

**KERALA STATE ELECTRICITY REGULATORY COMMISSION**

**THIRUVANANTHAPURAM**

**Application No :OA 7/2019**

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

**In the matter of Determination of ARR & ERC of M/s Cochin Port Trust (CoPT) for the Control Period 2018-19 to 2021-22**

**Applicant: M/s Cochin Port Trust (CoPT)**

**Order Dated 30-10-2019**

1. M/s Cochin Port Trust (hereinafter referred to as CoPT or the licensee) is a deemed distribution licensee under the proviso to Section 14 of Electricity Act 2003. Commission has granted permission to CPT to extend its power distribution area to the Special Economic Zones at Vallarpadam and Puthuvypeen in Ernakulam District in Kerala State. The Distribution Business Unit of CoPT performs the distribution of electricity across the entire W/Island area, Vallarpadam and Puthuvypin areas. CPT is having 2 power injection points, one at Willington island area under 110KV system with contract demand of 6500 KVA and another is at Vallarpadam SEZ area under 11 KV with contract demand of 3000 KVA.
2. The Commission had notified the KSERC (Terms and Conditions for Determination of Tariff) Regulations (hereinafter referred to as Tariff Regulations, 2018) on 26-10-2018. Regulation 10(1) of the said regulations mandates the filing of the petition for approval of Aggregate Revenue Requirement and determination of tariff for each year of the Control Period, 2018-19 to 2021-22 and the petitions for truing up of accounts. The licensee has filed the petition on ARR & ERC for the control period, as per the Tariff Regulations, 2018 in the Multi Year Tariff Framework. A summary of the projections given in the Petition is as shown below:

**Table – 1**  
**Comparative Statement of ARR & ERC**

Particulars	Previous Years			Control Period Estimates			
	2016-17	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Petition for truing up (Rs. lakh)	Approved in truing up (Rs. lakh)	Petition for truing up (Rs. lakh)	Projection (Rs. lakh)	Projection (Rs. lakh)	Projection (Rs. lakh)	Projection (Rs. lakh)
Power Purchase Cost	2380.99	2380.99	2353.63	2368.67	2402.43	2448.86	2539.53
R&M Expenses	22.58	9.97	11.37	27.34	27.89	28.44	29.01
Employee cost	867.30	331.55	904.32	948.60	859.84	879.60	948.89
A&G Expenses	88.12	53.60	83.36	87.50	89.25	91.03	92.86
Interest and finance charges on long term loans	619.85	-	193.22	375.30	413.31	425.38	425.38
Interest on Working Capital	-	-	-	342.61	458.04	559.53	656.65
Interest on consumer security deposits	33.35	33.35	29.31	31.31	31.31	31.31	31.31
Depreciation	205.18	179.13	181.02	208.52	208.50	227.52	177.00
Return on equity	86.64	86.97	81.72	74.81	70.06	77.22	74.66
<b>Total Expenditure</b>	<b>4304.01</b>	<b>3075.56</b>	<b>3837.95</b>	<b>4464.66</b>	<b>4560.63</b>	<b>4768.89</b>	<b>4975.29</b>
Revenue from sale of power	3012.30	3012.30	2947.54	2868.91	3082.61	3289.32	3488.56
Other income	40.27	390.43	39.49	43.75	43.75	43.75	43.75
<b>Total income</b>	<b>3052.57</b>	<b>3402.73</b>	<b>2987.03</b>	<b>2912.66</b>	<b>3126.36</b>	<b>3333.07</b>	<b>3532.31</b>
<b>Net Surplus/(Deficit)</b>	<b>(1251.46)</b>	<b>327.17</b>	<b>(850.92)</b>	<b>(1552.02)</b>	<b>(1434.28)</b>	<b>(1435.83)</b>	<b>(1442.98)</b>

3. The licensee proposes revenue gap for each year of the control period. The Commission vide letter dated 27-02-2019 had sought clarifications on the petition. The licensee vide letter No.FD/Costing/ARR-ERC 2018-19 to 2021-22/2019 dated 29-04-2019 had submitted the details. The licensee made revisions on the power purchase cost, interest on working capital and non-tariff income for each year of the control period. Power purchase cost was revised by the licensee as they had not considered solar generation and open access as part of power purchase cost. The interest on working capital was not computed as per the Tariff Regulations which was revised. The revised ARR & ERC furnished by the licensee tabulated hereunder.

**Table – 2**  
**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)
Power Purchase Cost	2368.67	<b>2536.75</b>	<b>2681.67</b>	<b>2812.25</b>
R&M Expenses	27.34	27.89	28.44	29.01
Employee cost	948.60	859.84	879.60	948.89
A&G Expenses	87.50	89.25	91.03	92.86
Interest and finance charges on long term loans	375.30	413.31	425.38	425.38

Interest on Working Capital	<b>7.23</b>	<b>10.07</b>	<b>13.70</b>	<b>17.61</b>
Interest on consumer security deposits	31.31	31.31	31.31	31.31
Depreciation	208.52	208.50	227.52	177.00
Return on equity	74.81	70.06	77.22	74.66
<b>Total Expenditure</b>	<b>4129.28</b>	<b>4246.98</b>	<b>4455.87</b>	<b>4608.97</b>
Revenue from sale of power	2868.91	3082.61	3289.32	3488.56
Other income	45.64	45.75	45.75	45.75
<b>Total income</b>	<b>2914.55</b>	<b>3128.36</b>	<b>3335.07</b>	<b>3534.31</b>
<b>Net Surplus/(Deficit)</b>	<b>(1214.73)</b>	<b>(1118.62)</b>	<b>(1120.80)</b>	<b>(1074.66)</b>

4. After considering the revisions and the clarifications submitted, the petition was admitted as OA7/2019.

### Hearing on the Matter

5. The public hearing on the application for the approval of ARR& ERC for the control period 2018-19 to 2021-22 was conducted at the office of the CoPT on 10-05-2019. The licensee was represented by Sri. B. Bhagyanath, Financial Adviser and Chief Accounts Officer, Smt. Rajashree Dabke, Senior Deputy Chief Accounts Officer, Sri. M.M. Abdul Rahim, Superintending Engineer (Electrical), Smt. Archana Viswanathan, Accounts Officer and other officers of the licensee. Sri. M.M. Abdul Rahim presented the details of the application. Sri. B. Bhagyanath and Sri. M.M. Abdul Rahim responded to the queries of the Commission. The main points submitted in the petition are briefed below.
- The licensee has projected increase in the sales during the control period where as the number of consumers are decreasing year after year. The major decrease in the number of consumer is for Street lights & Self consumption
  - The actual revenue from sale of power for the year 2017-18 was Rs. 2947.54 lakh, whereas during the first year of control period i.e 2018-19, total revenue from sale is expected reduce to Rs. 2868.91 lakh. The reason submitted for the decrease is that the units sold to the category of 'HT Government' will decline due to energy conservation methods adopted by government organizations like the CIFT, Customs & UTL. Further the sale is expected to reduce to LT VII A and HT Commercial categories. There is increase in the revenue from sale of power in the subsequent financial years of the control period also.
  - The distribution loss is estimated at 2% till 2020-21 and 1.60% for 2021-22.
  - The power purchase cost projected for the control period includes the cost for power purchase from KSEB Ltd, Own Solar Generation & cost of power

purchase through open access. The licensee stated that they will be opting for open access during the control period.

- The employee cost projected for the control period is higher than the ceiling norms approved by the Commission. CoPT has stated that the increase in salary is due to wage revision settlements. The licensee has stated that the number of employees is expected to reduce to 77 in 2020-21 from 104 in 2016-17. The licensee has stated that the employee cost has been proportionately reduced to factor in the retirements during the control period.
  - The R&M Expenses projected by the licensee for the control period is higher than the ceiling norms approved by the Commission. The licensee has projected a 140% increase over the actual amount during 2017-18, and for subsequent years of the control period has estimated a 2% increase.
  - The licensee has projected the A&G expenses higher than the normative amount approved by the Commission. The licensee has projected an increase of 4% for 2018-19 over the actual amount in previous year and an increase of 2% for the subsequent years of the control period.
  - As part of interest and finance charges the licensee has projected interest and finance charges on long term loans, interest on working capital and interest on consumer security deposits.
  - The licensee has proposed capital investment plan of Rs.639.47 lakh for the control period
  - The licensee in the petition has claimed depreciation in the straight line method as per the schedule prescribed in the Tariff Regulations 2018. The licensee has projected depreciation for each year of the control period including the capital expenditure for each year of the control period. The depreciation claimed for the year 2021-22 is lower than the previous year's which is due to the completion of the useful life of some of the assets.
  - The licensee has claimed a return at the rate of three percent on the net fixed assets at the beginning of the financial year.
  - The licensee has proposed interest on investments, fixed and call deposits and bank balances of Rs. 43.75 lakh for each year of the control period. The licensee has not proposed any increase in the non-tariff income for the control period.
6. The licensee stated that they have received applications from potential consumers seeking sanction to install grid tied solar plant of 1.2 MW at Vallarpadam. CoPT stated that the present RMD of Vallarpadam installation is hardly 1.02 MVA against a contract

demand of 3 MVA. CoPT stated that a settlement mechanism may be approved so that excess power generated by the consumers may be exported to KSEB Ltd's grid through CoPT's network. The licensee also stated that the Government of India has insisted the licensee for opting open access power at cheaper rate so as to bring down the power purchase cost. Regarding open access, the Commission directed the licensee to approach the Commission separately.

7. Smt. Mehrunisa, Executive Engineer, TRAC and Sri. Manoj.G, AEE, TRAC, represented KSEB Ltd. Sri. Manoj.G presented the objections of KSEB Limited and submitted written remarks on the application. The major points presented by KSEB Ltd are abstracted below.

- The distribution expenses of the licensee is exorbitantly high compared to the amounts approved by the Commission in the previous years. It was submitted that the Commission may approve only reasonable distribution expenses.
- The employee cost, administrative & general expenses and repair & maintenance costs claimed are over and above the approved value and the Commission may limit the expenses to the approved level.
- Commission may have a prudence check on the proposed capital investment and insist for Detailed Project Report and benefit-cost analysis before giving approval for huge capital investments.
- The Commission may look into the claim on interest on long term loans only after the completion of the restructuring exercise.
- As the licensee is retaining huge accumulated surplus, the interest on working capital need not be allowed.
- KSEB Ltd also submitted that there must a prudence check on the revenue projections made for the control period as there were variations in the average realization of the consumer categories.

8. The Commission directed the licensee to submit justifications on the high expenses over the norms fixed by the Commission. The licensee was also directed that they may submit the counter remarks if any on the observations/remarks made by KSEB Ltd and any other details that need to be submitted before the Commission to substantiate the claims made in the application for the approval of ARR&ERC for the control period on or before 30-05-2019. The licensee vide letter dated 22-05-2019 submitted their reply on the counter remarks of KSEB Ltd. which are reproduced briefly below.

- CoPT stated that the major reason for increase in the per unit distribution expenses is due to the fact that the Commission had allowed only 30%-40% of

actual salary cost incurred and has not considered Interest on GOI Loan while approving previous truing up orders.

- With regard to the claim of O&M expenses higher than the norms approved by the Commission, CoPT submitted that R&M Expenditure for the control period was arrived at based on actual expenses incurred up to September 2018 and extrapolated for the financial year 2018-19. Thereafter a 2% escalation was applied for each year of the control period and expenses for the period from 2019-20 to 2021-22 was arrived.
- With regard to the high employee cost, it was submitted that necessary steps will be taken to reduce the same by adopting appropriate methods and to limit the same at the levels approved by the Commission in the truing up petitions to be submitted during the control period.
- On administrative and general expenses, it was submitted that the main component in A & G expenses is the security charges which is inevitable. Another important item considered under A & G Expenses is the Section 3 duty which the Commission had informed to take up with the Government for relief. All other items in A&G Expenses (except for license fee and electricity charges which are claimed based on the concept of profit centre) are apportioned in the range of 0.50% to 2% of the total expenses of CoPT which are audited by the C& AG of India.
- The licensee stated that they have claimed depreciation only on the net amounts (i.e capital value after deducting grants, if any) i.e only 40% of total project cost has been taken for depreciation.
- With regard to the comment of KSEB Ltd on interest and finance charges, it was submitted that the distribution assets capitalized by the Port are more than 35 years and it is very difficult to trace the entire documentation supporting the asset addition of Rs. 42.60 Crs. made through Government of India loans. CoPT requested some more time to submission of the details. It was also stated that there is no surplus available with CoPT as it has arisen in the past period on account of not allowing the employee costs and interest & finance charges fully.
- The licensee clarified that ROE is considered only for net fixed assets at a rate of 3% after deducting grants if any received.
- With regard to the comment on the variations in the average realization of the consumer categories, it was submitted that the Cochin Corporation who is a consumer had high connected load for the Septage Treatment Plant which was

idle during previous financial year, started functioning from July 2018 which resulted in lower per unit realization.

9. The Commission in its order dated 08-07-2019 in OA 15/2018 had revised the Retail supply Tariff (RST) applicable to the consumers across the state and the Bulk Supply Tariff (BST) applicable to the licensees. The ARR & ERC of the licensee for the control period are worked out based on the revised tariff issued by the Commission.

### **Analysis and decision of the Commission**

10. 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 and the comments of KSEB Ltd. The analysis and decisions of the Commission on the application for approval of ARR & ERC for the Control Period 2018-19 to 2021-22 are detailed below:

11. **No. of Consumers & Sale of power:** - As per Regulation 10 (8) of Tariff Regulations 2014, the applicant/distribution licensee shall submit 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.*

12. The number of consumers and sales proposed for the Control Period is as shown below.

**Table – 3**  
**Details of the Number of consumers**

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
LT Consumers	1220	1248	1233	1225	1194
HT Consumers	29	27	30	32	32
<b>TOTAL</b>	<b>1249</b>	<b>1275</b>	<b>1263</b>	<b>1257</b>	<b>1226</b>

**Table – 4**  
**Details of Sales in Lakh Units**

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
LT Consumers	97.02	106.59	130.41	143.96	153.08
HT Consumers	241.51	235.31	247.07	261.90	277.63
<b>TOTAL</b>	<b>338.53</b>	<b>341.90</b>	<b>377.48</b>	<b>405.86</b>	<b>430.71</b>
<b>% Increase in sales</b>		<b>1.00%</b>	<b>9.43%</b>	<b>7.00%</b>	<b>5.80%</b>

13. The licensee has projected increase in the sales during the control period where as the number of consumers are decreasing year after year. The decrease in the number of consumer is for Street lights & Self consumption. As per the clarifications submitted, the reason for the decrease is due to the proposed construction of new towers with group control in connection than the prevailing individual metering at the points. The licensee has kept the number of consumers for other categories constant for all other categories for the control period. The comparison of the detailed split up of the number of consumers and the sales and the projection for the control period is shown below.

**Table – 5**  
**Split up of the number of consumers and the sales**

Particulars	No. of Consumers					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
LT I	593	533	554	554	554	554
LT II	3	2	2	2	2	2
LT IV	1	2	2	2	2	2
LT VI A	17	17	17	17	17	17
LT VI B	32	33	30	30	30	30
LT VI B Govt	14	14	15	15	15	15
LT VI C	9	9	7	7	7	7
LT VI C Govt	21	12	12	12	12	12
LT VI F	-	6	1	1	1	1
LT VII A SINGLE PHASE	285	294	304	304	304	304
LT VII A THREE PHASE	183	191	186	186	186	186
LT VII C	3	4	3	3	3	3
Self consumption & Street lights	107	103	115	100	92	61
HT GOVT	5	5	4	7	9	9
HT II (B) GOVT	-	1	1	1	1	1
HT IV COMMERCIAL	20	20	19	19	19	19
HT INDUSTRIAL	1	1	1	1	1	1
HT IV MALABAR	2	2	2	2	2	2
<b>Total</b>	<b>1296</b>	<b>1249</b>	<b>1275</b>	<b>1263</b>	<b>1257</b>	<b>1226</b>

Particulars	Sales in Lakh Units					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
LT I	9.75	7.72	9.00	9.45	10.02	10.62
LT II	3.52	3.35	3.32	3.48	3.69	3.91
LT IV	0.02	0.01	0.45	0.47	0.50	0.53
LT VI A	3.99	3.98	4.47	4.69	4.97	5.27
LT VI B	2.94	3.17	3.27	3.44	3.64	3.86
LT VI B Govt	0.74	0.86	0.77	0.80	0.85	0.90
LT VI C	3.21	2.88	2.18	2.29	2.43	2.57
LT VI C Govt	0.44	0.52	0.56	0.59	0.63	0.66
LT VI F	-	2.48	0.16	0.17	0.18	0.19
LT VII A SINGLE PHASE	3.00	3.26	3.14	3.30	3.50	3.71
LT VII A THREE PHASE	42.13	39.89	36.41	38.23	40.53	42.96
LT VII C	0.22	0.23	0.30	0.32	0.33	0.35
Self consumption& Street lights	46.56	28.67	42.56	63.18	72.69	77.55
HT GOVT	12.27	12.79	8.89	9.33	9.89	10.49
HT II (B) GOVT	-	4.88	4.23	4.44	4.71	4.99
HT IV COMMERCIAL	189.74	187.60	186.71	196.05	207.81	220.28
HT INDUSTRIAL	6.81	7.45	6.27	6.58	6.98	7.40
HT IV MALABAR	29.85	28.79	29.21	30.67	32.51	34.46
<b>Total</b>	<b>355.20</b>	<b>338.53</b>	<b>341.91</b>	<b>377.49</b>	<b>405.86</b>	<b>430.71</b>

14. As per the details submitted in the truing up petition for 2016-17, the number of consumers during the year was 1296 and the actual sale was 355.20 lakh units. For the year 2017-18 the actual number of consumers during the year 1249 and the actual sale is 338.53 lakh units. It is seen that there is a decrease in the actual sale and the number of consumers during the year 2017-18 compared to the previous year. The licensee has stated that the decrease is due to reduction in the LT I domestic category, mainly employees of CoPT, retired staff of CoPT, employees of CISF etc. The licensee has also stated that with the increase in the retirements, the number of employees occupying the staff quarters have also reduced. The licensee has also stated the reason for the decrease in the units sold to the category of 'HT Government' is due to energy conservation methods adopted by government organizations like the CIFT, Customs & UTL. With regard to the reduction in the sales towards street lighting and self consumption compared to 2016-17 & 2017-18, the licensee has stated that the main component attributed to self consumption during the years was the reefer plugs used for refrigerated containers. CoPT has mentioned that the loads accounted an energy sales of 12 lakh units which was reduced to 1.5 lakh units in 2017-18. CoPT in 2017-18 has also installed and commissioned a roof top solar energy plant of 180 kWp DC capacity on 31-03-2017 and about 2 lakh units of energy was used as

own consumption. For the years of the control period, the self consumption is increasing due to the shore power proposed to be provided to berths in connection with the implementation of Green Port initiatives.

15. Though the licensee has kept the number of consumers constant for all the years of the control period except the decrease proposed in the street light and self consumption, there is increase in the sales for all the consumer categories of CoPT. More than 50% of the total sales of the licensee is to HT IV commercial category. 66% of the entire sales of the licensee is to the HT category of consumers. The sale of power is further increasing year on year. Considering the increase in the sales for the years of the control period, the Commission approves the energy sales as projected by the licensee for the control period.
16. **Energy requirement & Distribution Loss:** As per Regulation 72, the licensee is to provide voltage level distribution loss and distribution loss trajectory for the control period. Necessary supporting studies have to be furnished along with the application. The distribution licensee shall also propose the loss reduction targets for each financial year of the control period along with the distribution loss levels. 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.
17. While approving the ARR&ERC for the initial control period, the Commission had approved a distribution loss of 2.00% for each year of the control period. While trying up the accounts for the years of the control period also the Commission had approved only the same. The distribution loss proposed for the control period is shown below.

**Table-6**  
**Distribution loss proposed for the Control Period**

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Actual	Actual	Projected	Projected	Projected	Projected
Energy Requirement (lakh unit)	362.50	345.45	348.89	385.19	414.14	437.71
Energy sales (lakh unit)	355.20	338.54	341.91	377.49	405.86	430.71
Distribution loss (lakh unit)	7.30	6.91	6.98	7.70	8.28	7.00
<b>Distribution loss (%)</b>	<b>2.02%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>1.60%</b>

18. The proposed energy requirement for the control period includes the power purchase from KSEB Ltd, Own Solar Generation & purchase through open access. The details are as shown below.

**Table-7**  
**Energy Requirement proposed by the licensee**

Year	Purchase from KSEBL (Lakh units)	Own Generation (Solar) (Lakh unit)	Open access (Lakh unit)	Total requirement (Lakh unit)
2018-19	348.89	Nil	Nil	<b>348.89</b>
2019-20	353.86	6.00	25.33	<b>385.19</b>
2020-21	360.94	6.00	47.20	<b>414.14</b>
2021-22	375.37	7.20	55.13	<b>437.71</b>

19. The Commission considered the distribution loss proposed for the control period. Since, reduction in distribution loss is an important parameter which has a direct impact on power purchase cost and available energy for distribution; it is a criterion that the licensees should continuously strive to improve upon. In the instant case, taking into consideration the limited geographical area of its operation and the nature of infrastructure build up, the Commission is of the opinion that distribution loss is to be reduced year after year. On the basis of the above facts, and the levels of distribution loss being approved here, the energy requirement approved for the control period is shown below.

**Table-8**  
**Distribution loss approved for the control period**

Year	2018-19	2019-20	2020-21	2021-22
Total Energy Requirement (Lakh unit)	348.89	384.61	413.09	437.71
Total Energy sales(Lakh unit)	341.91	377.49	405.86	430.71
Distribution loss(Lakh unit)	6.98	7.12	7.23	7.00
<b>Distribution loss (%)</b>	<b>2.00%</b>	<b>1.85%</b>	<b>1.75%</b>	<b>1.60%</b>

20. Based on the distribution loss approved for the control period, the energy requirement approved for each year of the control period is shown below.

**Table-9**  
**Energy Requirement approved for the control period**

Year	Purchase from KSEBL (Lakh units)	Own Generation (Solar) (Lakh unit)	Open access (Lakh unit)	Total requirement (Lakh unit)
2018-19	348.89	Nil	Nil	<b>348.89</b>
2019-20	353.28	6.00	25.33	<b>384.61</b>
2020-21	359.89	6.00	47.20	<b>413.09</b>
2021-22	375.38	7.20	55.13	<b>437.71</b>

21. **Power purchase cost:** The licensee has proposed an increase in the energy requirement to cater the proposed increase in the sale for the control period. The licensee in the initial submission had not included the cost of Own Solar Generation & cost of power purchase through open access. The licensee revised the power purchase for the control period subsequently. As per revised form D3.1 (Power Purchase Expenses) the licensee has shown the details of the proposed power purchase cost for the control period, which includes the cost for power purchase from KSEB Ltd, own Solar Generation & cost of power purchase through open access. The BST applicable for the licensee is Rs.6.00. The licensee has stated that the solar plant is proposed to be installed under RESCO model at a rate of Rs.4.00 per unit for 25 years. The cost of open access power is proposed at a rate of Rs.4.13 (open access power at Rs.3.57 + State Transmission Charge of Rs.0.37 + Central Transmission charge of PTC Ltd of Rs.0.19 )
22. Based on the energy requirement, the power purchase cost projected for the control period is as shown below.

**Table-10**  
**Power purchase cost projected for the control period**

Particulars	2018-19	2019-20	2020-21	2021-22
Energy purchase (lakh units)	348.89	385.19	414.14	437.71
Maximum Demand (kVA)	7648.86	7757	7867	7979
Contract Demand(kVA)	9500	9500	9500	9500
Demand Charges (Rs./kVA)	300	300	300	300
<b>Total Demand charges(Rs lakh)</b>	<b>275.36</b>	<b>279.24</b>	<b>283.21</b>	<b>287.25</b>
Energy Charges (Rs./kWh)	6.00	5.86	5.79	5.77
<b>Total energy Charges(Rs lakh)</b>	<b>2093.32</b>	<b>2257.49</b>	<b>2398.45</b>	<b>2524.99</b>
<b>Cost of power purchase(Rs lakh)</b>	<b>2368.67</b>	<b>2536.74</b>	<b>2681.66</b>	<b>2812.25</b>

23. The Commission vide order dated 08-07-2019 in OA No.15/2018 has revised the BST applicable to Cochin Port Trust as shown below.

Energy Charge (Rs. per unit)	Pre revised Tariff	6.00
	<b>Revised/Existing Tariff</b>	<b>6.10</b>
Demand Charge (Rs. kVA per month)	Pre revised Tariff	300.00
	<b>Revised/Existing Tariff</b>	<b>340.00</b>
Transmission Charges (Rs. per unit)	Pre revised Tariff	0.37
	<b>Revised/Existing Tariff</b>	<b>0.39</b>

24. **Power Purchase from KSEB Ltd:** Considering the power purchase from KSEB Ltd at the distribution loss reduction targets approved for the control period and the

relevant tariff applicable for the years of the control period, the power purchase cost approved is shown below.

**Table-11**  
**Power purchase cost from KSEB Ltd approved for the control period**

<b>Particulars</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
Energy purchase (lakh units)	348.89	353.28	359.89	375.38
Energy Charges (Rs./kWh)	6.00	6.00/6.10	6.10	6.10
<b>Total energy Charges (Rs lakh)</b>	<b>2093.34</b>	<b>2145.23</b>	<b>2195.33</b>	<b>2289.82</b>
Maximum Demand (kVA)	7648.86	7757	7867	7979
Contract Demand(kVA)	9500	9500	9500	9500
Demand Charges (Rs./kVA)	300	300/340	340	340
<b>Total Demand charges (Rs lakh)</b>	<b>275.36</b>	<b>306.38</b>	<b>320.97</b>	<b>325.54</b>
<b>Power Purchase cost from KSEB Ltd</b>	<b>2368.70</b>	<b>2451.61</b>	<b>2516.30</b>	<b>2615.36</b>

25. **Power Purchase from Other sources:** The licensee has stated that the solar plant is proposed to be installed under RESCO model at a rate of Rs.4.00 per unit for 25 years. In addition to the solar plant is proposed to be installed under RESCO model, the licensee has also proposed capital investment for the solarization of ports. The total project cost proposed for the plants sums up to a total of Rs.336.18 lakh.

26. Cost of open access power is proposed at a rate of Rs.4.13 (open access power at Rs.3.57 + State Transmission Charge of Rs.0.37 + Central Transmission charge of PTC Ltd of Rs.0.19 ). The Commission had revised the state transmission charges to Rs.0.39 Since the rates of power purchase proposed by the licensee are lower than the BST applicable to the licensee, the Commission approves the Own Solar Generation & cost of power purchase through open access for the year 2019-20, 2020-21 & 2021-22 as shown below.

**Table-12**  
**Approved Power purchase through open access & Own Solar Generation**

<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
Solar Generation (Lakh Units)	6.00	6.00	7.20
RESCO model rate (Rs/unit)	4.00	4.00	4.00
Cost of own generation( Rs.lakh)	24.00	24.00	28.80
Open Access (Lakh Units)	25.33	47.20	55.13
Open access power(Rs/unit)	4.13/4.15	4.15	4.15
Cost of Open access power( Rs.lakh)	104.98	195.88	228.79
<b>Total</b>	<b>128.98</b>	<b>219.88</b>	<b>257.59</b>

27. Considering the cost of power purchase for open access power and own solar generation, the total power purchase cost approved for the control period is shown below.

**Table – 13**  
**Total Power purchase cost approved for the control period**

Particulars	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
Power Purchase cost from KSEB Ltd	2368.70	2451.61	2516.30	2615.36
Own generation (solar)	-	24.00	24.00	28.80
Open Access power	-	104.98	195.88	228.79
<b>Total Power Purchase cost</b>	<b>2368.70</b>	<b>2580.59</b>	<b>2736.18</b>	<b>2872.95</b>

**28. O&M Expenses:** Operation & maintenance includes controllable expenses like Employee cost, Repair & Maintenance Expenses & Administrative & General Expenses. The Commission as per Regulation 79(7) of the KSERC (Terms and conditions for determination of tariff) Regulations, 2018 has approved the operation & maintenance cost of Cochin Port Trust for the control period. The licensee has projected the Operation and maintenance expenses higher than the ceiling level specified in the regulation. A comparison of the projections made by the licensee and the normative amount approved by the Commission is shown below.

**Table-14**  
**Comparison of Normative O&M Expenses & O&M Expenses projected by CoPT**

Particulars	2018-19 (Rs. Lakh)		2019-20 (Rs. Lakh)		2020-21 (Rs. Lakh)		2021-22 (Rs. Lakh)	
	Projection	Norms	Projection	Norms	Projection	Norms	Projection	Norms
Employee cost	948.6	435.22	859.84	456.29	879.6	478.37	948.89	501.52
R&M Expenses	27.34		27.89		28.44		29.01	
A&G Expenses	87.50		89.25		91.03		92.86	
<b>Total</b>	<b>1063.44</b>	<b>435.22</b>	<b>976.98</b>	<b>456.29</b>	<b>999.07</b>	<b>478.37</b>	<b>1070.76</b>	<b>501.52</b>

29. Based on the projections made by the licensee, the per unit O&M cost is tabulated hereunder.

**Table-15**  
**Per unit O&M cost based on projections**

Sl.No	Particulars	2018-19	2019-20	2020-21	2021-22
1	<b>Total Sales (Lakh Unit)</b>	<b>341.91</b>	<b>377.49</b>	<b>405.86</b>	<b>430.71</b>
2	Projected Employee cost (Rs.lakh)	948.6	859.84	879.6	948.89
3	Projected R&M Expenses (Rs.lakh)	27.34	27.89	28.44	29.01
4	Projected A&G Expenses (Rs.lakh)	87.50	89.25	91.03	92.86
5	<b>Projected O&amp;M Expenses (Rs.lakh)</b>	<b>1063.44</b>	<b>976.98</b>	<b>999.07</b>	<b>1070.76</b>
6	Per unit Employee cost - Rs/unit (2/1)	2.77	2.28	2.17	2.20
7	Per unit R&M Expenses - Rs/unit (3/1)	0.08	0.07	0.07	0.07
8	Per unit A&G Expenses - Rs/unit (4/1)	0.26	0.24	0.22	0.22
9	<b>Per unit O&amp;M Expenses - Rs/unit (5/1)</b>	<b>3.11</b>	<b>2.59</b>	<b>2.46</b>	<b>2.49</b>

30. The Commission notes that the per unit O&M expense proposed by the licensee is significantly high when compared to the other distribution licensees in the state. The analysis of the operation and maintenance expense and the amounts approved for the control period is detailed below.

31. **Employee cost:** The licensee has projected the employee cost for the control period higher than the previous year. The split up of the projections made by the licensee for the control period is tabulated hereunder.

**Table-16**  
**Projected Employee cost**

Particulars	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
Salaries & wages	854.60	774.63	792.43	854.86
Terminal Benefits	94.01	85.21	87.17	94.03
<b>Grand Total</b>	948.60	859.84	879.6	948.89

32. The licensee has stated that the number of employees as on 2016-17 were 104 in the Electrical Department. Considering the 12 employees due for retirement in 2017-18 the number of employees will fall to 92 as on 31.03.2018, which will further reduce to 90 as on 31.03.2019 and 77 as on 31.03.2020. The licensee has also stated that the employee cost has been proportionately reduced to factor the retirements during the control period, where as the increase in salary is due to wage revision settlements. The licensee stated that considering the proportion of staff in Electrical department to the total staff strength of CoPT, less than 5% is only engaged in electricity distribution business. The licensee has further submitted that the employee cost filed is actual and not on the basis of any apportionment of total cost of the port during the year. CoPT also stated that there is a quinquennial wage revision in Port sector and the salary cost increases along-with the quarterly disbursement of dearness allowance and HRA components.

33. Commission while trying up the accounts for the previous year had noted that the share of number of employees allotted to distribution business is not commensurate with the size of operations. Coupled with increase in pay and allowances over the years, the employee cost in distribution business has become disproportionate. Accordingly during the previous years, the Commission had decided to allow only the amount approved as per the tariff regulations

34. **R&M Expenses:** The licensee, for the control period has projected the repair and maintenance as shown below

**Table-17**  
**R&M Expenses projected**

Particulars	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
R&M Expenses Projected	27.34	27.89	28.44	29.01

35. The actual R&M for the year 2017-18 is Rs.11.37 lakh. For the year 2018-19, the licensee has projected a 140% increase over the actual amount during 2017-18, and a 2% increase is proposed for subsequent years of the control period. The projection made by the licensee for the control period is as shown below.

**Table-18**  
**% Increase in R&M Expenses**

	2017-18 Actual	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
R&M Expenses	11.37	27.34	27.89	28.44	29.01
% Increase		140.46%	2.00%	2.00%	2.00%

36. The split up of the R&M for each year of the control period is tabulated below.

**Table-19**  
**Split Up of R&M Expenses**

Particulars	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
Power transformer, 110 kV/11 kV, including OLTC through OEM – M/s TELK, <ul style="list-style-type: none"> <li>• VCB panel,</li> <li>• Yard equipments,</li> <li>• SCADA, UPS etc through OEM,</li> <li>• Filtering of power transformer oil, OLTC and oil procurement,</li> <li>• Testing fees payable to KSEB / KEI etc for relay calibration, PET etc,</li> <li>• AMC charge for ACs at control room</li> </ul>	9.47	9.66	9.85	10.05
Maintenance of 50 Nos of 11kV/440V transformer <ul style="list-style-type: none"> <li>• Transformer oil testing &amp; oil procurement</li> <li>• replacement of bush</li> <li>• other consumables</li> </ul>	4.00	4.08	4.16	4.24
Maintenance of 40 Nos RMUs, VCBs in downstream stations <ul style="list-style-type: none"> <li>• Replacement of HT fuse, contact switches, consumables</li> </ul>	1.50	1.53	1.56	1.59

Maintenance of 80 Kms of HT & LT cable • cost for Cable joints, end joints and other consumables	5.00	5.10	5.20	5.31
Calibration charges for measuring instruments	3.00	3.06	3.12	3.18
Service line maintenance materials – consumables	2.00	2.04	2.08	2.12
Vehicles- fuel and other consumables and repairing charges	2.37	2.42	2.47	2.52
<b>Total</b>	<b>27.34</b>	<b>27.89</b>	<b>28.44</b>	<b>29.01</b>

37. Compared to the previous year, the repair and maintenance cost projections of the licensee is significantly high. Commission is of the view that the licensee should take all efforts to reduce the R&M expenses.

38. **A&G Expenses:** The A & G Expenses proposed, includes telephone, postage, audit charge, vehicle expenses, bank charges, licensee fee, security arrangements and the other major claim is the electricity duty under section 3 of the Kerala Electricity Duty Act 1963 etc. The split up of the projection is tabulated hereunder.

**Table-20**  
**Split Up of A&G Expenses Projected**

Particulars	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
Rent Rates & Taxes	5.63	5.74	5.85	5.97
Telephone & Postage, etc.	0.34	0.35	0.35	0.36
Internet and related charges	0.17	0.17	0.18	0.18
Legal charges	0.70	0.71	0.73	0.74
Audit Fees	0.54	0.55	0.56	0.57
Conveyance	0.52	0.53	0.54	0.55
Vehicle Expense	0.86	0.88	0.89	0.91
License fee	2.53	2.58	2.64	2.69
Electricity charges	9.40	9.59	9.78	9.97
Water charges	1.79	1.82	1.86	1.90
Entertainment	0.13	0.14	0.14	0.14
Fees & subscription	0.02	0.02	0.02	0.02
Printing & Stationery	0.09	0.10	0.10	0.10
Advertisements, exhibition publicity	0.44	0.45	0.46	0.47
Miscellaneous Expenses	0.54	0.55	0.56	0.57
Computer Stationery	0.06	0.06	0.06	0.06
Security arrangements	46.68	47.62	48.57	49.57
Electricity Duty under Section 3	17.06	17.40	17.75	18.10
<b>Gross A&amp;G Expenses</b>	<b>87.50</b>	<b>89.25</b>	<b>91.03</b>	<b>92.86</b>

39. The licensee has projected the A&G expenses higher than the normative amount approved by the Commission. The licensee has projected an increase of 4% for 2018-19 over the previous year and an increase of 2% for the subsequent years of the control period. As shown above, the licensee has projected Rs.87.50 lakh, Rs.89.25 lakh, Rs.91.03 lakh and Rs.92.86 lakh respectively for each year of the control period. The actual administrative and general expense of the past years is tabulated below.

**Table-21**  
**Split Up of Actual A&G Expenses over the years**

Particulars	2015-16 (Rs.lakh)	2016-17 (Rs.lakh)	2017-18 (Rs.lakh)
Rent Rates & Taxes	5.07	5.36	5.47
Telephone & Postage, etc.	0.37	0.38	0.31
Internet and related charges	0.19	0.19	0.16
Legal charges	4.48	11.53	0.66
Audit Fees	0.49	0.64	0.51
Travelling expense	0.71	0.67	0.74
Conveyance	0.61	0.55	0.47
License fee	2.46	2.35	2.22
Electricity charges	9.40	9.40	9.40
Water charges	1.20	1.52	1.70
Entertainment	0.09	0.30	0.12
Fees & subscription	0.03	0.02	0.01
Printing & Stationery	0.15	0.16	0.08
Advertisements, exhibition publicity	0.51	0.62	0.31
Miscellaneous Expenses	0.45	0.58	0.43
Computer Stationery	0.05	0.07	0.05
Security arrangements	28.85	36.10	43.66
Electricity Duty under Section 3	20.04	17.70	17.06
<b>Gross A&amp;G Expenses</b>	<b>75.15</b>	<b>88.12</b>	<b>83.36</b>

40. As per the detailed split up, the major share of the claim is for security arrangements and the other major claim is the electricity duty under section 3 of the Kerala Electricity Duty Act 1963. The Commission in the previous orders had already ordered that Duty under section 3 cannot be passed on to the consumers in view of the statutory provisions of the Kerala Electricity Duty Act, 1963. If considered appropriate, the licensee may approach the Government of Kerala with regard to the Duty under section 3 for appropriate decision on the matter. Until then Section 3 Duty cannot be considered as a pass-through as part of ARR.

41. The Commission while fixing the normative A&G expense had considered the trued up figures for the year 2014-15 to 2016-17. The Commission had also allowed the claim of the security charges while truing up of accounts for 2016-17 as CoPT area is a vulnerable area and security is provided as per ISPS regulations. During the year 2017-18 the security charges has an increase of 20% over the previous year.

42. **O&M Expenses Approved:** The Commission has fixed the normative O&M expense in the Tariff Regulations, 2018. As per the Regulation 79(7) of the Tariff Regulations, 2018 all components of O&M expenses are controllable expenses and as per regulation 14 (2), the aggregate loss on account of controllable factors shall be borne by the distribution licensee and shall not be passed on to the consumer in any manner. Accordingly Commission is of the considered view that the O&M expense is to be approved only in line with Regulation 79(7). The approved O&M expense for the control period is shown below.

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

Year	Rs.lakh
2018-19	435.22
2019-20	456.29
2020-21	478.37
2021-22	501.52

43. The licensee is directed to limit the operation and maintenance expenses at the normative amount approved by the Commission.

44. **Capital Investment proposed for the Control period:** The licensee has proposed the capital investment for the control period as summarized below.

**Table- 23**  
**Capital Investment proposed for the Control period**

Particulars	Estimated Cost	Grant	CoPT	Year	Remarks
<b>Improvement of distribution network</b>					
Providing new HT cable to the new load centre at A2 area	129.00	77.40	51.60	2019-20	Grant @ 60% (Ministry of power under IPDS)
11KV Bay extension	4.00	2.40	1.60		
Installation of star rated distribution transformer	38.00	22.80	15.20		
RMU	61.00	36.60	24.40		
<b>Total</b>	<b>232.00</b>	<b>139.20</b>	<b>92.80</b>		

<b>Solarization of Ports</b>					
Roof top of RNAS Quarters	60.65	31.75	28.90	2018-19	Grant @ 60% (Ministry of power under IPDS)
	51.53	30.16	21.37		
Ground Mounted solar panel	58.00	0.00	58.00	2019-20	Own Funds
Roof top of residential quarters	120.00	0.00	120.00		
Roof top of 11KV switching station at vallarpadam	46.00	0.00	46.00		
<b>Total</b>	<b>336.18</b>	<b>61.91</b>	<b>274.27</b>		
<b>Providing shore power to vessels calling at Copt berth</b>					
Q2 Q3 berth at M/Wharf	62.00	0.00	62.00	2019-20	Own Funds
UTL Berth	142.00	0.00	142.00	2020-21	
<b>Total</b>	<b>204.00</b>	<b>0.00</b>	<b>204.00</b>		
<b>Smart metering Project</b>					
Smart metering Project	151.00	90.60	60.40	2019-20	Grant @ 60% (Ministry of power under IPDS)
<b>Total</b>	<b>151.00</b>	<b>90.60</b>	<b>60.40</b>		
<b>Infrastructure for availing power through open access</b>					
Open access power	8.00	0.00	8.00	2019-20	
<b>Total</b>	<b>8.00</b>	<b>0.00</b>	<b>8.00</b>		
<b>Grand Total</b>	<b>931.18</b>	<b>291.71</b>	<b>639.47</b>		

45.CoPT in the write up submitted details with regard to the proposed Capital expenditure.The year wise summation of the capital investment proposed is shown below.

<b>Year</b>	<b>Rs.lakh</b>
<b>2018-19</b>	50.27
<b>2019-20</b>	447.20
<b>2020-21</b>	142.00
<b>2021-22</b>	No capex proposed
<b>Total</b>	<b>639.47</b>

46.In the write up, the licensee has briefed on the proposed capital expenditure. The license has stated that they expect new consumers and strengthening of distribution network through replacement of old transformers with new energy efficient transformers is necessary to cater the power demand of such new consumers and provide better service to the existing consumers.

47.CoPT has stated that they have taken up some infrastructure development project with financial assistance of Ministry of Power, Govt. of India under Integrated Power Development Scheme (IPDS). Under this scheme, CoPT will attempt to ensure 24/7

power for all and to reduce the AT&C loss to the level of 1.6% by 2020-21. As per the scheme, Ministry of Power shall extend 60% of the project cost as grant in aid and 40 % of project cost shall be met from CoPT's own funds. CoPT has also proposed some projects to be executed using own funds. The details of the proposed works are given below.

48. **Improvement of distribution network:** For improvement of distribution network, the licensee has proposed the following projects for the next control period

Project	Qty	Rs Lakh	Expected year of Commissioning
Providing new HT cable to the new load centre at A2 area	5.5 Km	129.00	2019-20 (under IPDS)
11 KV Bay extension	1 No	4.00	
Installation of star rated Distribution transformer	3 Nos	38.00	
Ring Main Unit (RMU)	6 Nos	61.00	
<b>Total</b>		<b>232.00</b>	

49. CoPT has stated that 60% of the project cost (Rs 139.00 lakh) is funded by Ministry of Power under IPDS and balance amount (Rs 93.00 lakh) is to be met from CoPT's internal resources. By completing the project following the following objectives are achieved.

- a. Improvement in the reliability of the power supply
- b. Reduction of Losses to meet AT&C loss reduction trajectory
- c. Providing electricity access to all urban house hold.
- d. Improvement in network planning
- e. Improvement in quality of supply like voltage level, PF etc
- f. Prompt and effective services to the consumers

50. **Solarization of Ports:** The Ministry of Shipping (MoS) has undertaken an initiative to implement utility-scale Solar Photovoltaic Power Plant projects at various major ports across the country. The Solar Energy Corporation of India (SECI) has been appointed as the overall project management consultant for these projects. A MoU has been signed in this regard between SECI and the Indian Ports Association (IPA), on behalf of the individual port trusts, to implement the solar energy projects.

51. CoPT has taken up development of several Solar PV plants in line with the existing policy of tapping the renewable energy potential to the maximum, in vacant land areas

available with CoPT and roof top of residential / Office building. CoPT has added 150 KwP of solar plants in the grid as on 31-03-2018.

Location	Capacity	Rs. Lakh	Expected year of Commissioning
Roof top of RNAS Quarters at W/Island	150 KwP	112.18	Commissioned 2018-19 (under IPDS)
Ground mounted Solar panel	100 KwP	58.00	Ongoing 2018-19
<b>Total</b>		<b>170.18</b>	

52. Licensee has stated that they were able to get the Central Financial Assistance from Ministry of Power, Govt. of India under IPDS for the solar project at RNAS quarters to the tune of 60% of project cost. The same has been commissioned with effect from 31.03.2018. In respect of ground mounted solar panel, no grant has been received and is expected to be met out of CoPT's funds.

53. CoPT also plans 2 more solar projects at W/Island and at Vallarpadam to meet the RPO. KSEB had also requested to CoPT implement the Solar panel project in CoPT. The licensee has also stated that the said projects are to be commissioned out of own funds.

Location	Capacity	Rs. Lakh	Expected year of Commissioning
Roof top of Residential quarters	200 KwP	120.00	2019-20
Roof top of 11 KV switching station at Vallarpadam	75 KwP	46.00	
<b>Total</b>		<b>166.00</b>	

54. **Providing Shore power to vessels calling at CoPT berths:** The facility is also known as Alternative Maritime Power (AMP) or Cold ironing. AMP is a cold ironing system which allows ships to turn off their engines when in port and plug into shore side electricity supply, thus reducing air pollution in the port and surrounding communities. When a ship is tied up at port no coal firing/ DG operation takes place, and engines would literally cool down, hence the term cold ironing. Advantages of AMP are it eliminates emission of toxic fumes from vessels, Reduces air pollution in the harbour and surrounding communities, Reduces noise level as shore power is silent. It also allows maintenance of DG of vessel when she is in berth. The cost of

shore power is less than that available from DGs.CoPT proposes the following Cold Ironing Projects at Cochin Port Trust during the next control period.

Location	Rs.Lakh	Expected year of Commissioning
Q2 & Q3 Berth at Mattancherry Wharf	62.00	2019-20
UTL Berth	142.00	2020-21
<b>Total</b>	<b>204.00</b>	

55. Commission had fixed the tariff of shore power as Rs 11.70 per unit and Rs 120 per kw per month during 2014.

56. **Smart Metering Project:** The objectives of this scheme are to convert Energy meters of 800 consumers in W/Island and at Vallarpadam area to smart meters. It is envisaged about 700 energy meters with per month consumption less than 500 of domestic category may be changed to Pre paid meters. The approved amount of the project is Rs. 151.00 lakh with 60% Grant amounting to Rs. 91.00 lakh from Government of India under IPDS. The project was sanctioned in December 2017 and is expected to be commissioned by 2019-20.

57. **Infrastructure for availing Power through open access:** The Ministry of Shipping has directed that CoPT to prepare a comprehensive plan and to utilize the power distribution license available with CoPT by procuring power at cheaper rate through open access. The Power Trading Corporation India Ltd, (PTC), New Delhi, the power exchange broker conducted a study in CoPT. The study involved modality of open access, such as long term or short term, re-arranging of metering system and initial expenditure, restriction clause in the existing PPA with KSEB, approval of State Commission etc. Accordingly an estimate of Rs 8 Lakh is prepared as initial expenditure for availing open access power. The licensee has stated that they shall file petition before the Commission for the sanction of availing open access power in future. The initial expenditure of Rs 8 Lakh for availing Open Access power is included as proposed capital expenditure.

58. The Commission has examined the details furnished by CoPT. Regulations 22 to 27 of the Tariff Regulations, 2018 provide for the procedure to be followed for addition of assets and the claiming of depreciation. As per Regulation 22 (3), the capital cost approved by the Commission after prudence check shall form the basis for determination of tariff. Unless the approval is obtained, it is not eligible to be part of GFA.

59. As per the details submitted in the write up, Commission notes that, for improvement of the distribution network, solarization of ports & smart metering project, 60% of the cost is met through grant from the ministry of power under IPDS Scheme. Commission sought the details of the order issued by Government of India approving the Capital Investment under IPDS Scheme. The licensee submitted the letter No.02:16:IPDS:CPT:KERALA:/40890 dated 09-08-2016 from the Power Finance Corporation Ltd to validate the approval of the Capital Investment under IPDS Scheme. As per the letter, approved DPR cost is Rs.5.36 Crore and the Government of India has approved a grant of Rs.3.23 Crore.

60. Since the proposed capital expenditure was not matching with the grant amount approved by the Government of India, the Commission had further sought clarifications. The licensee vide letter dated 28-10-2019 submitted that the Detailed Project Report was prepared during 2015 which was forwarded to Power Finance Corporation online. During the site survey / estimation some of the quantities varied depending on the site condition. More over the consumer meters in the DPR was replaced with AMI / Smart metering arrangements in compliance to the directions of MoP / PFC. The details submitted by the licensee is tabulated hereunder.

**Table- 24**  
**Comparison of the amounts as per the DPR and the Capital Investment proposed**

Item	Amount as per DPR	Amount claimed as CAPEX	Remarks
UG cable- 6 Km Providing new HT cable to the new load centre at A2 area	207.66	129.00	The work is in the final stage. During execution of work cable length was reduced and accordingly cost has come down. Similarly charges for external agencies envisaged during DPR stage are not required as the land parcels in W/Island area belongs to CoPT only.
11 KV bay extension	75.83	4.00	The bus bar extension, data logging system included in the DPR is not required as it is already included in the smart metering project..
Installation of Transformer	68.01	38.00	During DPR stage, 4 numbers of DTs were required to be replaced with new star rated transformer . However it was reduced to 3 numbers only as per site requirement.
Metering	79.00	151.00	During DPR stage only consumer meters, DTR meters, meters for street lights etc were included. However on 5 <sup>th</sup> December 2017, the PFC has instructed to replace the above meters with smart meters and data logging arrangement, disconnection / reconnection facility etc. Hence Advanced Metering Infrastructure system / Smart metering is included in place of consumer meters, DT meters etc. As per present schedule the facility will be commissioned in 2019-20 itself.

Provisioning of Solar plants in RNAS quarters- 150 KwP	105.00		This project was commissioned on 31/03/2017 itself and the expenditure was not included in the CAPEX. The solar plant was installed in 6 blocks of RNAS quarters out of total 20 blocks.
Roof top of RNAS Quarters - 180 KwP		112.18	It is proposed to install another 180 KwP in another 8 Nos quarters availing the IPDS grant as quantity variation limiting the over all cost in the approved level of Rs 539 Lakhs
RMU, Sectionalizer etc	2.96	61.00	As per DPR only fencing, & yard metalling of the existing RMU was considered during its preparation on 2015. However subsequently the existing RMUs were seen completely corroded due its aging and hence decided to replace with new units under IPDS grant.
<b>Total</b>	<b>538.46</b>	<b>495.18</b>	

61. Commission considers the proposal and has decided to grant in-principle approval for the projects. The licensee is to properly conduct the tendering process prior to investing on the project.

62. With regard to the capital investment from CoPTs own funds, the Commission has decided to defer the proposal as the Commission is not in a position to accord in-principle sanction for the proposed capital investment without proper documents to substantiate the investment. The licensee is directed to submit the detailed proposal before the Commission at the earliest. The asset addition may be considered after formal approval during the process of truing up of accounts. Accordingly, the capital expenditure approved for the control period is as shown below:

**Table-25**  
**Capital expenditure approved for the control period**

Particulars	2018-19			2019-20		
	Total Cost	Gol Grant	Own fund	Total	Grant	Own fund
	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs
Roof top of RNAS Quarters	60.65	31.75	28.90			
Roof top of RNAS Quarters	51.53	30.16	21.37			
Providing new HT cable to the new load centre at A2 area				129.00	77.40	51.60
11KV Bay extension				4.00	2.40	1.60
Installation of star rated distribution transformer				38.00	22.80	15.20
RMU				61.00	36.60	24.40
Smart metering Project				151.00	90.60	60.40
<b>Total Cost</b>	<b>112.18</b>	<b>61.91</b>	<b>50.27</b>	<b>383.00</b>	<b>229.80</b>	<b>153.20</b>
<b>Amount Considered for depreciation</b>			<b>50.27</b>			<b>153.20</b>

63. **Depreciation:** - The licensee in the petition has claimed depreciation in the straight line method. The licensee has projected depreciation for each year of the control period including the capital expenditure for each year of the control period. The licensee has claimed Rs.208.50 lakh for 2018-19 & 2019-20, Rs.227.52 lakh for 2021-21 and Rs.177.00 lakh. The depreciation claimed for the year 2021-22 is lower than the previous years. The licensee has submitted that the reason for the decrease is the assets completion of the useful life period of assets. The licensee has also submitted the details of the Assets created with own funds, grants & consumer contribution separately along with details of the date of commissioning of the assets along with the vintage of the assets.

**Table 26**  
**Depreciation projected for the control period**

Particulars	2018-19			2019-20		
	GFA at the beginning (Rs.lakh)	Asset Addition (Rs.lakh)	Depreciation (Rs.lakh)	GFA at the beginning (Rs.lakh)	Asset Addition (Rs.lakh)	Depreciation (Rs.lakh)
Distribution lines /LT lines	33.37	-	2.92	33.37	51.60	2.90
Sub-station equipments	3715.87	-	183.45	3715.87	85.20	183.44
Transformers/11Kv lines	370.28	-	15.25	370.28	26.00	15.25
Miscellaneous equipments	152.84	-	4.22	152.84	-	4.22
Meters	5.67	-	0.04	5.67	66.07	0.04
Solar Top Panel	-	50.27	2.65	50.27	224.00	2.65
<b>Total</b>	<b>4278.03</b>	<b>50.27</b>	<b>208.52</b>	<b>4328.30</b>	<b>447.20</b>	<b>208.50</b>

Particulars	2020-21			2021-22		
	GFA at the beginning (Rs.lakh)	Asset Addition (Rs.lakh)	Depreciation (Rs.lakh)	GFA at the beginning (Rs.lakh)	Asset Addition (Rs.lakh)	Depreciation (Rs.lakh)
Distribution lines /LT lines	84.97	-	3.08	84.97	-	2.87
Sub-station equipments	3801.07	142.00	186.08	3943.07	-	135.79
Transformers/11Kv lines	396.28	-	16.49	396.28	-	16.49
Miscellaneous equipments	152.84	-	4.15	152.84	-	4.15
Meters	66.07	-	3.23	66.07	-	3.22
Solar Top Panel	274.27	-	14.48	274.27	-	14.48
<b>Total</b>	<b>4775.50</b>	<b>142.00</b>	<b>227.52</b>	<b>4917.50</b>	<b>-</b>	<b>177.00</b>

64. Though the licensee has claimed depreciation in the straight line method, the claim is not in line with the Tariff Regulations. It is seen that the licensee has not provided the salvage value of 10% for the assets while claiming depreciation. The Commission in previous orders has noted that the licensee has been claiming depreciation beyond the salvage value of assets and had limited the depreciation upto 90% of value of assets. The Commission had addressed the matter in detail in the order on the truing

up of accounts for the year 2016-17. The relevant portion of the order is quoted hereunder.

“47.....On scrutiny it was noted that as in the previous year, the depreciated value of assets is lower than salvage value and in some cases, the depreciation for assets which are depreciated above 70% are not uniformly assigned for the balance useful life. **The Commission notes that it is a serious lapse on the part of the licensee that even after pointing out in previous orders, the licensee has taken no steps to correct the same. The Chartered Accountant who audited accounts of distribution business has also not made any due diligence in the matter.**”

65. The licensee has furnished details of assets and date of acquisition. Based on this information and asset additions approved, the Commission estimates the depreciation for the control period as per norms as shown below:

**Table 27**  
**Depreciation for the control period**

Asset class	GFA Rs. Lakh	Date of acquisition	Depreciation (Rs.lakhs)			
			2018-19	2019-20	2020-21	2021-22
			Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh
Transformers	1.96	05-04-1986	0.02	0.02	0.02	-
Transformers	305.11	04-04-1992	3.53	3.53	3.53	3.53
Transformers	16.29	31-05-2009	0.86	0.86	0.86	0.86
Transformers	29.82	22-01-2013	1.57	1.57	1.57	1.57
Distribution lines	26.66	05-04-1986	0.42	0.42	0.42	-
Distribution lines	6.71	16-01-2009	0.35	0.35	0.35	0.35
Meters	5.43	31-10-2001	-	-	-	-
Meters	0.24	16-01-2009	0.01	0.01	0.01	0.01
Others	60.69	03-04-1998	-	-	-	-
Others	32.90	31-03-2010	1.74	1.74	1.74	1.74
Miscellaneous equipments	2.27	02-02-2008	0.14	0.14	0.14	0.14
Miscellaneous equipments	9.56	23-02-2013	0.60	0.60	0.60	0.60
Miscellaneous equipments	9.98	02-03-2003	-	-	-	-
Miscellaneous equipments	10.14	31-01-2003	-	-	-	-
Miscellaneous equipments	27.32	01-04-2004	1.73	1.73	1.73	1.73
Sub-station equipments	0.16	23-03-1986	-	-	-	-
Sub-station equipments	0.14	04-04-1986	-	-	-	-
Sub-station equipments	0.98	05-04-1986	-	-	-	-
Sub-station equipments	63.15	03-04-1996	1.29	1.29	1.29	1.29
Sub-station equipments	27.83	06-04-1986	-	-	-	-
Sub-station equipments	458.89	04-04-1992	-	-	-	-
Sub-station equipments	59.16	01-04-2004	1.21	1.21	1.21	1.21

Sub-station equipments	1,835.46	16-01-2009	96.91	96.91	96.91	96.91
Sub-station equipments	20.34	16-01-2009	1.07	1.07	1.07	1.07
Sub-station equipments	579.46	28-06-2010	30.60	30.60	30.60	30.60
Sub-station equipments	167.51	23-02-2013	8.84	8.84	8.84	8.84
Sub-station equipments	143.01	23-02-2013	7.55	7.55	7.55	7.55
Sub-station equipments	158.27	15-03-2015	8.36	8.36	8.36	8.36
Sub-station equipments	201.50	03-08-2011	10.64	10.64	10.64	10.64
Transformers	4.10	06-04-2016	0.22	0.22	0.22	0.22
Transformers	7.23	31-07-2017	0.38	0.38	0.38	0.38
Transformers	2.89	06-04-2016	0.15	0.15	0.15	0.15
Transformers	2.89	11-05-2016	0.15	0.15	0.15	0.15
<b>Total</b>	<b>4,278.03</b>		<b>178.38</b>	<b>178.38</b>	<b>178.38</b>	<b>177.93</b>
<b>Asset Additions during the control period (Excluding grants)</b>						
Roof top of RNAS Quarters	28.90	2018-19	0.76	1.53	1.53	1.53
Roof top of RNAS Quarters	21.37	2018-19	0.56	1.13	1.13	1.13
Providing new HT cable to the new load centre at A2 area	51.60	2019-20	-	1.36	2.72	2.72
11KV Bay extension	1.60	2019-20	-	0.04	0.08	0.08
Installation of star rated distribution tranformer	15.20	2019-20	-	0.40	0.80	0.80
RMU	24.40	2019-20	-	0.64	1.29	1.29
Smart metering Project	60.40	2019-20	-	1.59	3.19	3.19
<b>Total Asset Addition</b>	<b>203.47</b>		<b>1.33</b>	<b>6.70</b>	<b>10.74</b>	<b>10.74</b>
<b>Total</b>	<b>4,481.50</b>		<b>179.70</b>	<b>185.08</b>	<b>189.12</b>	<b>188.68</b>

66. Accordingly the depreciation approved for each year of the control period is shown below.

**Table 28**  
**Depreciation approved for the Control period**

Particulars	2018-19	2019-20	2020-21	2021-22
	Rs. Lakh	Rs. Lakh	Rs. Lakh	Rs. Lakh
<b>Total Depreciation</b>	<b>179.70</b>	<b>185.08</b>	<b>189.12</b>	<b>188.68</b>

67. The asset additions proposed to be created shall be considered based on the details submitted before the Commission.

68. **Interest and Finance Charges:** -The licensee as part of interest and finance charges projected interest and finance charges on long term loans, interest on working capital and interest on consumer security deposits.

**Table-29**  
**Comparison of the Interest and finance charges**

Particulars	Previous years			Control Period Estimates			
	2016-17	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	Actual (Rs. Lakh)	Trued Up (Rs. Lakh)	Actual (Rs. Lakh)	Projection (Rs. Lakh)	Projection (Rs. Lakh)	Projection (Rs. Lakh)	Projection (Rs. Lakh)
Interest and finance charges on long term loans	619.85	-	193.22	375.30	413.31	425.38	425.38
Interest on Working Capital	-	-	-	7.23	10.07	13.70	17.61
Interest on consumer security deposits	33.35	33.35	29.31	31.31	31.31	31.31	31.31
<b>Total Interest and Finance charges</b>	<b>653.20</b>	<b>33.35</b>	<b>222.53</b>	<b>413.84</b>	<b>454.69</b>	<b>470.39</b>	<b>474.30</b>

69. **Interest and finance charges on long term loans:** As per available information with the Commission, Cochin Port does not have any equity and the cost incurred for creation of assets attributed to the Electricity Distribution business was met out of Government of India (GOI) Loans availed by CoPT. The licensee has stated that the total loan amount as on 31.03.2016 was Rs. 4260.94 Lakh and accumulated interest till 31.03.2016 was Rs. 3695.75 Lakh. It may be seen that the Commission, in the previous truing up orders, has not allowed the interest charges for the Licensee mainly on the reason that no interest was paid to the Government of India.

70. The licensee has now submitted that the Cabinet Committee of Economic Affairs (CCEA) has approved the proposal of the CoPT for waiver of penal interest on GOI Loans to the tune of Rs. 897.23 crores and scheduled the repayment of the principal plus interest amounting to Rs. 557.16 crores in 10 years commencing from 2018-19. The Commission in the truing up orders had stated that Commission shall look into the matter once CoPT starts actual repayment of interest & loans. The licensee has submitted that, from the year 2018-19, CoPT is going to commence repayment of loans. Considering the accumulated interest on GOI loans shall be reversed completely to the tune of Rs. 4143.58 lakh up to 31.03.2017. Total accumulated interest amounting to Rs. 3695.75 lakh up to 31.03.2016 may be allowed by the Commission over a period of 10 years starting from 2018-19. The principal amount of Rs. 4260.94 Lakh shall also be repaid over a period of 10 years starting from 2018-19 as approved by the CCEA.

71. The licensee shall submit the details of the actual repayment made to the Government of India while filing the petition for truing up of accounts for the relevant years which shall be considered based on documentary evidences and the depreciation already approved.

**72. Interest on Working Capital:** The Commission in the order on the truing up of accounts had decided that there is no working capital requirement. The licensee in the petition has stated that Electricity distribution business is facing a deficit from the operations for carrying out day to day affairs which are met out of the funds provided by CoPT. The licensee has also claimed interest on working capital on notional basis based on the cash shortage as shown below.

**Table – 30**  
**Details of Interest on working capital for the control period**

Particulars	2018-19 Estimate (Rs. Lakh)	2019-20 Projected (Rs. Lakh)	2020-21 Projected (Rs. Lakh)	2021-22 Projected (Rs. Lakh)
<b>Receipts</b>				
Total income received excl receivables	2,863.14	3,080.31	3,281.62	3,485.56
Security deposits from consumers	-	-	-	-
Other Income	43.75	43.75	43.75	43.75
	2,906.89	3,124.06	3,325.37	3,529.31
<b>Payments</b>				
Total payments towards purchase of electricity	2,368.67	2,402.43	2,448.86	2,539.53
Security deposit from consumers invested in bank	-	-	-	-
Total expenses involving cash outflow (O&M+EmpCost+A&G)	1,063.44	976.98	999.08	1,070.76
Payment of SD with KSEB	17.00	17.00	17.00	17.00
Repayment of Gol Loans	426.09	426.09	426.09	426.09
Repayment of Interest on Gol loans	369.58	369.58	369.58	369.58
Interest on SD (maintained by customers with us) paid	31.31	31.31	31.31	31.31
	4,276.10	4,223.39	4,291.91	4,454.27
Cash Surplus / deficit	(1,369.20)	1,099.33	(966.54)	(924.96)
Fund transferred from CPT	1,369.20	1,099.33	966.54	924.96
Opening Balance of Working Capital	1,893.79	3,263.00	4,362.33	5,328.87
Total Working capital loan availed during the year from CoPT	1,369.20	1,099.33	966.54	924.96
Working Capital at the end of the year	3,263.00	4,362.33	5,328.87	6,253.83
Interest @ 10.5%	342.61	458.04	559.53	656.65

**73.** As the interest on working capital for the control period was not computed as per Regulation 32 of the Tariff Regulations, 2018, the licensee was directed to submit the same as per the provisions of the Tariff Regulations, 2018. The licensee vide letter

dated 27-04-2019 submitted the calculation of interest on working capital, where as stated that *“the deficit arising out of activities involved in electricity distribution business is met out of general reserve funds of CoPT. Apportionment of expenses to electricity distribution business is purely based on cost centre concept and the same is available for verification in the books of accounts of CoPT”* The licensee requested that interest on working capital may be allowed as proposed in the petition.

74. As per Regulation 32(1)(e) of the Tariff Regulations, working capital shall comprise as follows:

*“(e)In the case of distribution business/licensee the working capital shall comprise of,-*

- (i) operation and maintenance expenses for one month; plus*
- (ii) cost of maintenance spares equivalent to one-twelfth of the average of the book value of stores, materials and supplies at the beginning and end of the financial year; plus*
- (iii) receivables equivalent to the expected revenue from sale of electricity for two months at the prevailing tariff:*

*Provided that the amount, if any, held as security deposits except the security deposits held in the form of Bank Guarantee from users of the distribution system and consumers shall be reduced while computing the working capital requirement;*

*Provided further that for distribution business/licensees who supply electricity to their consumers on prepaid metering system, no interest on working capital shall be allowed.”*

75. As per the details provided, the licensee has kept the security deposit received for the consumers as Rs.494.51 lakh for all the years of the control period, whereas has proposed increase in the sales for each year. Considering the average growth rate in the sales of 6% for each year, the increased security deposit is considered for calculation.

**Table – 31**  
**Estimate of Security Deposit**

Particulars	2017-18 (Rs. Lakh)	2018-19 (Rs. Lakh)	2019-20 (Rs. Lakh)	2020-21 (Rs. Lakh)	2021-22 (Rs. Lakh)
Security Deposit from consumers	494.51	524.18	555.63	588.97	624.31

76. Based on the above, the working capital requirement for CPT for the control period is estimated as shown below.

**Table – 32**  
**Working Capital Requirement as per Tariff Regulations**

<b>Particulars</b>	<b>2018-19 (Rs. Lakh)</b>	<b>2019-20 (Rs. Lakh)</b>	<b>2020-21 (Rs. Lakh)</b>	<b>2021-22 (Rs. Lakh)</b>
a) O&M expenses 1 month	88.62	81.42	83.26	89.23
b) Cost of Spares	Not claimed by the licensee			
c) Receivables 2 months (Revenue from sale of power)	478.15	528.48	561.25	585.22
<b>Total</b>	<b>566.77</b>	<b>609.90</b>	<b>644.51</b>	<b>674.45</b>
Less:				
Security Deposit from consumers	524.18	555.63	588.97	624.31
<b>Working Capital requirement</b>	<b>42.59</b>	<b>54.27</b>	<b>55.54</b>	<b>50.14</b>

77. As per Regulation 32(2) of the Tariff Regulations, 2018, interest on working capital shall be allowed at a rate equal to two percent higher than the base rate as on the First day of April of the financial year in respect of which the petition for approval of Aggregate Revenue Requirement is filed. As per the regulation base rate means the Marginal Cost of funds based Lending Rate (MCLR) declared by the State Bank of India as applicable on first day of April of respective financial year for a tenor of one year. The MCLR rate prevailing as on 1<sup>st</sup> April 2018 is 8.15%. Accordingly the interest rate to be considered is 10.15%. As per the provisions of Tariff Regulations, 2018, the working capital for the M/s CoPT is estimated as shown below:

**Table – 33**  
**Approved Interest on Working Capital**

<b>Particulars</b>	<b>2018-19 (Rs. Lakh)</b>	<b>2019-20 (Rs. Lakh)</b>	<b>2020-21 (Rs. Lakh)</b>	<b>2021-22 (Rs. Lakh)</b>
Working Capital requirement	42.59	54.27	55.54	50.14
Interest on working capital at 10.15%	<b>4.32</b>	<b>5.51</b>	<b>5.64</b>	<b>5.09</b>

78. **Interest on Security Deposits:** The licensee has also proposed an amount of Rs.31.31 lakh for each year of the control period. The actual interest on security deposit paid to the consumers of CoPT for the year 2016-17 is Rs.33.35 lakh and Rs.29.31 lakh for 2017-18. As per the details furnished by the licensee, the security deposit from consumers held by the licensee is Rs.494.51 lakh. As per the Tariff Regulations 2018, interest shall be allowed on the amount held as security deposit in cash from users of the distribution system and consumers at the bank rate as on the

First day of April of the financial year in which the application is filed. The bank rate prevailing as on 1-4-2018 was 6.25%.

79. Based on the methodology followed in para 75 and considering the interest rate, the interest on security deposit approved for each year of the control period is shown below.

**Table – 34**  
**Approved Interest on security deposit (Rs. Lakh)**

Particulars	2018-19	2019-20	2020-21	2021-22
Security Deposit from consumers	494.51	524.18	555.63	588.97
Interest on security deposit @ 6.25%	<b>30.91</b>	<b>32.76</b>	<b>34.73</b>	<b>36.81</b>

80. Accordingly, the interest and finance charges approved for the control period is shown below.

**Table-35**  
**Interest and finance charges approved 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)
Interest and finance charges on long term loans	-	-	-	-
Interest on Working Capital	4.32	5.51	5.64	5.09
Interest on consumer security deposits	30.91	32.76	34.73	36.81
<b>Total Interest and Finance charges</b>	<b>35.23</b>	<b>38.27</b>	<b>40.37</b>	<b>41.90</b>

81. **Return on Equity:-**As per Regulation 28(2) of the Tariff Regulations 2018, if there is no equity invested in the business or equity invested in the regulated business of the distribution licensee is not clearly identifiable, return at the rate of three percent shall be allowed on the net fixed assets at the beginning of the financial year for such regulated business. Accordingly, the licensee has claimed a RoE at the rate of three percent on the net fixed assets at the beginning of the financial year as shown below.

**Table 36**  
**Return on NFA proposed for the control period**

Particulars		2018-19	2019-20	2020-21	2021-22
NFA at the beginning of the year		2493.72	2335.46	2574.16	2488.65
<b>Total return on NFA</b>	3%	<b>74.81</b>	<b>70.06</b>	<b>77.22</b>	<b>74.66</b>

82. Since the licensee has not submitted proper details of depreciation as per the tariff regulations, 2018 and details of proposed capital expenditure, Commission estimated the depreciation for the control period. Considering the depreciation approved for the control period and the provisional depreciation for 2017-18, the RoNFA approved for the control period is shown below.

**Table 37**  
**Return on NFA approved for the control period**

Particulars		2017-18	2018-19	2019-20	2020-21	2021-22
NFA at the beginning of the year		2719.96	2539.92	2360.22	2175.14	1986.02
Provisional Depreciation considered for 2017-18		180.04				
Depreciation approved for the control period			179.70	185.08	189.12	188.68
<b>Total return on NFA at the beginning of the year</b>	3%		<b>76.20</b>	<b>70.81</b>	<b>65.25</b>	<b>59.58</b>

83. **Aggregate Revenue Requirement:** The Aggregate Revenue Requirement approved for the control period is summarised as given below:

**Table 38**  
**Aggregate Revenue Requirement approved 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)
Power Purchase Cost	2368.67	2368.70	2536.75	2580.59	2681.67	2736.18	2812.25	2872.95
R&M expenses	27.34	435.22	27.89	456.29	28.44	478.37	29.01	501.52
Employee cost	948.60		859.84		879.60		948.89	
A&G expenses	87.50		89.25		91.03		92.86	
Interest and finance charges on long term loans	375.30	-	413.31	-	425.38	-	425.38	-
Interest on Working Capital	7.23	4.32	10.07	5.51	13.70	5.64	17.61	5.09
Interest on consumer security deposits	31.31	30.91	31.31	32.76	31.31	34.73	31.31	36.81
Depreciation	208.52	179.70	208.50	185.05	227.52	189.12	177.00	188.68
Return on equity	74.81	76.20	70.06	70.81	77.22	65.25	74.66	59.58
<b>Total Expenditure</b>	<b>4129.28</b>	<b>3095.05</b>	<b>4246.98</b>	<b>3331.01</b>	<b>4455.87</b>	<b>3509.29</b>	<b>4608.97</b>	<b>3664.63</b>

84. **Total Revenue:** - The total revenue includes revenue from the sale and non tariff income claimed by the licensee.

85. **Revenue from Sale of Power:** The licensee in the petition has projected the revenue from sale of power the years of the control period. The sale and the revenue projected for each year of the control period is tabulated below.

**Table-39**  
**Revenue from sale of power**

Particulars	Number of Consumers	Sale (MU)	Revenue from Sale as per original petition (Rs.Lakh)
<b>2018-19</b>	1275	341.91	2868.91
<b>2019-20</b>	1263	377.49	3082.61
<b>2020-21</b>	1257	405.86	3289.32
<b>2021-22</b>	1226	430.71	3488.56

86. The Commission vide order dated 08-07-2019 in OA No.15/2018 has revised the retail supply tariff applicable to consumers across the state. The revenue projection based on the relevant tariff applicable for the years of the control period is tabulated hereunder.

**Table-40**  
**Revenue Projections for the control period**

Consumer Category	2018-19			2019-20		
	No. of Consumers	Sale Lakh units	Revenue from sale	No. of Consumers	Sale Lakh units	Revenue from sale
LT I	554	9.00	32.08	554	9.45	39.42
LT II	2	3.32	28.26	2	3.48	29.61
LT IV	2	0.45	3.37	2	0.47	2.88
LT VI A	17	4.47	29.41	17	4.69	30.97
LT VI B	30	3.27	26.17	30	3.44	27.85
LT VI B G	15	0.77	6.85	15	0.80	7.37
LT VI C	7	2.18	23.74	7	2.29	26.07
LT VI C G	12	0.56	6.64	12	0.59	6.76
LT VI F	1	0.16	1.83	1	0.17	1.83
LT VII A SINGLE PHASE	304	3.14	27.79	304	3.30	31.86
LT VII A THREE PHASE	186	36.41	413.11	186	38.23	436.66
LT VII C	3	0.30	2.82	3	0.32	2.89
Income from Self consumption & Street lights	115	42.56	208.59	100	63.18	292.63
HT GOVT	4	8.89	74.46	7	9.33	80.62
HT II (B) GOVT	1	4.23	39.32	1	4.44	41.26
HT IV COMMERCIAL	19	186.71	1665.17	19	196.05	1852.21
HT INDUSTRIAL	1	6.27	44.48	1	6.58	48.11
HT IV MALABAR	2	29.21	234.79	2	30.67	253.44
<b>Total</b>	<b>1275</b>	<b>341.91</b>	<b>2868.88</b>	<b>1263</b>	<b>377.49</b>	<b>3212.44</b>

Consumer Category	2020-21			2021-22		
	No. of Consumers	Sale Lakh units	Revenue from sale	No. of Consumers	Sale Lakh units	Revenue from sale
LT I	554	10.02	40.83	554	10.62	41.01
LT II	2	3.69	31.47	2	3.91	33.35
LT IV	2	0.50	3.77	2	0.53	3.91
LT VI A	17	4.97	33.01	17	5.27	35.10
LT VI B	30	3.64	29.13	30	3.86	31.53
LT VI B G	15	0.85	7.62	15	0.90	8.08
LT VI C	7	2.43	26.43	7	2.57	28.23
LT VI C G	12	0.63	7.39	12	0.66	7.83
LT VI F	1	0.18	2.27	1	0.19	2.98
LT VII A SINGLE PHASE	304	3.50	31.03	304	3.71	35.68
LT VII A THREE PHASE	186	40.53	461.63	186	42.96	503.75
LT VII C	3	0.33	3.14	3	0.35	3.15
Income from Self consumption & Street lights	92	72.69	336.12	61	77.55	358.47
HT GOVT	9	9.89	86.93	9	10.49	90.08
HT II (B) GOVT	1	4.71	44.41	1	4.99	46.57
HT IV COMMERCIAL	19	207.81	1907.04	19	220.28	1996.58
HT INDUSTRIAL	1	6.98	51.00	1	7.40	53.30
HT IV MALABAR	2	32.51	264.30	2	34.46	278.13
<b>Total</b>	<b>1257</b>	<b>405.86</b>	<b>3367.52</b>	<b>1226</b>	<b>430.71</b>	<b>3557.53</b>

87. The licensee has not proposed any change in the number of consumers for each year of the control period except for the decrease in the self consumption and street lights category. As per the details submitted by the licensee, the actual revenue from sale of power for the year 2017-18 is Rs. 2947.54 lakh. However for the first year of control period i.e 2018-19, the total revenue from sale projected by the licensee is Rs. 2868.91 Lakh. The reason for the decrease in sale submitted by the licensee is that the units sold to the category of HT Government consumer will decline due to energy conservation methods adopted by government organizations like the CIFT, Customs & UTL. Further the units sold in the category of LT VII A and HT Commercial has decreased. The Commission approves the revenue from sale of power as shown above

88. **Non-Tariff Income:** The licensee has proposed interest on investments, fixed and call deposits and bank balances for each year of the control period. For the year 2018-19 the non tariff income proposed is Rs. 45.64 lakh. For the subsequent years of the control period, the non tariff income proposed is Rs.45.75 lakh and the licensee expects no change in the non-tariff income for the succeeding years of the control period. For the-year 2017-18, the actual non-tariff income claimed by the licensee is

Rs.39.49 lakh as the interest on investments, fixed and call deposits and bank balances.

89. At the end of the financial year 2016-17, the licensee is holding an accumulated surplus of Rs.4092.29 lakh and the Commission has ordered to keep the surpluses arrived after truing up in separate funds and utilize as per orders of the Commission. In the projections for the control period, the interest on the accumulated surplus is not shown as part of the proposed income for the control period. Considering the bank rate of 6.25% prevailing as on 01-04-2018 commission considers interest on accumulated surplus as part of non-tariff income. Accordingly, the non-tariff income approved for the control period is shown below.

**Table 41**  
**Non Tariff Income for the control period**

Particulars	2018-19 Rs. Lakh	2019-20 Rs. Lakh	2020-21 Rs. Lakh	2021-22 Rs. Lakh
Non Tariff Income Projected	45.64	45.75	45.75	45.75
Non Tariff Income Approved	<b>255.77</b>	<b>255.77</b>	<b>255.77</b>	<b>255.77</b>

90. **Revenue Surplus/Gap:** Based on the above, the revenue surplus/gap for the control period estimated by the licensee and that approved by the Commission are as follows.

**Table -42**  
**Revenue Surplus/ Gap, Projected by the licensee and**  
**Approved by the Commission for the control period**

Particulars	2018-19		2019-20	
	Projection (Rs. Lakh)	Approved (Rs. Lakh)	Projection (Rs. Lakh)	Approved (Rs. Lakh)
Power Purchase Cost	2368.67	2368.70	2536.75	2580.59
R&M Expenses	27.34	435.22	27.89	456.29
Employee cost	948.60		859.84	
A&G Expenses	87.50		89.25	
Interest and finance charges on long term loans	375.30	-	413.31	-
Interest on Working Capital	7.23	4.32	10.07	5.51
Interest on consumer security deposits	31.31	30.91	31.31	32.76
Depreciation	208.52	179.70	208.50	185.05
Return on equity	74.81	76.20	70.06	70.81
<b>Total Expenditure</b>	<b>4129.28</b>	<b>3095.05</b>	<b>4246.98</b>	<b>3331.01</b>
Revenue from sale of power	2868.91	2868.88	3082.61	3212.44
Other income	45.64	255.77	45.75	255.77
<b>Total income</b>	<b>2914.55</b>	<b>3124.65</b>	<b>3128.36</b>	<b>3468.21</b>
<b>Revenue Surplus (+)/ Gap (-)</b>	<b>(-)1214.73</b>	<b>(+)29.60</b>	<b>(-)1118.62</b>	<b>(+)137.20</b>

Particulars	2020-21		2021-22	
	Projection (Rs. Lakh)	Approved (Rs. Lakh)	Projection (Rs. Lakh)	Approved (Rs. Lakh)
Power Purchase Cost	2681.67	2736.18	2812.25	2872.95
R&M Expenses	28.44	478.37	29.01	501.52
Employee cost	879.60		948.89	
A&G Expenses	91.03		92.86	
Interest and finance charges on long term loans	425.38	-	425.38	-
Interest on Working Capital	13.70	5.64	17.61	5.09
Interest on consumer security deposits	31.31	34.73	31.31	36.81
Depreciation	227.52	189.12	177.00	188.68
Return on equity	77.22	65.25	74.66	59.58
<b>Total Expenditure</b>	<b>4455.87</b>	<b>3509.29</b>	<b>4608.97</b>	<b>3664.63</b>
Revenue from sale of power	3289.32	3367.52	3488.56	3557.53
Other income	45.75	255.77	45.75	255.77
<b>Total income</b>	<b>3335.07</b>	<b>3623.29</b>	<b>3534.31</b>	<b>3813.30</b>
<b>Revenue Surplus (+)/ Gap (-)</b>	<b>(-)1120.80</b>	<b>(+)114.00</b>	<b>(-)1074.66</b>	<b>(+)148.67</b>

### Order of the Commission

91. 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 ARR & ERC for the Control Period 2018-19 to 2021-22 are as shown below.

Particulars	2018-19 Approved (Rs. Lakh)	2019-20 Approved (Rs. Lakh)	2020-21 Approved (Rs. Lakh)	2021-22 Approved (Rs. Lakh)
Total income	3124.65	3468.21	3623.29	3813.30
Total Expenditure	3095.05	3331.01	3509.29	3664.63
<b>Revenue Surplus (+)/ Gap (-)</b>	<b>(+)29.60</b>	<b>(+)137.20</b>	<b>(+)114.00</b>	<b>(+)148.67</b>

### Directives of the Commission

92. In view of the facts and reasons explained in earlier paragraphs, the Commission gives the following directives. The licensee shall,

- (i) Promote demand side management and energy efficiency measures within its area of license.
- (ii) Bring down the distribution loss to the level stipulated in this order.

- (iii) Limit the expenditure to the amounts approved in this order.
- (iv) The licensee is to reconcile the value of assets and depreciation as per the provisions of the Tariff Regulations 2018
- (v) Submit detailed capital investment plan before the Commission and obtain the formal approval of the Commission.

Sd/-  
**K.Vikraman Nair**  
**Member**

Sd/-  
**R.Preman Dinaraj**  
**Chairman**

Approved for issue

**G.Jyothichudan**  
**Secretary**