
HT Panel @ SCK 01	2.29
UPS	0.59
Substation	4.00
Total	6.88

37. Under the heading O&M contract, the projections of the licensee is as shown below:

Table - 18
O&M contracting cost for the control period projected

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Operations & Maintenance Contract	10.30	10.86	14.94	39.68	43.65	48.01
Outsourcing of metering and billing system	1.10	1.44	1.98	2.18	2.40	2.64
Total	11.40	12.30	16.92	41.86	46.04	50.65

38. In order to undertake the maintenance, the licensee has proposed following personnel which they propose to outsource:

Table -19
No. of persons proposed for R&M

	Actual		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Tech. Executive	1	1	1	1	1	1
Billing Staff	1	1	1	1	1	1
Technical	1	2	2	2	2	2
Sr. Tech Eng.				1	1	1
Electrician	4	4	4	12	12	12
Total	7	8	8	17	17	17

39. The Commission has examined the details furnished by the licensee. The proposed R&M expense of the licensee is comparatively higher than other utilities. It is also a fact that the staff requirement projections of the licensee is not commensurate with the present operations of the licensee. At present the licensee has 4 electricians and the same is proposed to be increased by three times (12) for the subsequent years of the control period. However, it can be seen that the operations can be managed with lesser staff even it is considered three shift duty. The outsourced staff along with other regular employees, even exceeds the number of consumers in the system. Further, the Commission has also noted that separate billing staff is proposed for about 45 consumers in the licence area. Hence, the Commission is of

the view that projection on the number of employees is comparatively high and not commensurate to the increase in operations. Hence the Commission is constrained to comment that such high cost cannot be allowed to be passed on to the consumers.

A&G expenses

40. Similar to the other components of O&M expenses, the licensee has also projected the A&G expense initially as shown below:

Table - 20
Initial Projections of A&G expenses

Year	Rs.Lakh
2018-19	11.85
2019-20	13.04
2020-21	14.34
2021-22	15.78

41. The above estimates were revised subsequently and the revised projections are given below:

Table - 21
Revised A&G expenses projections

	Apportionment %	2017-18 (Actual)	2018-19	2019-20	2020-21	2021-22
Particulars	%	Amount (Electrical)	Projection	Projection	Projection	Projection
Insurance	100%	1.04	1.04	1.14	1.26	1.38
Telephone & Postage, etc.	15%	0.27	0.27	0.30	0.33	0.36
Audit Fees	0%	-	1.00	1.10	1.21	1.33
Consultancy charges	0%	-	1.00	1.10	1.21	1.33
Periodical Inspection charges	0%	-	2.50	2.75	3.03	3.33
Conveyance	100%	1.01	1.11	1.22	1.34	1.47
Electricity charges	10%	0.74	0.66	0.73	0.80	0.88
Water charges	10%	0.07	0.07	0.08	0.09	0.10
Fees & subscription	0%	-	1.93	2.12	2.34	2.57
Printing & Stationery	15%	0.13	0.05	0.60	0.66	0.73
Bank Charges	100%	1.01	0.07	0.75	0.82	0.90
Office Expenses	15%	0.52	0.58	0.63	0.70	0.77
License Fee and other related fee	100%	0.03	0.04	0.05	0.05	0.06
Outsourcing of metering and billing system	100%	1.44	1.98	2.18	2.40	2.64
V-sat, Internet and related charges	15%	0.29	0.28	0.31	0.34	0.38
Security arrangements	100%	4.90	3.92	17.26	18.99	20.89
Gross A&G Expenses		11.45	16.51	32.32	35.55	39.11

42. As shown above, except for telephone & postage charges, electricity charges, water charges, printing & stationary, office expenses and V-sat, internet charges all other expenses are fully loaded in to the distribution business.
43. The Commission has examined the projections of the licensee. The apportionment method used and the amount projected is much higher than the actuals for the previous years. The actual amount of A&G expenses booked for the year 2017-18 was Rs.11.45 lakhs whereas the same is projected to be about three time for the year 2019-20. The Commission is not in a position to approve such high level of controllable expenses. The Commission also notes that the apportionment method used by the licensee is not rational and expenses are to be allocated in a rational manner among the business.
44. Considering the unreasonable projections of the licensee on O&M expenses, the Commission is of the view that the expenses have to be benchmarked to the actual expenses in 2017-18. Accordingly, the actual expenses is escalated at the approved escalation rate of 4.84% for the control period for approving the O&M expenses.

Table - 22
Approved O&M expenses for the control period

	Actual	Approved O&M expenses			
	2017-18	2018-19	2019-20	2020-21	2021-22
	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh
Employee expenses	18.75	43.05	45.13	47.32	49.61
A&G expenses	11.45				
R&M expenses	10.86				
Total O&M expenses	41.05	43.05	45.13	47.32	49.61

Depreciation

45. The licensee has proposed the depreciation of Rs.84 lakhs for 2018-19 and Rs.130.9 lakhs for the remaining period of the control period, which is inclusive of the depreciation for 11kV/ 430V system and the proposed 33kV/11kV distribution system. The licensee has stated in the petition that the licensee has already completed two 33/11kV substation and laying of 33kV cables from the Infopark 220kV substation. The estimated cost for the substation is Rs.7.05 crore and for laying cables is Rs.3.67 crore.

Table - 23
Capital expenditure addition proposed in the petition

	Actual/ estimated Capitalization Date	Initial value (Rs. Lakh)	Asset Addition proposed				Total (Rs. Lakh)
			2015-16 (Rs. Lakh)	2016-17 (Rs. Lakh)	2017-18 (Rs. Lakh)	2019-20 (Rs. Lakh)	
Land & land rights	23-02-2011	63.41					63.41
Other Civil works	01-04-2019					274.00	274.00

HV Distribution system	01-04-2019					474.33	474.33
Sub-station equipments	01-04-2019		794.21			875.00	1,669.21
Distribution lines	20-02-2016		81.27				81.27
IT Equipments	15-12-2016/ 17-02-2017			1.67	0.19		1.86
Gross Asset		63.41	875.48	1.67	0.19	1,623.33	2,564.09
Gross at the end of the year		63.41	938.90	940.57	940.76	2,564.09	

46. As shown above, the licensee is proposing addition of assets to the tune of Rs.1633.33 lakh during the year 2019-20, which is inclusive of HV distribution system and substation equipment. However no proposal for this capital expenditure with details have been made before the Commission. Under such circumstances, the Commission is constrained not to allow any depreciation for the capital expenditure incurred so far and for the proposed expenditure during the control period. The licensee is hereby directed to file complete details of all capital expenditure, both expended and proposed if they intend to avail the benefits of depreciation.

47. The depreciation estimated by the licensee is as shown below:

Table - 24
Depreciation estimated for the control period

Particulars	Actuals		Projections			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Rs.lakh	Rs.lakh	Rs.lakh	Rs.lakh	Rs.lakh	Rs.lakh
Land & land rights	0.64	0.64	0.64	0.64	0.64	0.64
Other Civil works	-	-	-	9.15	9.15	9.15
HV Distribution system	-	-	-	25.04	25.04	25.04
Sub-station equipment	-	-	-	46.20	46.20	46.20
Distribution lines	4.02	4.27	4.29	4.29	4.29	4.29
Sub-station equipment	40.19	40.63	41.93	41.93	41.93	41.93
IT Equipment	0.03	0.12	0.12	0.12	0.12	0.12
IT Equipment	0.01	0.14	0.15	0.15	0.15	0.15
Total	44.89	45.80	47.15	127.54	127.54	127.54

48. The licensee has stated in the clarification dated 21-2-2019 that the share holding of the smart city and the licensee business. The licensee business is fully owned by the Smart city infrastructure private limited, whereas the shareholding pattern in Smart city infrastructure jointly held by Smartcity (India) FZ LLC and Government of Kerala in the ratio of 84:16 respectively. The source of funding is stated as the term loan and internal accruals of the holding company.

49. The Commission has examined the details furnished by the licensee. The GFA at the beginning of the control period is Rs.940.76 lakh, whereas the same is proposed to be increased to Rs.2564.09 lakh. In this context, the licensee has not

yet approached the Commission for details of capital expenditure programme or approval. As per the provisions of the conditions of the licence, the licensee has to take prior approval of the investments made for the distribution system. The Commission notes that the capital expenditure of Rs. 940.76 lakh has been made by the licensee without obtaining the approval of the Commission. This is a serious lapse on the part of the licensee. In addition, in the present petition also, the licensee could not provide the details as required under the Regulation, except mentioning the name of the works. Considering this position, the Commission is of the view that depreciation may be approved only after finally approving the capital investment

Interest and financing charges

50. In the initial petition, the licensee has not proposed any interest and financing charges. However, in the revised filing, the licensee has estimated the interest on normative loan, however the same has not been used for estimating the ARR. Since the licensee has furnished its estimations, the same has been reproduced as shown below:

Table - 25
Interest on normative loan estimated by the licensee

		2018-19	2019-20	2020-21	2021-22
Gross Loan -Opening	Rs. Lakh	203.79	749.44	744.26	739.09
Cumulative repayments of Loans upto previous year	Rs. Lakh	-	-	-	-
Net loan-Opening	Rs. Lakh	-	-	-	-
Add: Drawal(s) during the Year	Rs. Lakh	556.00	-	-	-
Less: Repayment (s) of Loans during the year	Rs. Lakh	-10.35	-10.35	-10.35	-10.35
Net loan – Closing	Rs. Lakh	749.44	739.09	733.91	728.73
Average Net Loan	Rs. Lakh	476.61	744.26	739.09	733.91
Rate of Interest on Loan on annual basis	%	9.70%	9.70%	9.70%	9.70%
Interest on loan	Rs. Lakh	36.35	71.69	70.69	69.68

51. The Commission has sought the details of funding for assets of the licensee. The licensee in its reply dated 27-09-2019 stated that the source of funds are the term loan and internal accruals of the holding company. However, the licensee has not given any details of the actual interest paid or terms of loan for the business.

52. As per Regulation 29, interest is to be allowed based on normative loan. As per Regulation 29(2) opening normative loan is to be arrived at based on the cumulative repayment/depreciation. Since the licensee has not yet obtained any formal approval for the capital investments, the Commission is not in a position to allow interest on normative loan. The Commission directs the licensee to submit complete documents and is of the considered view that interest charges may be approved only after finally approving the capital investment

Interest on security deposit and interest on working capital

53. The licensee has stated that up to February 2019, conventional billing method was followed and from February 2019, the licensee has installed pre-paid metering system. Since the licensee is following pre-paid metering system, there is no requirement of working capital and interest on working capital is not allowed as per the provisions of the Regulations.

Return on equity

54. The licensee has not sought any return on equity, but in the revised filings, return on equity was estimated as shown below:

Table - 26
Return on equity estimated by the licensee

		2018-19	2019-20	2020-21	2021-22
		Rs.lakh	Rs.lakh	Rs.lakh	Rs.lakh
Equity at the beginning of the year		2848.99	2848.99	2848.99	2848.99
Capitalisation		-	-	-	-
Equity portion of capitalisation		-			
Equity at the end of the year		2848.99	2848.99	2848.99	2848.99
Return Computation					
Return on Equity for equity portion(30%)	(1)*30%*14%	119.66	119.66	119.66	119.66
Return on Equity for normative loan portion(70%)	(1)*70%*9.7%	193.45	193.45	193.45	193.45
Total Return on Equity	(5)+(6)	313.10	313.10	313.10	313.10

55. The Commission notes that as per the submissions of the licensee, the entire assets are funded by the term loan and internal accruals. The licensee has not furnished the details of actual equity invested in the business. Further as per the provisions of the Regulations, Return on equity is allowed on the paid up equity capital. The licensee has not furnished the details of equity earmarked for the distribution business. Hence there is no return on equity allowed for the licensee. The same can be considered once the relevant details are made available.

Revenue from tariff

56. The revenue from sale of power estimated by the licensee in the initial filing is as shown below:

Table -27
Revenue from sale of power for the control period

Year	Rs. Lakh
2018-19	230.95
2019-20	749.44
2020-21	774.44
2021-22	1120.09

57. The Commission in its order dated 8-7-2019 had revised the retail supply tariff for the consumer categories across Kerala. Based on the revised tariff, the licensee has revised the revenue from sale of power. The revised estimates of revenue from different consumer categories are as shown below:

Table - 28
Revised estimated revenue from sale of power

Consumer categories	Sales (Lakh units)				Revenue (in Lakh)			
	2018-19	2019-20	2020-21	2021-22	2018-19	2019-20	2020-21	2021-22
LT-IV-B	16.72	26.80	28.47	32.68	114.44	185.19	198.42	227.75
LT VI- F	4.96	4.96	3.36	3.36	48.85	49.38	33.60	33.60
HT-IB	10.58	10.58	10.58	34.78	0.00	73.72	74.74	233.34
HT-II B	0.00	32.89	46.49	57.08	67.66	581.78	696.75	972.05
Total	32.26	75.22	88.91	127.89	230.95	890.06	1003.51	1466.75

58. The Commission has examined the revenue projections of the licensee. There are few discrepancies noted in the estimation of the revenue from sale of power. The average tariff worked out is substantially high rendering the estimation doubtful as shown below.

Table - 29
Average Tariff based on the projections of the Licensee

Consumer categories	Average Tariff (Rs./kWh)			
	2018-19	2019-20	2020-21	2021-22
LT-IV-B	6.85	6.91	6.97	6.97
LT VI- F	9.86	9.96	10.00	10.00
HT-IB	-	6.97	7.06	6.71
HT-II B		17.69	14.99	17.03
Total	7.16	11.83	11.29	11.47

59. As shown above, the estimation of the average tariff to be realized from sale of power at Rs.17.69 for HT II B among others does not appear to be realistic. Thus, the Commission has worked out the income from sale of power based on the approved sales and other parameters as shown below:

Table -30
Approved estimation of Revenue from sale of power

	2018-19	2019-20	2020-21	2021-22
LT category	Rs.lakh	Rs.lakh	Rs.lakh	Rs.lakh
Industrial IT &IT Enabled	118.21	200.01	212.55	243.90
Construction	48.85	49.56	33.60	33.60
HT Categories	-	-	-	-
HT 1 B (SCK01)	73.99	78.31	78.31	78.31
HT-VI GENERAL (F)(S G Academy)	-	54.59	54.59	54.59
HT-VI GENERAL (F)(Sands Infra)	-	222.44	333.66	420.16
HT-IVB-Industrial IT &IT Enabled	-	-	-	162.68
Total	241.05	604.91	712.71	993.25

Non -Tariff income

60. The licensee in its petition stated that Rs.30 lakh has been paid as security deposit for availing power connection from KSEB Ltd. The interest on this amount would be the non-tariff income. As per the revised filing, the non-tariff income estimated by the licensee is as shown below:

**Table - 31
Non-Tariff Income**

Particulars	Actual		Projected			
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh
Interest on security deposits	5.35	6.32	2.03	2.03	2.03	2.03
Commission for collection of electricity duty	-	-	0.16	0.25	0.26	0.29
Interest on delayed or deferred payment of bills	-	0.04	-	-	-	-
Total	5.35	6.36	2.18	2.27	2.28	2.32

61. The Commission examined the estimates of the licensee. For the control period, the income projected includes the interest on security deposit and commission for electricity duty. The actual non-tariff income for the year 2017-18 Rs.6.36 lakh. The Commission notes that the non-tariff income cannot be lower than the actuals. Hence the non-tariff income for the control period is taken in the same level as 2017-18.

62. Based on the above, the approved ARR&ERC for the control period is as shown below:

**Table-32
Approved ARR & ERC for the control period**

Particulars	2018-19		2019-20		2020-21		2021-22	
	Projection Rs. Lakh	Approved Rs. Lakh	Projection Rs. Lakh	Approved Rs. Lakh	Projection Rs. Lakh	Approved Rs. Lakh	Projection Rs. Lakh	Approved Rs. Lakh
Income								
Revenue from sale of power	230.95	241.05	749.44	604.91	774.78	712.71	1,120.09	993.25
Other income	2.04	6.36	2.09	6.36	2.09	6.36	2.10	6.36
Total income	232.99	247.41	751.53	611.27	776.87	719.07	1,122.19	999.61
Expenditure								
Purchase of power	228.00	224.60	674.00	520.78	692.00	605.46	974.00	830.63
O&M Expenses	67.58	43.05	74.35	45.13	81.68	47.32	89.96	49.61
Interest and financing charges	-	-	-	-	-	-	-	-
Depreciation	84.00	-	131.00	-	131.00	-	131.00	-
Return on equity	-	-	-	-	-	-	-	-
Total Expenditure	379.58	267.65	879.35	565.91	904.68	652.78	1,194.96	880.24
Revenue (Deficit)/surplus	(146.59)	(20.24)	(127.82)	45.36	(127.81)	66.29	(72.77)	119.37

Orders of the Commission

63. The Commission considered the application for approval of ARR & ERC for the Control Period 2018-19 to 2021-22, the additional clarifications and submissions furnished by the licensee along with the comments of KSEB Ltd. Accordingly the approved the ARR & ERC for the Control Period 2018-19 to 2021-22 are as shown below.

Particulars	2018-19	2019-20	2020-21	2021-22
	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh
Total Income	247.41	611.27	719.07	999.61
Total Expenditure	267.65	565.91	652.78	880.24
Revenue Surplus (+)/ Gap (-)	(-)20.24	(+)45.36	(+)66.29	(+)119.37

Directions

64. The Commission issues following directives for compliance.
- The licensee shall record and monitor the distribution losses periodically and report the same on an annual basis to the Commission.
 - The licensee shall furnish complete details of all capital expenditure, both expended and proposed for obtaining formal approval from the Commission
 - The licensee shall optimize the O&M expenses so as to reduce the distribution costs
 - The licensee shall while preparing the accounts the licenced business, proper apportionment methods for apportioning any joint costs. The rationale for assignment shall also be reported.
65. With the above, the Petition is disposed of.

Ordered accordingly.

Sd/-
K.Vikraman Nair
Member

Sd/-
S.Venugopal
Member

Sd/-
Preman Dinaraj
Chairman

Approved for issue
Sd/-
G.Jyothichudan
Secretary