

**KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM**

Petition No: OP 12/2023

Present : **Sri.T.K.Jose, Chairman**
Adv. A. J. Wilson, Member
Sri. B. Pradeep, Member

In the matter of : Petition for approval of ARR & ERC for the Control Period 2022- 23 to 2026-27

Petitioner : M/s Technopark, Trivandrum

Represented by : Smt. Jayanthi L, Chief Finance Officer
Sri. Madhavan Praveen, GM Projects
Sri. Viswanathan N, Dy Manager (Fin)
Sri. Anfal, Dy. Manager (Electrical)

Respondent : M/s Kerala State Electricity Board Limited

Represented by : Sri. Ajith Kumar K.N, Executive Engineer, KSEB Ltd
Sri. Rajesh R, Assistant Executive Engineer, KSEB Ltd
Smt. Biji Christudas, Assistant Engineer, KSEB Ltd

Date of Hearing : 16.05.2023 at Court Hall, Office of the Commission

Order Dated 28.02.2024

1. M/s Technopark, Thiruvananthapuram, (hereinafter referred to as the licensee) is a deemed distribution licensee for distribution of electricity in the Technopark campus. The license for distribution was originally given by Government of Kerala as per Government Order No. G.O.(P) No.19/99/PD dated 12-7-1999. M/s. Technopark has four licence areas namely (1) Technopark Phase I, (2) Technopark Phase II & III, (3) Technocity Pallippuram and (4) Technopark Kollam. The licensee has filed the present petition for the approval of ARR & ERC for the Control Period 2022-23 to 2026-27 as per the provisions of KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2021.
2. The Commission had notified the KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2021 (hereinafter referred to as Tariff Regulations, 2021) on 16-11-2021 for the five year Control Period starting from the first day of April 2022 and ending on the thirty first day of March 2027. As per

Regulation 10(1) of the said regulations, every distribution business/licensee shall file, on or before the thirty first day of December 2021, the petition for approval of Aggregate Revenue Requirement and determination of tariff for each year of the Control Period.

3. The licensee has filed the petition for approval of ARR&ERC for the control period 2022-23 to 2026-27 vide letter dated 17-05-2022, which was received on 23-05-2022 in the Office of the Commission. Since there was a delay in filing the petition, the licensee has filed the condonation of delay petition stating reasons for the delay in filing. The Commission considered the reason and vide Order dated 26.05.2022 in OP No.33/2022 condoned the delay in filing the petition and admitted the petition for approval of ARR&ERC as OP No.12/2023. The claims made in the petition for approval of ARR&ERC is tabulated below;

Table 1
ARR&ERC projected for the Control Period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Power Purchase Cost	4005.85	4477.91	5013.32	5698.02	6328.32
Employee Expenses	51.78	54.92	58.04	61.23	64.58
Administration and General	101.47	100.16	106.88	113.65	120.89
Repairs and Maintenance	419.93	448.87	470.76	493.17	517.83
Depreciation	171.89	171.89	171.89	171.89	171.89
Interest on Capital Loans	13.62	3.24	0.00	0.00	0.00
Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
Interest on Security Deposits	99.80	102.84	114.53	127.14	143.74
Return on NFA	28.60	22.47	16.35	10.22	4.10
Total Expenditure/ARR	4892.94	5382.31	5951.76	6675.32	7351.33
Revenue from Sale of power	4428.55	4931.94	5474.90	6189.23	6846.47
Non-Tariff Income	92.17	92.17	93.31	94.61	95.06
Total Revenue / ERC	4520.72	5024.11	5568.21	6283.84	6941.53
Net Revenue Surplus/(Deficit)	(372.22)	(358.20)	(383.55)	(391.48)	(409.79)

4. The Commission vide Order dated 25th June 2022 in OP 11/2020 had approved the ARR & ERC of KSEB Ltd for the Control Period and the Tariff Order applicable to the consumers and other distribution licensees. The licensee vide letter dated 16.01.2023 submitted details based on the revised Tariff Order issued by the Commission. The licensee had projected revenue deficit during all the years of the Control Period. The summary of the projected ARR&ERC of the licensee for the MYT period is shown below.

Table 2
Revised ARR&ERC projected for the Control Period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Cost of power purchase/ generation	4357.20	4870.51	5452.73	6196.58	6882.19
O & M Expenses	573.19	603.95	635.68	668.05	703.29
Depreciation	171.89	171.89	171.89	171.89	171.89
Interest on long term loans	13.62	3.24	0.00	0.00	0.00
Interest on consumer deposits	99.80	102.84	114.53	127.14	143.74
Return on Net Fixed Assets	28.60	22.47	16.35	10.22	4.10
Total Expenditure/ARR	5244.29	5774.91	6391.17	7173.88	7905.20
Revenue from sale of power	4846.88	5394.31	5986.56	6767.81	7487.69
Non-tariff income	92.17	92.17	93.31	94.61	95.06
Total Revenue / ERC	4939.05	5486.48	6079.87	6862.42	7582.75
Net Revenue Surplus/(Deficit)	(305.24)	(288.43)	(311.30)	(311.46)	(322.45)

Public Hearing on the Petition

5. The public hearing on the petition was conducted on 16-05-2023 at the Court Hall, Office of the Commission. The petitioner was represented by Smt. Jayanthi L, Chief Finance Officer, Sri. Madhavan Praveen, GM Projects, Sri. Viswanathan N, Dy Manager (Fin) and Sri. Anfal, Dy. Manager (Electrical). Sri. Ajith Kumar K.N, Executive Engineer, Sri. Rajesh R, Assistant Executive Engineer and Smt. Biji Christudas, Assistant Engineer represented KSEB Ltd. Sri. Anfal, Dy. Manager (Electrical) presented the petition before the Commission and clarified the queries of the Commission.
6. The main points of the petition for approval of ARR & ERC are briefed below.
 - a) The licensee has projected increase in the sales for the years of the control period. A sales growth of 10.74% - 12.91 % is projected for the control period. The licensee has stated that the projections are after considering the expected new consumers.
 - b) The licensee proposes a distribution loss reduction target for the years of the control period. The licensee is proposing to reduce the distribution loss to 2.53% by 2026-27.
 - c) The licensee stated that they are not able to meet the Renewable Purchase Obligation of the licensee and stated that they shall pay the cost for the same if KSEB Ltd meets the RPO for the licensee also.
 - d) Power purchase cost increases year on year, duly considering the increase in sales.
 - e) The licensee submitted that O&M expenses may be allowed, as proposed in

the petition as against the norms prescribed in the Tariff Regulations 2021. It was submitted that the normative costs allowed in the regulation are lower than the actual cost incurred in previous years and are not adequate to carry on the business.

- f) With regard to employee cost, the licensee has apportioned the cost of the employees and projected year on year increase for the control period. The licensee has stated that DA % increase is taken twice in a year (Jan&July) approximately 2% to 4% and based on Technopark Board decision approx 7% increase is given to consolidated pay yearly.
- g) The repair and maintenance expense projected by the licensee includes the O&M Contract outsourced for the operation and maintenance. The licensee has stated that they have been strictly following the competitive tendering process for the O&M Contract and the L1 bidder is awarded. The licensee has projected 5% increase in the R&M expenses.
- h) The A&G expenses projected by the licensee includes electricity charges, energy audit charges, inspectorate charges, security charges, Insurance, Telephone & Postage, Printing & Stationery and related charges. The major part of the A&G expenses claimed is Duty under Section 3 of the Kerala Electricity Duty Act.
- i) The licensee has stated that no capital investment plan has been included and a separate capital investment petition will be submitted after detailed study for approval.
- j) The licensee has claimed Rs.171.89 lakh as depreciation for each year of the control period in the straight line method.
- k) The licensee has proposed for interest on normative loan for the first two years of the Control Period.
- l) The licensee has projected Return on Net Fixed Assets at 3% for each year of the Control Period.
- m) The revenue from sale of power is proposed based on the revised tariff as approved by the Commission. The licensee has projected an increase in the non-tariff income for each year of the Control Period.
- n) The licensee, for each year of the Control Period, proposes a Revenue Gap and presented the petition with the following prayers;
 - Approve the ARR, ERC and Revenue Gap submitted.
 - Allow Capital Expenditure Petition to be filed separately.
 - Allow Purchase of REC to meet RPO or alternatively and direct seller entity to meet RPO as envisaged in regulation.
 - Allow Section 3 (1) Electricity Duty as an expense.

7. Smt. Biji Christudas submitted the views of KSEB Ltd on the petition before the Commission.
- a) Technopark has submitted the detailed category wise split up of the number of consumers and sales for the control period wherein increase is projected, whereas the methodology adopted for the projection is not clear.
 - b) It was submitted that reduction in distribution loss is an important parameter which has a direct impact on power purchase cost. The licensee has projected a loss reduction trajectory which reduced the loss to 2.53% in 2026-27 which is higher than the distribution loss of 1.44%, approved by the Commission in the ARR & ERC order for the previous control period 2018-19 to 2021-22.
 - c) It was submitted that the petition lacks clarity on the methodology considered for calculating the annual fixed charges and the issue with regard to sale of power at the Kundara Park is to be addressed.
 - d) The O&M expenses are controllable expenses and the claim by licensee in petition for 2022-23 to 2026-27 is significantly higher than the norms specified by the Commission. It was submitted that the O&M expenses may be limited to the approved norms.
 - e) A&G expenses claimed includes Electricity Duty payable to the Government under section 3(1) of the Duty Act 1963. It was submitted that Commission may take a uniform approach regarding Section 3(1) duty as the same is not a pass through.
 - f) The licensee has estimated depreciation in the straight line method as per the Tariff Regulations, 2021. It was submitted that depreciation is to be allowed only after considering the age of assets.
 - g) Interest on normative loan and RoE may be allowed only after verification of asset details and exercising prudence checks.
 - h) With regard to projection of revenue from sale of power, it was submitted that there has been an error in applying tariff and calculating revenue from sale of power for the entire control period. It was also stated that the licensee has not applied the tariff for the year 2022-23 on pro-rata basis.
8. The Commission sought clarifications on the petition and vide Daily Order dated 17.05.2023 directed the licensee to submit a revised petition considering the actual sales, income and expenditure for the year 2022-23. The Commission also stated that the licensee shall take efforts to attract the consumers to various areas of the licensee in order to effectively utilise the assets to its potential. In compliance to the direction issued, the licensee vide letter No. ETPK/KSERC/2023-24/745 dated 13.06.2023 submitted their revised petition. The comparison of revised

petition for approval ARR&ERC and the truing up petitions and the trued up figures for the previous years is tabulated hereunder.

Table 3
ARR&ERC projected for the Control Period based on actuals of 2022-23 (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Cost of power purchase/ generation	4652.88	6296.10	6757.10	7253.26	7616.33
Employee Expenses	53.30	57.06	60.26	63.55	66.99
Administration and General	93.71	117.37	123.35	128.52	132.83
Repairs and Maintenance	449.91	431.84	452.78	474.74	497.77
Depreciation	171.89	171.89	171.19	136.94	136.94
Interest on long term loans	9.03	3.32	0.00	0.00	0.00
Interest on consumer deposits	72.70	89.54	105.31	114.19	125.57
Return on Net Fixed Assets	52.43	41.20	29.97	18.78	9.47
Total Expenditure/ARR	5555.86	7208.32	7699.96	8189.97	8585.89
Revenue from sale of power	5751.09	6766.84	7337.29	8068.32	8650.39
Non-tariff income	90.54	91.09	92.00	93.06	93.26
Total Revenue / ERC	5841.63	6857.93	7429.29	8161.38	8743.65
Net Revenue Surplus/(Deficit)	285.77	(350.40)	(270.67)	(28.58)	157.76

Table 4
Income and Expenditure for the previous years (Rs. lakh)

Particulars	2019-20		2020-21		2021-22	
	Truing Up Petition	Trued Up	Truing Up Petition	Trued Up	Truing Up Petition	Trued Up
Purchase of Power	5,764.40	5,718.34	3511.93	3466.17	3494.83	3443.50
Prior Period Power Purchase Cost				9.71	-	-
Employee Cost	39.15	39.15	45.85	41.04	50.11	43.03
R&M Expenses	479.98	281.82	376.29	293.47	404.85	329.87
A &G Expenses	145.79	55.64	89.27	57.35	92.03	62.95
Interest and finance charges on long term loans	92.28	28.96	30.08	17.32	24.96	7.87
Interest on consumer security deposits etc	94.27	94.27	98.85	98.85	98.80	98.80
Depreciation	189.38	142.60	154.06	142.60	162.68	142.60
Return on NFA	55.95	27.88	48.96	25.35	53.08	21.07
Total Expenditure	6,861.19	6,388.66	4355.30	4151.86	4381.34	4149.69
Revenue from Sale of Power	6,760.31	6,760.31	4260.79	4260.79	4317.28	4317.28
Non-Tariff Income	129.20	214.55	94.04	171.49	83.67	162.14
Total Income	6,889.51	6,974.86	4354.83	4432.28	4400.95	4479.42
Net Revenue Surplus/(Deficit)	28.32	586.20	(0.47)	280.42	19.61	329.73

Analysis and decision of the Commission

9. The Commission considered the petition for approval of ARR & ERC for the Control Period 2022-23 to 2026-27, the additional clarifications and the revised submission vide letter 13.06.2023 furnished by the licensee along with the comments of KSEB Ltd. The analysis and decisions of the Commission on the petition for approval of ARR & ERC for the Control Period are detailed below:

No. of Consumers & Sale of power

10. As per Regulation 10 (8) of Tariff Regulations 2021, the 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 72 provides as follows:

“72. Sales Forecast. –

- (1) The distribution business/ licensee shall file, along with the petition for approval of Aggregate Revenue Requirement and determination of tariff, a forecast of the 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 proposed growth in number of consumers and proposed consumption per consumer, the demand for electricity in the preceding financial years, anticipated growth in the succeeding financial years and any other factor, which the Commission may consider relevant and thereafter approve the distribution licensee’s forecast of sale of electricity to the consumers, with such modifications as deemed appropriate.”*
11. The licensee has projected an increase in the number of consumers and increase in the sales for each year of the control period. Major sale of the licensee is to LT IV B and HT I B category of consumers. The energy sales and number of consumers projected for the control period is tabulated below.

Table 5
Sale of Power and No. of Consumers

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Kazhakuttam (Phase - I)	410.41	560.36	601.42	622.12	643.10
Kazhakuttam (Phase – II & III)	209.65	243.39	262.63	288.21	295.00
Technocity Campus, Pallippuram (Phase – IV)	17.16	17.54	21.55	26.21	33.50
Technopark Campus, Kollam (Phase-V)	5.99	6.60	7.17	8.09	8.31
Total Sale of power in lakh units	643.21	827.89	892.77	944.63	979.91
Percentage increase in sales	28%	29%	8%	6%	4%
Number of Consumers	973	1005	1037	1075	1097

12. The licensee has stated that increase in sales is projected based on expectations that there are three new private buildings (STPI, Carnival & Brigade) under construction that are expected to be completed during the next control period in Phase I. It is also stated that a new multi-storeyed complex building is being developed by a private agency named Taurus in Phase II and III. The project will include 18,00,000 sq.ft of world-class office space in three towers, and a 700,000 sq.ft space that would cater to retail space, entertainment areas and F&B outlets. The licensee has also mentioned that under Phase IV, one building (Suntec) is ready for completion and another one (TCS) is starting construction works. Digital University also has plans for expansion. With regard to Phase V, the licensee has stated that there are no new buildings or business assets planned whereas expects the business to grow marginally during the next five years.
13. The licensee has anticipated a relatively high growth during the first two years of the control period and expects only a normal load growth during other financial years. The Commission directs the licensee to make sure that the infrastructure created is utilized at optimum level in order to make the licensee's operations more cost effective. ***Considering the increase in the sales proposed for the control period, the Commission hereby approves the sales units and number of consumers as projected by the licensee for the Control Period.***

Energy requirement & Distribution Loss

14. As per Regulation 73, the licensee is to provide voltage level distribution loss and distribution loss reduction 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. The licensee in the petition has submitted the phase-wise distribution loss reduction trajectory for the control period wherein the licensee is anticipating the overall loss to reduce to 3.30% by the end of the control period.

The loss reduction targets projected by the licensee for the control period is tabulated below;

Table 6
Phase wise Distribution loss projected for control period

Phase	2022-23	2023-24	2024-25	2025-26	2026-27
Phase - I (K'uttam)	5.10 %	4.00 %	3.50 %	3.50 %	3.50 %
Phase - II & III (K'utam)	2.90 %	2.90 %	2.90 %	2.90 %	2.90 %
Phase - IV (Technocity)	7.60 %	6.00 %	5.00 %	4.00 %	3.50 %
Phase - V (Kollam)	4.00 %	4.00 %	4.00 %	4.00 %	4.00 %
Overall Loss	4.40 %	3.70 %	3.40 %	3.30 %	3.30 %

15. In the petition the licensee stated that, the petitioner has conducted a detailed energy audit in the distribution system in FY 2019-20 and errors in meters and computation detected have been corrected subsequently. It is observed that during the subsequent period FY 2020-21 and FY 2021-22, the losses have been 3.29% and 3.46% despite the petitioner's best effort to maintain the consumer meters accurate. During the past two years consumption had fell substantially. This may have impacted the percentage loss figures to higher side. The petitioner has initiated Energy Audit study which is going on. It is appealed that the past figures may not be taken as a benchmark for assessing AT&C losses of the petitioner and in prescribing the loss trajectory for the next control period. The petitioner has estimated the following realistic loss trajectory based on the sales projection made above and the distribution system conditions.
16. The licensee has also proposed for adding more solar plants in the control period. The expected generation from these plants are considered in projecting the energy purchase requirement for the next control period. The solar generation is estimated from the plant's capacity and the Capacity Utilisation Factor (CUF; around 16 and 17% historically observed) and shown in the Table below.

Table 7
Solar Generation for the Control Period

PLANT	LOCATION	OWNER	COD	2022-23	2023-24	2024-25	2025-26	2026-27
10 kWp	Phase 1 WT	Technopark	Dec 2018	14892	14892	14892	14892	14892
50 kWp	Phase 1 PC	Technopark	Aug 2023		74460	74460	74460	74460
15.5 kWp	Phase 1	Technopark	April 2023		23083	23083	23083	23083
100 kWp	Phase 1	Technopark	Sep 2023		86870	148920	148920	148920
100 kWp	Phase 1	Technopark	May 2026					136510
				14892	199305	261355	261355	397865
200 kWp	Phase 3	Technopark	Mar 2018	223883	297840	297840	297840	297840
50 kWp	Phase 3	Technopark	Mar 2019	65923	74460	74460	74460	74460

25 kWp	Phase 3 SS	Technopark	Mar 2019	34225	37230	37230	37230	37230
15.5 kWp	Phase 3	Technopark	Aug 2023		15388	23083	23083	23083
50 kWp	Phase 3	Technopark	May 2024			68255	74460	74460
50 kWp	Phase 3	Technopark	Aug 2026					49640
				324031	424918	500868	507073	556713
100 kWp	Phase 4	Technopark	Nov 2023		62050	148920	148920	148920
15.5 kWp	Phase 4	Technopark	Apr 2025				21725	21725
100 kWp	Phase 4	Technopark	Oct 2026					62050
				0	62050	148920	170645	232695
50 kWp	Phase 5	Technopark	Aug 2023		74460	74460	74460	74460
15.5 kWp	Phase 5	Technopark	May 2024			19914	21725	21725
50 kWp	Phase	Technopark	Jan 2027					70080
				0	74460	94374	96185	166265
		TECHNOPARK	SUBTOTAL	338923	760733	1005517	1035257	1353537
700 kWp	Phase-2	Infosys	Nov 2019	1102570	1042440	1042440	1042440	1042440
390 kWp	Phase-1	TCS	Jan 2021	543394	580788	580788	580788	580788
		CONSUMER	SUBTOTAL	1645964	1623228	1623228	1623228	1623228
		GRAND	TOTAL	1984887	2383961	2628745	2658485	2976765

17. The Commission examined the submission of the licensee and seen that the loss projections made for the Control Period is higher than the actual distribution loss claimed by the licensee over the years. Comparison of the actual distribution loss claimed by the licensee for the previous years are tabulated below;

Table 8
Actual Phase wise Distribution loss over the years

Phase	2018-19 (Actual)	2019-20 (Actual)	2020-21 (Actual)	2021-22 (Actual)
Phase - I (K'kuttam)	2.04%	2.95%	3.49%	3.59%
Phase - II & III (K'kutam)	2.35%	2.29%	1.66%	2.16%
Phase - IV (Technocity)	-	77.47%	29.51%	16.07%
Phase - V (Kollam)	13.15%	7.37%	9.04%	6.73%
Overall Distribution Loss	2.20%	2.80%	3.29%	3.45%

18. The Commission noted that, the licensee has not submitted any detailed calculation of distribution loss regarding the input energy and Output energy (i.e., Solar energy generation). The Commission sought the clarification on this regard and the licensee has submitted the calculation in the revised petition. The details are shown below.

Table 9
Actual Phase wise Distribution loss over the Control Period

Financial Year	Technopark Campus	Projected Energy Sales (LU)	Targeted Loss Limit %	Energy Requirement (LU)	Solar Generation (LU)	Energy Purchase requirement (LU)
2023-24	Phase-1	560.36	4.00	583.71	1.99	581.72
2023-24	Phase-2&3	243.39	2.90	250.66	4.25	246.41
2023-24	Phase-4	17.54	6.00	18.65	0.62	18.03
2023-24	Phase-5	6.60	4.00	6.88	0.74	6.13
	Total	827.90	3.72%	859.91	7.61	852.30
2024-25	Phase-1	601.42	3.50	623.24	2.61	620.62
2024-25	Phase-2&3	262.63	2.90	270.47	5.01	265.46
2024-25	Phase-4	21.55	5.00	22.69	1.49	21.20
2024-25	Phase-5	7.17	4.00	7.46	0.94	6.52
	Total	892.77	3.37%	923.86	10.06	913.80
2025-26	Phase-1	622.12	3.50	644.68	2.61	642.07
2025-26	Phase-2&3	288.21	2.90	296.81	5.07	291.74
2025-26	Phase-4	26.21	4.00	27.30	1.71	25.59
2025-26	Phase-5	8.09	4.00	8.43	0.96	7.46
	Total	944.62	3.34%	977.22	10.35	966.87
2026-27	Phase-1	643.10	3.50	666.42	3.98	662.44
2026-27	Phase-2&3	295.00	2.90	303.81	5.57	298.24
2026-27	Phase-4	33.50	3.50	34.72	2.33	32.39
2026-27	Phase-5	8.31	4.00	8.66	1.66	6.99
	Total	979.91	3.32%	1013.61	13.54	1000.07

19. The Commission further noted that, the licensee has not submitted the details for first year of the Control Period and the solar generation own plants are considered for the calculation of distribution loss. The Commission while truing up the accounts 2021-22 had approved 2.02% as the distribution loss and the quantum of power purchased corresponding to the excess distribution loss was disallowed at the average power purchase cost. The Commission notes that the distribution loss projected for the first two years of the Control Period is higher than the actual loss already achieved by the licensee. Distribution loss Reduction is a factor which is having direct impact on power purchase cost and available energy for distribution; it is a criterion that the licensee should continuously strive to improve upon. The Commission also notes that the energy loss at Phase IV campus is high compared to the normal standard which is due to the dismal business performance in the area which is indeed contributing to higher incidence of overall distribution loss. Considering the limited geographical area of its operation and the nature of infrastructure built up, the Commission is of the opinion that distribution loss can be reduced.

20. Based on the above observation the Commission noted that, distribution loss being a controllable parameter which is having direct impact on power purchase cost and available energy for distribution; it is a criterion that the licensees should continuously strive to improve upon. ***The Commission is of the considered view that the distribution loss is to be reduced and distribution loss of the first Control Period (2022-23) is fixed by the Commission as 3.45% being the distribution loss level already achieved by the licensee. Thereafter, the loss reduction target of 0.10% has to be achieved during each year of the Control Period by the licensee. The Commission hereby further directs the licensee to follow the guidelines issued by the CEA on ‘Electricity Distribution Network Planning Criteria’ regarding the measure for reducing the technical losses in the system. Accordingly, the approved distribution loss for the Control period is shown below.***

Table 10
Approved Distribution loss for the Control Period

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Total Energy Output-Sales (lakh Units)	643.21	827.90	892.77	944.62	979.91
Distribution Loss (%)	3.45	3.35	3.25	3.15	3.05
Distribution Loss (lakh Units)	22.98	28.70	29.99	30.72	30.83
Gross energy in the system (lakh units)	666.19	856.60	922.76	975.34	1010.74
Solar Generation Units (lakh units)	3.39	7.61	10.05	10.35	13.53
Energy to be purchased from KSEB Ltd (lakh units)	662.80	848.99	912.71	964.99	997.21

Renewable Purchase Obligation

21. The licensee in the petition has projected cost with regard to meeting the RPO obligation as part of the power purchase cost. The licensee has stated that they have only limited manpower, infrastructure and resources to engage in renewable power purchase contract considering the complexity involved and has proposed to meet RPO through purchase of RE certificates. The projection made by the licensee in this regard is tabulated below;

Table 11
Renewable Purchase Obligations

Particulars		2022-23	2023-24	2024-25	2025-26	2026-27
SALES (U)	kWh	64321028	82789699	89276672	94461770	97990851
SOLAR RPO						
SRPO***	%	10.50%	10.50%	10.50%	10.50%	10.50%
SRPO	kWh	6753708	8692918	9374051	9918486	10289039
RE GENERATION	kWh	338923	760733	1005517	1035257	1353537
SOLAR BANKING	kWh	1645964	1623228	1623228	1623228	1623228
REC PURCHASE*	Nos	4769	6309	6745	7260	7312

REC COSTS**	RS	16690873	22081351	23608571	25410004	25592961
<i>NON-SOLAR RPO</i>						
NSRPO***	%	10.25%	10.68%	10.68%	10.68%	10.68%
NSRPO	kWh	6592905	8841940	9534749	10088517	10465423
REC PURCHASE	Nos	6593	8842	9535	10089	10465
REC COSTS	Rs	9889358	13262910	14302123	15132776	15698134
Total RE	Rs	26580231	35344261	37910694	40542779	41291096
Total REC Cost	Rs lakh	265.80	353.44	379.11	405.43	412.91
<i>*One Certificate = 1MWh</i>						
<i>**Solar REC cost =3500/certificate and non-Solar cost =1000/Cert</i>						
<i>***As per KSERC Renewable energy and net metering regulations,2020</i>						

22. The licensee has further stated that the Commission may issue suitable directions to the seller entity (KSEBL) to meet the RPO obligation as envisaged in Regulation-4 (vi) (i) of RE Regulation, 2020 and claim the respective costs from the petitioner as per sub-section (ii) of the above regulation.
23. As per the Regulation 4(6) of the KSERC (Renewable Energy and Net Metering) Regulations, 2020.
- “A distribution licensee which is engaged in bulk purchase of electricity from another licensee shall not have separate obligation for purchase of renewable energy if, -(i) the seller licensee meets the renewable purchase obligation for the energy sold to the licensee or (ii) The licensee reimburses to the seller licensee the additional cost incurred as approved by the Commission by the seller licensee for the generation or purchase of renewable energy to meet the renewable purchase obligation of the licensee.”*
24. The power supplied by KSEB Ltd to other distribution licensee is a mix up of energy from various sources inclusive of renewable sources, the cost for meeting the renewable power purchase obligation of the buyer licensees through KSEB Ltd will always be lower than directly meeting the RP obligation.
25. KSEB Ltd vide letter No. KSEBL/TRAC/AE2 General/License-RPO/2022-23/19 dated 10.04.2023 submitted the details with regard to the anticipated renewable energy. KSEB Ltd further stated that, it is willing to meet the shortage in the renewable purchase obligations of Technopark after accounting their own RE generation as per the existing targets fixed by the Commission, either by own generation or through purchase, with a suitable mechanism to pass the additional expenditure incurred by KSEB Ltd for meeting the RP Obligations.
26. The Commission considered the above submissions by the licensee and KSEB Ltd and noticed that KSEB Ltd is willing to meet the RP Obligations of Technopark also with a suitable mechanism to pass through the additional expenditure. **As such, the Commission hereby orders KSEB Ltd to meet the RP obligation of**

Technopark after accounting their own RE generation as per the existing targets fixed by the Commission and also directs Technopark to pay the additional cost to KSEB Ltd at the rates as may be fixed by the Commission from time to time.

Power Purchase Cost

27. The licensee has proposed the power purchase cost for each year of the Control Period considering the increase in energy from KSEB Ltd at the applicable tariff for the relevant years of the Control Period. The Commission vide Order dated 25.06.2022 in OP No.11/2020 has approved the Tariff Order and based on this the licensee has revised the power purchase cost in line with revised BST applicable to the licensee. The licensee has also included the cost towards meeting the Renewable Purchase Obligation as part of the power purchase cost except for the first year of the control period. The details of the power purchase cost are tabulated hereunder.

**Table 12
Power Purchase Cost Projected for the Control Period**

Source of Power KSEB Ltd	Installed Capacity	Max Demand	Energy required	Annual Fixed charges	Variable Cost	Total Variable Charges	Total Cost	Avg cost of energy
	MW	MVA	LU	Rs lakh	Rs/kWh	Rs lakh	Rs lakh	Rs/kWh
2022-23								
Phase I (T'Puram)	40	135.00	432.09	500.25	6.00	2541.91	3003.68	6.95
Phase II&III (T'Puram)	25	55.16	212.75	205.00	6.00	1252.55	1437.77	6.76
Phase IV (Technocity)	41	9.08	18.58	33.64	6.00	110.18	155.28	8.36
Phase V (Kollam) -	1.6	3.60	6.24	14.17	6.60	41.35	56.16	8.99
Total		202.83	669.67	753.05		3945.99	4652.88	6.95
2023-24								
Phase I (T'Puram)	40	135.85	581.72	516.22	6.00	3490.32	4006.54	6.89
Phase II&III (T'Puram)	25	70.90	246.41	269.43	6.00	1478.49	1747.92	7.09
Phase IV (Technocity)	41	7.38	18.03	28.03	6.00	108.20	136.23	7.55
Phase V (Kollam)	1.6	2.80	6.13	11.48	6.60	40.48	51.96	8.47
Procurement of RECs							353.44	
Total		837.63	852.30	825.17		5117.49	6296.10	7.39
2024-25								
Phase I (T'Puram)	40	136.48	620.62	518.62	6.00	3723.73	4242.35	6.84
Phase II&III (T'Puram)	25	85.16	265.46	323.62	6.00	1592.77	1916.39	7.22
Phase IV (Technocity)	41	9.68	21.20	36.77	6.00	127.19	163.96	7.73
Phase V (Kollam)	1.6	2.99	6.52	12.25	6.60	43.04	55.29	8.48
Procurement of RECs							379.11	
Total		234.31	913.80	891.27		5486.72	6757.10	7.39

2025-26								
Phase I (T'Puram)	40	145.25	642.07	551.97	6.00	3852.40	4404.36	6.86
Phase II&III (T'Puram)	25	111.97	291.74	425.50	6.00	1750.45	2175.96	7.46
Phase IV (Technocity)	41	13.56	25.59	51.55	6.00	153.56	205.10	8.01
Phase V (Kollam)	1.6	3.20	7.46	13.14	6.60	49.26	62.40	8.36
Procurement of RECs							405.43	
Total		274.00	966.87	1042.16		5805.67	7253.26	7.50
2026-27								
Phase I (T'Puram)	40	153.10	662.44	581.78	6.00	3974.66	4556.44	6.88
Phase II&III (T'Puram)	25	133.97	298.24	509.10	6.00	1789.47	2298.57	7.71
Phase IV (Technocity)	41	24.79	32.39	94.19	6.00	194.33	288.52	8.91
Phase V (Kollam)	1.6	3.35	6.99	13.73	6.60	46.15	59.88	8.56
Procurement of RECs							412.91	
Total		315.21	1000.07	1198.81		6004.61	7616.33	7.62

28. As regards the claim towards Renewable Power Obligation, the Commission noted that KSEB Ltd is willing to meet the RP Obligations of Technopark also with a suitable mechanism to pass through the additional expenditure and Technopark is ready to reimburse the additional cost to KSEB Ltd.
29. Considering the power purchase from KSEB Ltd at the distribution loss reduction targets approved for the Control Period at the relevant tariff applicable for the years of the Control Period, the power purchase cost approved is shown below. It is clarified that, for the purpose of approval, the BST rates applicable for 2022-23 alone is factored in and any change thereafter will be considered during truing up of accounts of the relevant financial years. **Accordingly, the Commission fixes the distribution loss for the Control Period as preceding paragraphs. Thus, the level of distribution loss and the energy requirement approved for the Control Period are shown below.**

Table 13
Power purchase cost approved for the control period

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Energy purchased from KSEB Ltd (lakh units)	662.80	848.99	912.71	964.99	997.21
Total Demand Charge (Rs. lakh)	753.05	825.17	891.27	1042.16	1198.81
Energy Charge (Rs)	5.50/6.00	6.00	6.00	6.00	6.00
Total Energy Charge (Rs. lakh)	3899.62	5093.94	5476.26	5789.94	5983.26
Total Power Purchase Cost	4652.67	5919.11	6367.53	6832.10	7182.07

Operation and Maintenance Expenses

30. Operation and Maintenance expenses consist of three components. Employee Cost, Repair and Maintenance Expenses and Administrative and General Expenses. The Commission as per Regulation 80 (2) of the KSERC (Terms and conditions for determination of tariff) Regulations, 2021, has approved the operation & maintenance cost for the control period. The Commission has taken an escalation of 4.454% for the years of the Control Period considering 2020-21 as the base year. A comparison of the projected O&M expenses against the approved norms is tabulated below.

Table 14
Comparison of Operation & Maintenance Expenses as per norms and projected by the licensee (Rs. lakh)

Particulars	2022-23		2023-24		2024-25	
	Projected	Norms	Projected	Norms	Projected	Norms
Employee cost	53.30	27.14	57.06	28.35	60.26	29.61
A&G Expenses	93.71	36.09	117.37	37.69	123.35	39.37
R&M Expenses	449.91	317.37	431.84	331.51	452.78	346.28
Total O&M Expenses	596.92	380.60	606.27	397.55	636.39	415.26

Table 15
Comparison of Operation & Maintenance Expenses as per norms and projected by the licensee (Rs. lakh)

Particulars	2025-26		2026-27	
	Projected	Norms	Projected	Norms
Employee cost	63.55	30.93	66.99	32.31
A&G Expenses	128.52	41.13	132.83	42.96
R&M Expenses	474.74	361.70	497.77	377.81
Total O&M Expenses	666.81	433.76	697.59	453.08

31. The operation and maintenance cost projected for the control period is higher than the ceiling norms approved by the Commission in the Tariff Regulations 2021. The analysis of each head under operation and maintenance expense projected by the licensee for each year of the Control Period is detailed below.

Employee Expenses

32. The employee cost projected for each year of the control period is higher than the norms approved by the Commission. A comparison of the employee cost projected for the years of the control period and previous years is tabulated below.

Table 16
Comparison of Employee cost (Rs. lakh)

Particulars	Truing Up Petition	Trued Up
2019-20	39.15	39.15
2020-21	45.85	41.04
2021-22	50.11	43.03
	Projected	As per norms
2022-23	53.30	27.14
2023-24	57.06	28.35
2024-25	60.26	29.61
2025-26	63.55	30.93
2026-27	66.99	32.31

33. The licensee in the petition has stated that only minimal permanent employees are engaged in distribution business and the employee expenses include salary and benefits to permanent employees engaged in the distribution business. The major items booked under Employee Cost are Consolidated pay, salaries, dearness allowances, HRA, other allowance etc. The split up of the employee cost projected for the control period is tabulated below;

Table 17
Employee Cost projected for the control period (Rs. lakh)

Particulars	2022-23 actual	2023-24 Projected	2024-25 Projected	2025-26 Projected	2026-27 Projected
Basic Salary	16.35	16.68	17.01	17.35	17.70
Dearness Allowance (DA)	5.89	6.82	7.76	8.67	9.60
House Rent Allowance	0.53	0.53	0.53	0.53	0.53
Other Allowances (CCA)	0.09	0.09	0.09	0.09	0.09
Personal Pay + Arrears	0.00	0.00	0.00	0.00	0.00
Consolidated Pay	30.44	32.94	34.86	36.90	39.07
Gross Employee Expenses	53.30	57.06	60.26	63.55	66.99

34. The licensee has considered a 2% escalation considering that every year during July an increase in basic pay is given. With regard to increase in DA, it is stated that the DA will increase for the increased basic pay and the increase in DA is considered twice in a year (Jan & July) with is approximately 2% to 4%. With regard to consolidated pay it is submitted that based on Board decision of Technopark approximately 7% increase is given to consolidated pay yearly.
35. The licensee has stated that the employee cost applicable to distribution business is worked out on apportionment basis. The ratio of the apportioning considered in the petition is tabulated.

Table 18
Apportionment of Employee Cost for the control period

Designation	Posts	Apportioning Ratio
Chief Executive Officer	1	10%
Chief Finance Officer	1	20%
DGM (Projects)	1	25%
Deputy Manager (Electrical)	1	100%
Deputy Manager Finance	1	20%
Sr Executive Finance	1	75%
Apprentice Trainee	1	50%
Jr. Electrical Engineer (Temp)	1	100%
Supervisors, Meter readers	4	75%
Civil Engineer	1	25%

36. The Commission notes that the Employee cost projected for the years of the Control Period is significantly higher when compared to actual expenses incurred during the previous years. Being a distribution licensee, it is bound to limit/reduce the expenses. Employee expenses being a controllable expense, the Commission is of the considered view to go by the norms as per Regulations and approves as prescribed by the norms. ***The Commission further noted that, regarding the additional expenses or one-time expenses, the licensee shall submit all data to substantiate the expenses if any while truing up the accounts for the relevant years of the Control Period which shall be considered if prudent.***

Administrative & General Expenses

37. The Administrative & General expenses projected for the year is higher than the norms specified by the Commission in the Tariff Regulations, 2021. A comparison of the A&G Expenses projected for the years of the control period and previous years is tabulated below.

Table 19
Comparison of A&G Expenses (Rs. lakh)

Particulars	Truing Up Petition	Trued Up
2019-20	145.79	55.64
2020-21	89.27	57.35
2021-22	92.03	62.95
	Projected	As per norms
2022-23	93.71	36.09
2023-24	117.37	37.69
2024-25	123.35	39.37
2025-26	128.52	41.13
2026-27	132.83	42.96

38. The major expenses booked under A&G expense are towards Electrical Inspectorate /KSEB Fee, Electricity charges, Energy Audit Fee conveyance charges, security arrangements, Electricity Duty under Section 3 of the Kerala Electricity Duty Act, 1963 and license fee and other related fees. The split up of the A&G expenses claimed for the years of the control period is tabulated below.

Table 20
Split Up of the projected Administrative and General Expenses (Rs.lakh)

Particulars	2022-23 actual	2023-24 Projected	2024-25 Projected	2025-26 Projected	2026-27 Projected
Audit Fees	0.33	0.33	0.33	0.33	0.33
Bank Charges	2.45	2.00	2.00	2.00	2.00
Consultancy charges	1.00	1.35	1.35	1.35	1.35
Conveyance / Transportation	5.52	5.80	6.09	6.39	6.71
Electrical Inspectorate /KSEB Fee	14.80	14.80	14.80	14.80	14.80
Electricity charges	12.10	12.71	13.34	14.01	14.71
Energy Audit Fee	-	8.02	8.02	8.02	8.02
Insurance	4.36	4.58	4.81	5.05	5.30
License Fee (KSERC)	1.38	1.73	2.03	2.20	2.42
Petition fee (KSERC)	1.25	2.00	2.00	2.00	2.00
Printing & Stationery	-	0.20	0.20	0.21	0.21
Security arrangements*	11.73	12.32	12.93	13.58	14.26
Telephone & Postage, etc.	0.35	0.37	0.39	0.40	0.42
Staff Training etc	0.28	0.30	0.30	0.30	0.30
Subscriptions	1.18	1.20	1.20	1.20	1.20
A&G Expenses	56.73	67.69	69.79	71.84	74.04
Ele. Duty u/s 3(I), KED Act	36.98	49.67	53.57	56.68	58.79
Total A&G Expenses	93.71	117.37	123.35	128.52	132.83

39. The licensee has considered escalation factors varying from 2% to 5% for various cost components depending on its nature. The expense towards mandatory five yearly audits has also been included for every financial year. It is also stated that the licensee has reduced the security expenses by redeployment and other means during the past financial year. For the ensuing control period, security arrangement is estimated with a yearly escalation at a rate of 5% from the previously approved costs.

40. The A&G expenses include the claim of Electricity duty under Section 3 (1) of the Kerala Electricity Duty Act 1963. The Commission in the previous Orders had already taken a considered stand and had decided 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 an

appropriate decision on the matter. Until then Section 3 Duty cannot be considered as a pass-through as part of ARR.

41. ***After going through the submissions and clarifications by the licensee, the Commission is of the considered view that A&G expenses are controllable expenses and the Commission approves A&G expenses as per the norms fixed by the Regulations.***

Repairs and Maintenance Expenses

42. The Repair and Maintenance cost projected for the control period is higher than the norms approved in the Tariff Regulations, 2021. The licensee has stated that the operation, maintenance and repairs of the distribution system is carried out by licensed electrical contractors. The contract is awarded after a due transparent process of competitive tendering as per the existing rules and government directions. The licensee has further stated that the tenders for R&M works are invariably invited through the government e-tendering portal. The split up of the R&M expenses projected for the control period is tabulated below;

Table 21
R&M Expenses for the Control period (Rs.lakh)

Particulars	2022-23 actual	2023-24 Projected	2024-25 Projected	2025-26 Projected	2026-27 Projected
R&M Contracts Phase I	269.29	282.35	296.04	310.40	325.46
R&M Contracts Phase II & III	68.25	71.56	75.03	78.67	82.48
R&M Contracts Phase IV T'city	30.38	31.86	33.40	35.02	36.72
R&M Contracts Phase V	32.97	34.57	36.25	38.01	39.85
R&M materials and Spares	49.02	11.50	12.06	12.64	13.26
Gross R&M Expenses	449.91	431.84	452.78	474.74	497.77

43. The licensee has submitted the phase wise split up of R&M cost is shown below.

Table 22
Phase wise details of R&M contracts

Phase	Contractor	Period	Contract (Rs.lakh)
Phase-I Kazhakuttam	Fathima Engineering Company Pvt Ltd	01-07-2020 to 30-06-2023	793.16
Phase III – Ganga Yamuna IT Building	Geresh Electricals Pvt Ltd	01-08-2022 to 31-07-2025	124.00
Phase III & Phase-IV 110kV Substation	Sterling & Wilson Pvt. Ltd	01-01-2022 to 31-12-2024	180.53
Phase V Campus - Kollam	ABM Electricals Pvt. Ltd	01-11-2022 to 31-10-2025	105.00

44. The Commission while finalizing the norms for the control period in the Tariff Regulations, 2021 had considered an escalation factor. The licensee has stated that presumption that the future expenses are driven by inflation alone is not correct as there are other factors that influence the O&M Cost. Increases in the wages and salaries on account of service length etc are not considered. The licensee has requested the Commission to consider and approve the estimated R&M cost as projected by the licensee.
45. The Commission notes that, the licensee has proposed the R&M expenses which is significantly higher than norms approved in the Regulations and one-time emergency R&M works if any during the control period may be allowed during the truing up process. The licensee shall submit all data to substantiate the one-time emergency R&M works if any while truing up the accounts for the relevant years of the control period which shall be considered if prudent. ***The Commission is of the view that the licensee should take all efforts to limit the R&M expenses within the normative level and any expenses relating to uncontrollable factors or one-time expenses can be considered in Truing Up of accounts by the Commission only after prudence check.***

O&M Expenses Approved

46. The Commission has fixed the normative O&M expenses in the Tariff Regulations, 2021 by applying the escalation rate of 4.454%. While fixing the norms relying on historical inflation data, the Commission decided that actual escalation rates based on the actual inflation existing for each year of the Control Period would be considered at the time of Truing Up of the concerned financial year. As per the Regulation 80(2) of the Tariff Regulations, 2021 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. ***The Commission is of the view that the licensee should take all efforts to limit the O&M expenses within the normative level and any additional expenses relating to uncontrollable factors or one-time expenses can be considered at the time of Truing Up of accounts only after prudence check by the Commission. Accordingly, the Commission is of the considered view that the O&M expense is to be approved only in line with Regulation 80(2) and details are shown below.***

Table 23
Operation & Maintenance Expenses approved for the Control Period (Rs. lakh)

Particulars	2022-23		2023-24		2024-25	
	Projected	Norms / Approved	Projected	Norms / Approved	Projected	Norms / Approved
Employee cost	53.30	27.14	57.06	28.35	60.26	29.61
A&G Expenses	93.71	36.09	117.37	37.69	123.35	39.37
R&M Expenses	449.91	317.37	431.84	331.51	452.78	346.28
Total O&M Expenses	596.92	380.60	606.27	397.55	636.39	415.26

Table 24
Operation & Maintenance Expenses approved for the Control Period (Rs. lakh)

Particulars	2025-26		2026-27	
	Projected	Norms / Approved	Projected	Norms / Approved
Employee cost	63.55	30.93	66.99	32.31
A&G Expenses	128.52	41.13	132.83	42.96
R&M Expenses	474.74	361.70	497.77	377.81
Total O&M Expenses	666.81	433.76	697.59	453.08

Capital Investment Proposal

47. The Tariff Regulations 2021 clearly specifies procedure to be followed by the licensee while proposing the capital investment plan. Regulation 10 and 71 of the Tariff Regulations 2021 is quoted below;

“10. Filing under the Multi-Year Tariff (MYT) framework. –

(1) Every generating business/ company or transmission business/ licensee or distribution business/ licensee or State Load Despatch Centre shall file, on or before the Thirty first day of December 2021, the following petitions for the Control Period:

(i) Petitions for approval of Aggregate Revenue Requirement and determination of tariff separately for each year of the Control Period, including capital investment plan for each year of the Control Period;

Provided that, in the case of Generation Business/ Company, Transmission Business/Licensee, Distribution Business/Licensee & SLDC of Kerala State Electricity Board Limited and Thrissur Corporation Electricity Department, separate petition shall be filed on or before 20th December 2021 for the approval of the Capital Investment Plan for each year of the Control Period;

.....
“ 71. Capital Investment Plan. –

(1) It is the primary responsibility of the distribution business/ licensee to ensure optimum utilization of the capital expenditure in its projects to enhance economy,

efficiency and productivity and to meet the Performance Standards specified by the Commission.

(2) The distribution business/ licensee shall, along with the petition for determination of aggregate revenue requirements for the Control Period, file to the Commission for its approval, a detailed yearly capital investment plan, financing plan and the physical targets for meeting the requirement of load growth, reduction in distribution losses, improvement in the quality of supply, reliability, metering, consumer services etc., in accordance with the 'Guidelines for Provisional Clearance of Capital Investment' specified in Annexure 4 to these Regulations.

(3) The Capital Investment Plan shall be accompanied by all such information, particulars and documents as may be required by the Commission to substantiate the investment, justification of the proposed investments, project wise Detailed Project Report, basis of estimate, alternate solutions considered, and shall also include the capitalization schedule and financing plan.

(4) The Commission may approve the capital investment plan of the distribution business/ licensee, with appropriate modifications, if required, or reject the same:

Provided that the Commission shall afford to the distribution business/ licensee, a reasonable opportunity of being heard, before rejecting the proposal for approval of the Capital Investment Plan.

(5) The costs corresponding to the capital investments which are capitalised as per the approved Capital Investment Plan of the distribution business/ licensee for a given financial year shall be considered for its revenue requirement.”

48. In the current petition, the licensee has not proposed any capital investment plan for the years of the control period, whereas has filed a separate petition before the Commission for approval of capital investment for the year 2023-24 (OP 83/2023).

**Table 25
Capital Invest Proposal for 2023-24**

Particulars	Rs.lakh
Revamping of 11kV Power Distribution System at Technopark Phase-I Campus, Thiruvananthapuram	434.24
SITC of 35kWp Rooftop Grid Connected Solar PV plant at 110 kV substation, Technocity Campus	13.63
Solar Plant of 15.5 kWp above Hybrid Electric Vehicle Charging Station	6.45
SITC of 25kWp On-Grid Solar PV Plant at Park Centre Building And 78kWp On-Grid Solar PV Plant On the Pump House Water Tank at Technopark Phase-I Campus.	63.63
Total Asset Addition	517.95

49. The Commission will consider this capital expenditure based on the Order in OP 83/2023. **Therefore, the depreciation and other finance charges for the assets addition will be considered after formal approval, during the process of truing up of accounts based on the decision of the Commission.**

Depreciation

50. The licensee has claimed Depreciation as per the provisions of the Tariff Regulations, 2021. The licensee has not claimed any depreciation for the asset additions projected for 2023-34. The depreciation claimed for the years of the control period is tabulated below;

Table 26
Depreciation projected for the control period

Year	(Rs. lakh)
2022-23	171.89
2023-24	171.89
2024-25	171.19
2025-26	136.94
2026-27	136.94

51. The Commission vide Order dated 16.02.2022 while truing up the accounts for the year 2019-20 (OP 48/2021) had approved a depreciation of Rs.142.60 lakh. While truing up the accounts for the year 2020-21 and 2021-22, the Commission had provisionally approved Rs.142.60 lakh each towards depreciation, the same as approved in 2019-20, directing the licensee to submit the complete information on the Fixed Assets indicating therein, the Assets category, procurement date and cost, salvage value, useful life of assets, capitalisation date, completed years as on 01-04-2020, remaining life of the assets, depreciation claimed till date etc. with two category viz. (a) Assets below 12 years of age and (b) Assets with more than 12 years of age. Now in compliance to the directions issued by the Commission, the licensee vide letter No.ETPK/FIN/KSERC/2023-24/1441 dated 27.10.2023 submitted the details.
52. The Commission is of the considered view that the details submitted are to be properly scrutinized. **Accordingly, the Commission provisionally approves Rs.142.60 lakh for each year of the Control Period as approved while truing up the accounts for 2019-20.**

Interest and Finance Charges

53. The licensee has projected interest and finance charges for each year of the Control Period which includes interest on normative loan and bank charges for the security provided to KSEB Ltd. The details of the projections made by the licensee for each year are shown below.

Table 27
Interest and Finance Charges proposed for the control period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Interest on Normative Long-Term Loan	9.03	3.32	0.00	0.00	0.00
Interest on Consumer Deposits	72.70	89.54	105.31	114.19	125.57
Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
Total	81.73	92.86	105.31	114.19	125.57

a) Interest on Normative loan

54. As per Regulation 29 of Tariff Regulations 2021, the rate of interest shall be the weighted average rate calculated on the basis of the actual loan portfolio at the beginning of each financial year. Further, provided that if the regulated business of the licensee does not have actual loan, but normative loan is outstanding, then interest shall be allowed at the base rate. The licensee has claimed interest on normative loan as per the provisions of the Tariff Regulations, 2021 and in line with the methodology considered by the Commission while truing up the accounts for the previous years.
55. The licensee in the petition has claimed interest on the long-term loans on normative basis wherein the maximum equity component of capital investment allowed is 30%, the interest rate considered is the weighted average interest of actual loan portfolio for that year and the repayment is considered equal to the depreciation of that asset. The licensee has considered the closing (31-03-2020) normative loan of Rs.261.45 Lakh. The opening normative loan till 2022-23, is worked out based on the above closing figure and interest is worked out at the actual weighted average interest rate. The interest expense for the subsequent four years is estimated at the rate of 8.5 % per annum. The detailed computation of the interest expenses is tabulated below.

Table 28
Interest on Normative loan proposed for the control period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
	Computed	Projected	Projected	Projected	Projected
Opening Normative loan	250.08	78.19	0.00	0.00	0.00
Add : Asset Addition	0.00	0.00	0.00	0.00	0.00
Less: Depreciation	171.89	171.89	171.19	136.94	136.94
Closing Normative Loan	78.19	0.00	0.00	0.00	0.00
Average Loan	164.13	39.09	0.00	0.00	0.00
Av Rate of Interest (%)*	8.75	8.50	8.50	8.50	8.50
Interest Allowable	14.36	3.32	0.00	0.00	0.00

56. The Commission examined the claim of the licensee and noted that, the claim of first year of the Control period as per the form D 2.1 (shown in above Table 53) is different from the claim as per form D 3.6(b) in the petition. The Commission further observed that, while truing up the accounts for the year 2021-22 had allowed interest on normative loan for the asset additions made up to 2019-20. ***Under these circumstances, the Commission hereby approves a provisional amount of Rs.7.87 lakh (approved in Truing Up Order 2021-22) as interest on normative loan for the entire Control Period and the actual amount shall be considered after finalisation of assets additions and depreciation in Truing Up of accounts for the respective years.***

b) Interest payable on Consumer Security deposit

57. The licensee has claimed interest on security deposit at the rate of 5.00% as part of Interest and Finance Charges. The projection made by the licensee is tabulated below;

Table 29
Interest on Security Deposit for the control period (Rs.lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Security Deposits (Cash)	1790.88	2106.27	2283.83	2511.38	2692.55
Interest payable @ 6 %	72.70	89.54	105.31	114.19	125.57

58. As per Regulation 72 of the Kerala Electricity Supply Code, 2014, the licensee has to pay interest on the security deposit at the bank rate prevailing in the first April of that year. ***Considering this and the bank rate of 4.25% prevailing as on 01-04-2022, the Commission provisionally allows interest on security deposit for the control period as shown below.***

Table 30
Approved Interest on Security Deposit for the Control Period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Security Deposit at the beginning of the year.	1503.75	1790.88	2106.27	2283.83	2511.38
Interest on Deposit @ 4.25%	63.91	76.11	89.52	97.06	106.73

c) Interest on Working Capital

59. For the control period, the interest calculation and working capital requirement as per the regulation is shown in the format D-3.7, which shows that there were no additional borrowings required for working capital. Hence no interest on working capital is claimed by the licensee.

60. Accordingly, the interest and finance charges approved for the control period is tabulated below;

Table 31
Approved Interest and finance charges for the control period (Rs. lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Interest on Normative Long-Term Loan	7.87	7.87	7.87	7.87	7.87
Interest on Consumer Deposits	63.91	76.11	89.52	97.06	106.73
Total	71.78	83.98	97.39	104.93	114.60

Return on Net Fixed Assets

61. As per Regulation 28(2) of the Tariff Regulations 2021, 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 5.50 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 RoNFA at the rate of 5.50% on the net fixed assets at the beginning of the financial year as shown below.

Table 32
Return on Net Fixed Assets projected for the control period (Rs.lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
GFA opening	3935.31	3935.31	3935.31	3935.31	3935.31
Acc Depreciation	2369.90	2574.10	2778.30	2981.81	3151.06
Grants	612.06	612.06	612.06	612.06	612.06
NFA Opening	953.35	749.15	544.95	341.44	172.19
Rate	5.5%	5.5%	5.5%	5.5%	5.5%
Return On NFA	52.43	41.20	29.97	18.78	9.47

62. Regulation 28 of the Tariff Regulations, 2021 provides for Return on equity share capital or net fixed assets.

28. Return on Paid up Equity or Net Fixed Assets. –

- (1). Return on equity shall be computed in rupee terms, on the paid-up equity share capital and shall be allowed at the rate of fourteen percent (14%) per annum:

Provided that in the case of increase in the equity share capital of the generating business/ company, transmission business/ licensee, distribution business/ licensee and State Load Despatch Centre, the additional amount of equity share capital infused into the generating business/ company, transmission business/ licensee, distribution business/ licensee and State Load Despatch Centre, and approved by the Commission for the assets put to its intended use shall be provided with ROE at 14% per annum on pro rata basis from the date of issuance of the equity shares:

Provided further that the generating business/ company, transmission business/ licensee, distribution business/ licensee and State Load Despatch Centre shall provide the complete details of the source of funding for such equity share capital.

- (2). If there is no equity share capital invested in the business or the equity invested in the regulated business of the generating business/ company or transmission business/ licensee or distribution business/ licensee or State Load Despatch Centre or such equity share capital is not clearly identifiable, return at the rate of 5.50 percent shall be allowed on the net fixed assets at the beginning of the financial year for such regulated business:

Provided that the net fixed assets shall be exclusive of the assets created out of consumer contribution, deposit works, capital subsidy or grants.

63. Based on above Regulation 28 of Tariff Regulations, 2018, the return shall be allowed at 5.50 percent on the net fixed assets at the beginning of the financial year for such regulated business. During Truing Up order 2021-22, the Commission has deferred the claim of depreciation due to non-availability of complete information. Therefore, the Commission is not in a position to work out the NFA at the beginning of the year and Return on NFA. **Under these circumstances, the Commission hereby approves a provisional amount of Rs.21.07 lakh (approved in Truing Up Order 2021-22) as Return on NFA for the entire Control Period and the actual amount shall be considered after finalisation of depreciation in Truing Up of accounts for the respective years.**

Revenue from Sale of Power

64. The licensee while filing the petition for approval of ARR&ERC for the control period had projected the revenue from sale of power as per the pre-revised tariff. The Commission vide order dated 26.06.2022 has issued the schedule of tariff and terms and conditions for retail supply of electricity. Accordingly, the licensee submitted revised calculation for revenue from sale of power. The category wise revenue from sale of power claimed by the licensee for each year of the control period applicable for the years of the control period is tabulated hereunder.

Table 33
Revenue from sale of Power for the control period

Consumer Category	2022-23			2023-24		
	Consumers	Sales in Lakh Units	Revenue Rs.lakh	Consumers	Sales in Lakh Units	Revenue Rs.lakh
LT IV A : INDL [<10 kW]	6	0.22	1.34	6	0.22	1.37
LT IV A : INDL [10-20 kW]	4	0.38	2.65	4	0.39	2.70
LT IV A : INDL [> 20 kW]	7	2.82	27.86	8	3.18	26.88

LT – IV B : IT [<10kW]	224	10.91	74.56	258	11.87	81.77
LT – IV B : IT [10 - 20kW]	76	7.01	60.64	82	11.21	91.98
LT – IV B : IT [>20kW]	257	249.31	2421.64	269	375.15	2908.95
LT - VI (A)	3	0.39	3.18	3	0.39	3.30
LT VI (B)	9	0.59	5.62	9	0.60	5.99
LT VI (C) (1/3 ph)	33	2.38	25.88	33	2.43	27.16
LT VI (F)(1 ph)	56	0.68	6.06	56	0.70	7.18
LT VI (F) (3 ph)	125	22.83	241.53	99	22.75	241.17
LT VI (G) GENL	1	0.07	0.69	1	0.07	0.86
LT VII (A) : COML (1ph)	53	0.89	8.70	53	0.91	9.95
LT VII (A) COML (3 ph)	58	3.32	43.34	62	3.61	50.63
LT VII (B) COML	11	0.02	0.19	11	0.02	0.23
LT IX DISPLY	2	0.08	1.14	2	0.08	1.02
LT VIII (B) Street Lights	18	1.44	6.81	18	1.47	11.37
Self-Consumption	5	2.64	25.07	5	2.69	26.30
Total (LT)	948	305.97	2956.90	979	437.74	3498.81
HT -I Industrial	18	316.46	2616.11	20	368.35	3078.98
HT -II A Gen	2	12.45	93.24	2	13.34	100.40
HT -II B Gen	4	4.34	48.66	3	3.89	42.89
HT- IV Commercial	1	3.99	38.65	1	4.58	45.76
Total (HT)	25	337.24	2796.66	26	390.16	3268.02
Total Sales	973	643.21	5753.56	1005	827.90	6766.84

Table 34
Revenue from sale of Power for the control period

Consumer Category	2024-25			2025-26		
	Consumers	Sales in Lakh Units	Revenue Rs.lakh	Consumers	Sales in Lakh Units	Revenue Rs.lakh
LT IV A : INDL [<10 kW]	6	0.23	1.39	6	0.23	1.42
LT IV A : INDL [10-20 kW]	4	0.39	2.77	4	0.40	2.81
LT IV A : INDL [> 20 kW]	9	4.29	33.67	9	4.38	34.07
LT – IV B : IT [<10kW]	266	12.35	85.53	279	12.91	89.47
LT – IV B : IT [10 - 20kW]	88	13.42	107.78	98	14.55	117.33
LT – IV B : IT [>20kW]	280	420.23	3268.09	286	433.96	3379.02
LT - VI (A)	3	0.40	3.61	3	0.41	3.67
LT VI (B)	9	0.61	6.08	9	0.63	6.17
LT VI (C) (1/3 ph)	33	2.48	27.58	33	2.53	28.00
LT VI (F)(1 ph)	56	0.71	7.31	56	0.73	7.44
LT VI (F) (3 ph)	99	23.48	247.88	99	23.95	252.22
LT VI (G) GENL	1	0.07	0.88	1	0.07	0.89
LT VII (A) : COML (1ph)	53	0.92	10.12	53	0.94	10.29
LT VII (A) COML (3 ph)	66	3.97	56.33	69	4.16	59.85
LT VII (B) COML	11	0.02	0.23	11	0.02	0.23
LT IX DISPLY	2	0.08	1.20	2	0.08	1.22
LT VIII (B) Street Lights	18	1.50	7.82	18	1.53	7.64
Self Consumption	5	2.75	26.65	5	2.80	27.01
Total (LT)	1,009	487.91	3894.91	1,041	504.27	4028.78

HT -I Industrial	21	381.05	3231.42	23	408.94	3558.12
HT -II A Gen	2	13.94	103.92	3	15.67	136.73
HT -II B Gen	4	4.60	55.85	5	5.69	166.92
HT- IV Commercial	1	5.27	51.19	3	10.04	177.78
Total (HT)	28	404.86	3442.38	34	440.34	4039.55
Total Sales	1,037	892.77	7337.29	1,075	944.62	8068.32

Table 35
Revenue from sale of Power for the control period

Consumer Category	2026-27		
	Consumers	Sales in Lakh Units	Revenue Rs.lakh
LT IV A : INDL [<10 kW]	6	0.23	1.44
LT IV A : INDL [10-20 kW]	4	0.41	2.86
LT IV A : INDL [> 20 kW]	9	4.46	34.66
LT – IV B : IT[<10kW]	292	16.95	115.93
LT – IV B : IT [10 - 20kW]	103	15.48	125.78
LT – IV B : IT [>20kW]	294	449.64	3507.17
LT - VI (A)	3	0.42	3.73
LT VI (B)	9	0.64	6.26
LT VI (C) (1/3 ph)	33	2.58	28.44
LT VI (F)(1 ph)	56	0.74	7.58
LT VI (F) (3 ph)	99	24.43	256.65
LT VI (G) GENL	1	0.07	0.90
LT VII (A) : COML (1ph)	53	0.96	10.47
LT VII (A) COML (3 ph)	69	4.32	62.15
LT VII (B) COML	11	0.02	0.24
LT IX DISPLY	2	0.09	1.24
LT VIII (B) Street Lights	18	1.56	8.13
Self-Consumption	5	2.86	27.38
Total (LT)	1,067	525.85	4201.02
HT -I Industrial	22	419.74	3762.24
HT -II A Gen	3	16.39	163.60
HT -II B Gen	4	5.79	235.99
HT- IV Commercial	1	12.14	287.54
Total (HT)	30	454.06	4449.37
Total Sales	1,097	979.91	8650.39

65. Being an IT park, major revenue realisation is from LT IV B and HT I B category. ***After due consideration of the figures and comments, the Commission provisionally approves the revenue from sale of power as estimated by the licensee for the Control Period on the condition that, the actuals only be allowed at the time of Truing up of accounts of the respective years.***

Non-Tariff Income

66. The non-tariff income projected for the control period includes interest earned from Investments in banks, deposit with KSEB, late payment surcharge from consumers, commission received on electricity duty collection and income from other miscellaneous sources.

Table 36
Non-Tariff Income (Rs.lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
	Projected	Projected	Projected	Projected	Projected
Interest on Deposits / Investments	53.47	56.06	58.78	61.63	64.62
Late payment surcharge	27.24	25.00	23.00	21.00	18.00
Miscellaneous receipts	9.83	10.03	10.23	10.43	10.64
Total	90.54	91.09	92.00	93.06	93.26

67. The cumulative revenue surplus till 2021-22 is Rs.2877.22 lakh. The Commission considers the rate of 4.25% per annum (Standard rate notified by the RBI as on 01-04-2022) for working out interest and the total interest on accumulated surplus works out to Rs.122.28 lakh. The balance amount after adjusting the interest on fixed deposits projected by the licensee is considered as part of non-tariff Income. **Accordingly, the Non-tariff income approved for the years of the Control Period is tabulated below;**

Table 37
Non-Tariff Income approved for the control period (Rs.lakh)

Particulars	2022-23	2023-24	2024-25	2025-26	2026-27
Interest on Deposits / Investments	53.47	56.06	58.78	61.63	64.62
Late payment surcharge	27.24	25.00	23.00	21.00	18.00
Miscellaneous receipts	9.83	10.03	10.23	10.43	10.64
Balance interest on accumulated surplus	68.81	66.22	63.50	60.65	57.66
Total	159.35	157.31	155.51	153.71	150.92

Revenue Surplus / (Gap)

68. 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 38
Revenue Surplus/ Gap, projected by the licensee and Approved by the
Commission for the Control Period (Rs. lakh)

Particulars	2022-23		2023-24		2024-25	
	Projected	Approved	Projected	Approved	Projected	Approved
Cost of power purchase/ generation	4652.88	4652.67	6296.10	5919.11	6757.10	6367.53
Employee Expenses	53.30	27.14	57.06	28.35	60.26	29.61
Administration and General	93.71	36.09	117.37	37.69	123.35	39.37
Repairs and Maintenance	449.91	317.37	431.84	331.51	452.78	346.28
Depreciation	171.89	142.60	171.89	142.60	171.19	142.60
Interest on long term loans	9.03	7.87	3.32	7.87	0.00	7.87
Interest on consumer deposits	72.70	63.91	89.54	76.11	105.31	89.52
Return on Net Fixed Assets	52.43	21.07	41.20	21.07	29.97	21.07
Total Expenditure/ARR	5555.86	5268.72	7208.32	6564.31	7699.96	7043.85
Revenue from sale of power	5751.09	5751.09	6766.84	6766.84	7337.29	7337.29
Non-tariff income	90.54	159.35	91.09	157.31	92.00	155.51
Total Revenue / ERC	5841.63	5910.44	6857.93	6924.15	7429.29	7492.80
Net Revenue Surplus/(Deficit)	285.77	641.72	-350.39	359.84	(270.67)	448.95

Table 39
Revenue Surplus/ Gap, projected by the licensee and Approved by the
Commission for the Control Period (Rs. lakh)

Particulars	2025-26		2026-27	
	Projected	Approved	Projected	Approved
Cost of power purchase/ generation	7253.26	6832.10	7616.33	7182.07
Employee Expenses	63.55	30.93	66.99	32.31
Administration and General	128.52	41.13	132.83	42.96
Repairs and Maintenance	474.74	361.70	497.77	377.81
Depreciation	136.94	142.60	136.94	142.60
Interest on long term loans	0.00	7.87	0.00	7.87
Interest on consumer deposits	114.19	97.06	125.57	106.73
Return on Net Fixed Assets	18.78	21.07	9.47	21.07
Total Expenditure/ARR	8189.98	7534.46	8585.89	7913.42
Revenue from sale of power	8068.32	8068.32	8650.39	8650.39
Non-tariff income	93.06	153.71	93.26	150.92
Total Revenue / ERC	8161.38	8222.03	8743.65	8801.31
Net Revenue Surplus/(Deficit)	-28.60	687.57	157.76	887.89

Order of the Commission

69. The Commission considered the petition for approval of ARR & ERC for the Control Period 2022-23 to 2026-27, 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 2022-23 to 2026-27 are as shown below.

Table 40
Revenue Surplus/ Gap approved by the Commission for the Control Period (Rs. lakh)

Particulars	2022-23		2023-24		2024-25	
	Projected	Approved	Projected	Approved	Projected	Approved
Total Expenditure/ARR	5555.85	5268.72	7208.32	6564.31	7699.96	7043.85
Total Revenue / ERC	5841.63	5910.44	6857.93	6924.15	7429.29	7492.80
Net Revenue Surplus/(Deficit)	285.77	641.72	-350.39	359.84	-270.67	448.95

Table 41
Revenue Surplus/ Gap approved by the Commission for the Control Period (Rs. lakh)

Particulars	2025-26		2026-27	
	Projected	Approved	Projected	Approved
Total Expenditure/ARR	8189.98	7534.46	8585.90	7913.42
Total Revenue / ERC	8161.38	8222.03	8743.65	8801.31
Net Revenue Surplus/(Deficit)	-28.60	687.57	157.75	887.89

Directives of the Commission

70. In view of the facts and reasons explained in earlier paragraphs, the Commission gives the following directives.

a) The licensee to follow the guidelines issued by the CEA on 'Electricity Distribution Network Planning Criteria' regarding the measure for reducing the technical losses in the system.

b) The KSEB Ltd to meet the RP obligation of Technopark after accounting their own RE generation as per the existing targets fixed by the Commission and also directs Technopark to pay the additional cost to KSEB Ltd at the rates as may be fixed by the Commission from time to time.

71. The petition is disposed of. Ordered accordingly.

Sd/-
Sri. T K Jose
Chairman

Sd/-
Adv. A. J. Wilson
Member

Sd/-
Sri. B. Pradeep
Member

Approved for issue
Sd/-
C.R.Satheesh Chandran
Secretary