



Transmission Tariff Petition FY 2024 – FY 2030

***By
K-Electric Limited (KE)***

December 27, 2023

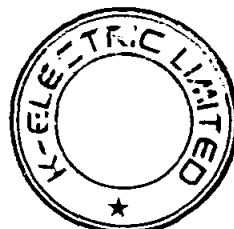
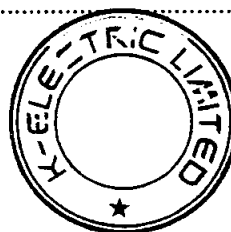
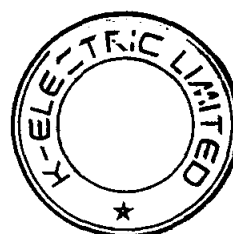


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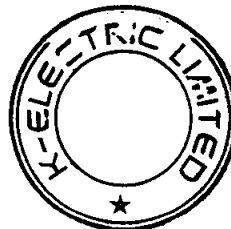
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Disclaimer

The projections and forecasts contained in this petition are only intended for NEPRA for the purposes of evaluating and determining KE's MYT for Transmission segment. The plan contained in this petition is based on expectations, estimates and projections at the time of filing of the same that could differ from actual results or events owing to business and operational risks and change in scope and circumstances.

The information contained in this petition is not intended as a solicitation or recommendation of investments. Under no circumstances should this information be relied on or treated as legal or other professional advice. Although KE has taken the greatest possible care in compiling this information, it assumes no responsibilities for any reliance for investment decisions placed thereon.



1. Details of the petitioner

1.1. Name and Address

K-Electric Limited

Head office and Registered office

KE House
39-B,
Sunset Boulevard, Phase II,
Defence Housing Authority,
Karachi, Pakistan

1.2. Representatives

- Syed Moonis Abdullah Alvi - Chief Executive Officer
- Muhammad Aamir Ghaziani – Chief Financial Officer
- Abbas Hussain – Chief Generation & Transmission Officer

1.3. Grounds giving rise to petitioner's interests & Licensee details

K-Electric Limited (KE), is a vertically integrated electrical supply company, providing public utility services to the city of Karachi and its suburbs. KE is active in generation, transmission, and distribution (including sales) of electricity. It operates under licenses granted by the National Electric Power Regulatory Authority (NEPRA) for generation, transmission, and distribution. KE is a public limited company and is listed on the Pakistan Stock Exchange.

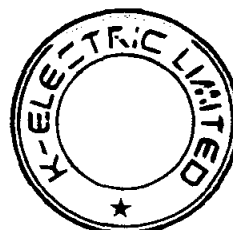
Transmission license (TL/02/2010) was granted to KE on June 11, 2010. Under this license, KE is the Transmission Network Operator and System Operator for its Service area. Accordingly, KE owns and manages its own transmission network and also performs the functions of System Operator for its service area through its Load Despatch Centre (LDC).

KE was granted an integrated Multi-Year Tariff for a control period of 7 years that has expired in June 2023. Further, to align its MYT structure with ongoing changes in power sector including separation of Network and Supply business, implementation of CTBCM model, proposed country wide central economic dispatch and for better transparency KE is filing separate tariffs for Generation, Transmission, Distribution and Supply segments.

This has been further discussed in **section 9.1**.

Further, it is requested that KE be permitted to submit additional asks, information, documents, evidences, applications, representations in writing in future and/or further grounds that maybe required in accordance with the prescribed rules or procedures as and when notified, or even otherwise during the proceedings on the instant petition.

Moreover, considering the fact that previous MYT control period has already lapsed, KE hereby requests the Authority to allow immediate application of the proposed tariff under Rule 4(7) of NEPRA (Tariff Standards and Procedure) Rules, 1998 till the final determination of the Authority to ensure application of fuel cost adjustments both positive and negative to consumers and for provisional settlement of tariff differential claims. The interim tariff allowed will be subject to final decision of the Authority on the petition.

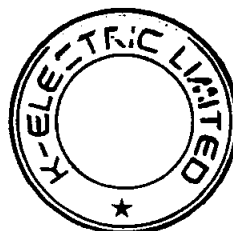


2. Confirmation of compliance with Tariff Standards and Procedures

This petition is being filed in accordance with Part II Rule 3 of the NEPRA Tariff Standards and Procedure Rules, 1998.

The information required to be filed under the Rules can be found under the following sections:

Rules Reference	Requirement	Petition Reference
3 (2) (a)	Name and address	1.1 & 1.2
	Grounds giving rise to petitioner's interest & Licensee details	1.3
(b)	Grounds and facts on which the petition is based	3 – 8
(c)	Determination sought	9
(d) / (e)	Comparison of existing and proposed tariff	9.4
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3. KE's Overview and FY 2017-23 Multi Year Tariff Structure

3.1. Overview

Incorporated in 1913, KE is the only vertically integrated utility (VIU) in Pakistan. The company was privatized in November 2005. KE is responsible for end-to-end planning and execution of Generation, Transmission, Distribution and Supply of power to its consumers within its service area which includes Karachi, Ghara in Sindh and Hub, Uthal, Vinder and Bela in Balochistan region.

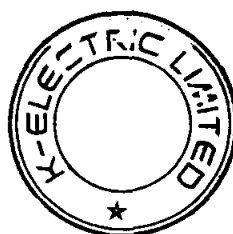
3.2. KE's Integrated Multi-Year (MYT) Tariff Regime

KE was awarded an integrated Multi-Year Tariff (MYT 2017-23) for a control period of 7 years, valid till June 30, 2023, which was determined on July 05, 2018, subsequently notified by Ministry of Energy (Power Division) through SRO 576(I)/2019 dated May 22, 2019 (referred as "MYT Determination"). The MYT 17-23 tariff regime was primarily based on a fixed rate-based structure, wherein costs have been allowed as pass through based on certain benchmarks along with a Return on Regulatory Asset Base. The tariff included fuel cost for KE's power plants, cost of power purchase from external sources, O&M expenses, write off claim of bad debts, adjustment of other income, Depreciation (on cost basis) and Return on Regulatory Asset Base. Regulatory Asset Base is defined as Property, plant and equipment excluding surplus on revaluation (including Capital work in progress), net of Deferred revenue (Consumer funded assets) whereas Return is based on a notional debt to equity ratio of 70:30, cost of debt based on mix of foreign and local borrowings and a USD based return on equity.

Further, KE's MYT 2017-23 included a monthly and quarterly indexation mechanism to account for changes in fuel costs, power purchase costs, and certain other adjustments based on the defined parameters. To account for recovery loss, NEPRA has allowed claim of actual write off of bad debts based on a defined criterion. MYT 2017-23 also included an allowed investment plan for the control period and mechanisms of Mid Term review / End of Term review to reassess certain assumptions including investment plan.

Within the MYT 2017-23, NEPRA had allowed KE, a Return on Regulatory Asset Base based on notional debt to equity ratio of 70:30, whereas KE's actual debt to equity ratio based on debt and invested equity at the time was 24:76 (FY 16). Reason for the high invested equity was that KE needed to fund losses in past through equity. Furthermore, no such condition for debt-to-equity ratio was specified in the MYT 2009-16 (Pre-2017). However, due to the application of the notional debt to equity ratio above, KE was allowed a lower effective return and its actual invested equity was not considered and additionally the equity over and above the notional thirty percent (30%) was considered as debt for the purposes of determining the return.

The issue of applying notional 70:30 debt to equity ratio for the purpose of determining KE's Return on Regulatory Asset Base and non-consideration of actual invested equity is taken up in the Appeal filed before the NEPRA Appellate Tribunal ('Appeal') under Section 12 (g) (1) of the NEPRA Act 1997 (as amended from time to time). KE would like to humbly state on record that the submissions made in this petition are without prejudice to the Appeal and subject to final outcome of such Appeal, any relief granted by the NEPRA Appellate Tribunal in such proceedings, the tariff under determination/determined through the instant petition shall also be amended and / or modified accordingly.



4. Transmission Overview

Transmission license (TL/02/2010) was granted to KE on June 11, 2010. Under this license, KE is the Transmission Network Operator and System Operator for its Service area. Accordingly, KE owns and manages its own transmission network and also performs the functions of System Operator for its service area through its Load Despatch Centre (LDC).

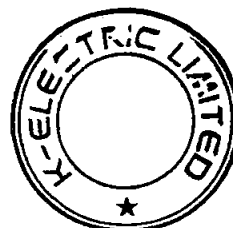
KE's state-of-the-art online SCADA is operational for over ten years. At present, the entire KE network including all grid stations and generation plants are adopted and are being monitored / controlled through Supervisory Control and Data Acquisition (SCADA). Further, SCADA is being utilized for Grid Code compliance like power quality monitoring, optimal power flows etc., and its archives are also used for routine switching operations, planned outage management, Root Cause analysis (RCA) and for performance-based reporting. Further, as part of its TP-1000 project, KE has upgraded the SCADA SINUAT spectrum from 4.5 to 4.7.

In addition to being the System Operator for its service area, KE's Transmission License also obliges KE to perform the functions of a Planner, preparing short-and long-term plans, which is also supplemented by KE's vertically integrated structure responsible for all three functions.

As System Operator for its service area under the Transmission License granted to KE, the Company owns and manages its transmission network, which as of June 2023 comprised of 71 grid stations, 181 power transformers having transmission capacity of 6,965 MVAs, and 1,354 km of 220 kV, 132 kV and 66 kV Transmission lines.

To meet its service obligations and improve reliability of its transmission network since privatization till June 2023, KE has invested over PKR 145,052 million in its Transmission segment which has resulted in addition of 19 new grid stations and transmission capacity enhancement by around 100%, thus resulting in significantly improved transmission network reliability.

Going forward, KE's planned additions in the Transmission segment are focused on capacity enhancement and further improving network reliability and stability through addition of new grid stations, which also include grid at 500 kV level for off-take of additional supply from the National Grid, along with addition of power transformers which would increase capability to serve the growing power demand in its service area.



5. Transmission Investments & Benefits – FY 2017 - FY 2023

During the FY 2017-23 control period, KE has invested **PKR 116,014 million¹** in the Transmission business, focusing on capacity enhancement and improved network reliability, enabling KE to reduce transmission constraints and serve the incremental power demand.

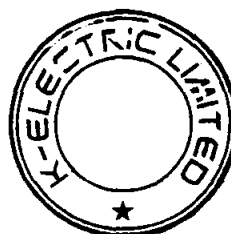
Further, during the period July 2016 to June 2023, 7 new grid stations have been added, along with addition of **44** power transformers and **6** auto transformers resulting in capacity addition of **1,865 MVAs** in power transformation and **1,500 MVAs** in auto transformers. In addition, over **105 km** of new EHT lines have been added along with rehabilitation of **237 km** of existing lines. This has consequently improved performance standards considerably as explained in detail in **section 5.2 and 5.3** below.

Going forward, KE plans to continue and further accelerate investments in Transmission infrastructure upgrade through capacity enhancement as well as to set up new interconnection points with the National Grid for increased reliability and off-take of additional power from the National Grid. Details of KE's transmission performance have been discussed in the subsequent sections.

A summary of the actual investments carried out till FY23 is given below:

Description	PKR million							Total
	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	
Transmission Pack 1	2,291	20,618	14,316	10,745	1,568	1,418	2,614	53,570
Transmission Pack 2	1,699	1,286	1,304	1,101	3,402	6,009	6,558	21,359
NTDC Interconnection lines (NTDC Part)	-	-	-	-	-	-	11	11
Transmission (BQPS III Allied projects)	-	-	-	2,159	5,884	2,483	7,669	18,195
HVUB project	-	-	-	-	-	31	-	31
500 kV Grids	-	-	-	9.2	36	1,338	3,702	5,085
Other Transmission CAPEX	1,792	3,247	1,627	4,591	2,013	3,517	976	17,763
Total Transmission (Gross)	5,782	25,151	17,247	18,605	12,903	14,796	21,530	116,014
Less Deferred Revenue - additions	(337)	(319)	-	(3)	(1,111)	-	(2,104)	(3,874)
Total Transmission (Net)	5,445	24,832	17,247	18,602	11,792	14,796	19,426	112,140

¹ Gross amount



5.1. Grid Stations

Under the MYT 2017-23, KE has added 7 new grid stations as of June 2023.

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
220 kV	7	7	7	9	10	10	10	10
132 kV & 66 kV	57	57	57	59	60	61	61	61
Total	64	64	64	68	70	71	71	71

5.2. Transmission Capacity

Through addition of 44 new power transformers along with rehabilitation of existing ones, KE has enhanced its Transmission capacity by 1,865 MVAs as of June 2023 enabling KE to further strengthen the reliability of KE's transmission network and ability to serve the increasing power demand.

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Power Transformers (MVAs)	5,100	5,165	5,519	6,078	6,352	6,536	6,803	6,965

5.3. Transmission Lines

During MYT 2017-23, KE has added 105 km of transmission lines.

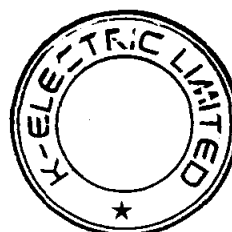
Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Actual								
220 kV	338	338	338	335	365	365	364	364
132 kV & 66 kV	911	915	916	948	954	986	990	990
Total	1,249	1,253	1,254	1,283	1,319	1,351	1,354	1,354

5.4. Power Transformers Loading

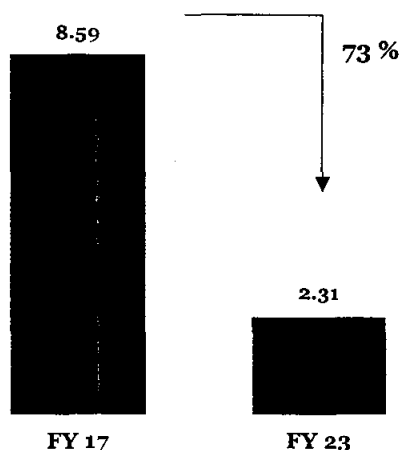
With the addition of new power transformer and balancing amongst existing ones through system improvement plans (SIP) the loading profile of power transformer in KE fleet remained under technical limits.

5.5. Benefits of Investments made during the MYT 2017- 23

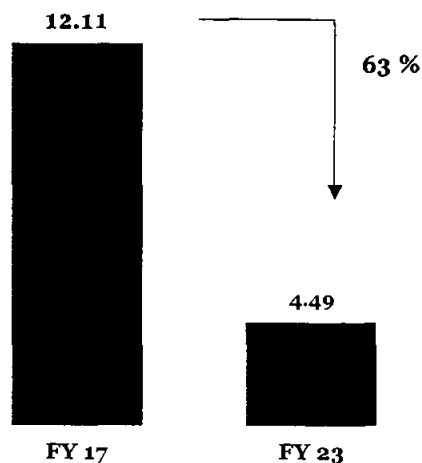
During the MYT 2017-23, KE has taken significant steps to upkeep and improve the reliability of the system. The investment resulted in improvement of SAIFI and SAIDI of the transmission system by 73% and 63%, respectively.



SAIFI - Transmission



SAIDI - Transmission

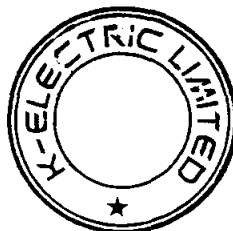


In addition to above, owing to investments made in transmission network since the start of the control period, transmission loss of the system has been reduced significantly since FY 2017 from 1.50% to 0.86% till FY 2023.

It is important to note that year on year number can also vary due to specific circumstances prevalent at that point in time and may not be representative of normal operating conditions, which were also observed in FY-22 and FY-23, where yearly transmission loss number was exceptionally low.

Further, the improvement since FY2017 till FY2023 is mainly attributable to following below mentioned projects and activities carried out to ensure reliability and stability of KE Transmission network.

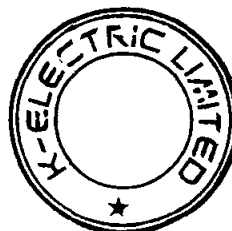
1. Grid Capacity Enhancement Projects
2. Reconductoring of Transmission Lines
3. Installation of RTV/ Composite insulators
4. GIS Overhauling Project
5. TP 1000 Project
6. Implementation of Tripping Schemes
7. Bird Fall Protection Project
8. Rehabilitation of HVUB Transmission Lines
9. Replacement of obsolete equipment including current/potential transformers, circuit breakers and relays
10. Enhancement of SCADA Functionality
11. Safety Initiative and Improvement Programs



5.6. KE's Performance for the control period FY 2017 – FY 2023

KE's KPI wise performance for the control period FY 2017 – FY 2023 is summarized in table given below:

KPI	Definition	Calculation	FY17	FY18	FY19	FY20	FY21	FY22	FY23
System Reliability	SAIFI (no.)	SAIFI= No of interruptions during one year / No of consumers (consumers = interconnection points with Grid consumers and count of 11 kV feeders)	8.59	8.07	10.07	6.12	4.58	2.46	2.31
	SAIDI (hr.)	SAIDI= \sum Duration of interruptions / No of consumers hrs (consumers = interconnection points with Grid consumers and count of 11 kV feeders)	12.1	11.55	16.56	11.77	6.93	2.73	4.49
Transmission Loss	The technical losses	FY T. Loss= $1 - \sum$ Units available for distribution / Total Sent-out	1.50%	0.90%	1.20%	1.11%	1.07%	0.83%	0.86%



6. Investment Plan & Benefits FY 2024 - 2030

KE's vision is to ensure a reliable, and safe supply of electricity in an efficient and sustainable manner to its consumers. Past performance of KE and improvements made over the previous years has significantly improved system availability and reliability.

During the last few years, a number of initiatives were taken to improve reliability and availability of power system which includes installation of new 132kV and 220KV Grid and Transmission lines, replacement of aged equipment, transition to condition-based maintenance regime, adopting modern maintenance mechanisms / tools, transition from conventional operational regime to automated environment through SCADA and other digitalization projects.

Drawing inference from the above thought process, KE has prepared Investment Plan to upkeep and improve its focus on safety, outage reduction, restricting spread of outages, power quality, technical loss reduction alongside enhancing technology intervention to improve operational efficiency and sustainability. The Investment Plan is divided into five heads: (i) Growth Projects, (ii) Interconnection for off take from NTDC (iii) Interconnection for off take from IPPs (iv) System Improvement / Reliability; and (v) Reactive Power Management and Loss Reduction Projects which are discussed in detail in the subsequent sections.

Continuing with the above strategy to achieve operational excellence and sustainable augmentation in the network, a detailed roadmap is prepared for transmission system expansion. To validate the KE's Investment Plan, consultancy services were obtained from Power Planners International (Pvt.) Ltd "PPI". Necessary recommendations from the consultant have been incorporated in the plan.

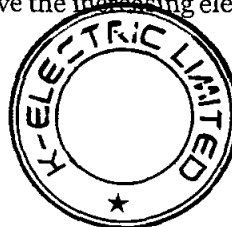
NEPRA vide its email dated December 12, 2023 has communicated the approval of the Investment Plan and performance KPIs for expanding and improving the performance of the transmission infrastructure during the control period of FY 2024 to FY 2030.

A summary of year wise approved investment plan is given in the table below:

Description	PKR Million							Total
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	
Total Approved Investment	39,708	39,303	45,562	42,657	36,161	18,573	16,381	238,345
Carryover variance – KKI Project	2,746	979	-	-	-	-	-	3,725
Total Investment including Carryover variance	42,454	40,282	45,562	42,657	36,161	18,573	16,381	242,070

The investment plan approved by the Authority was submitted prior to the close of FY 2023. It included projected carryover amounts associated with the KKI project under the category of NTDC interconnection, however, the actual differs from the projected carryover amount, therefore, necessary adjustments have been made to the carryover amount for actualization of FY 2023. In addition to KKI project carryover, carry over of TP-1000 project (due to uncontrollable ROW issues) and BQPS III Allied project are also planned to be completed in FY 24, for which Authority is requested to allow the same as part of carryover CAPEX on actual. Furthermore, the return on investment earned by KE on the abovementioned carryover amount in the MYT 2017-23 will be adjusted accordingly at the time of End of term review adjustment submission pertaining to MYT 2017-23.

These abovementioned investments during the control period are required to be undertaken for growth and enhancement and for overhauling / rehabilitation of the existing Transmission network. These investments would enable KE to better serve the increasing electricity demand



and improve the overall service levels and detailed explanation of CAPEX is given in approved Investment Plan.

It is pertinent to highlight that the above mentioned approved investments are based on the following assumptions:

1. PKR / USD Exchange Rate of PKR 206/USD (June 30, 2022)
2. Reference Pakistan CPI of 158.48 (Average FY 2022)
3. Reference US CPI of 282.03 (Average FY 2022)

Furthermore, the Authority has approved the base cost with annual indexation including exchange rate variation and relevant CPIs. Moreover, actualization of custom duties, contingencies, IDC (based on cost of debt allowed by the Authority) and any other head which is over & above the base cost has been allowed.

It is also submitted that the details of scope wise investments and annual adjustment mechanism will be covered in NEPRA detailed decisions on the Investment Plan and the proposed investment adjustment mechanism as detailed in **section 10** and capacity additions of investments as detailed in **section 6.1** of this petition is subject to revision based on the detailed decision.

Here KE would humbly highlight that the execution of proposed investment plans and related additions / improvements are linked to approval of tariff asks in this petition as a sustainable tariff that balances the interest of all stakeholders and is necessary to enable KE to raise financing required for execution of project and to remain viable as business entity to ensure continuity of operations and improvements for consumers.

Consumer funded CAPEX

Above approved investment plan does not include expenditure expected for the consumer funded grids, which will be carried out based on consumer's request with payment. Therefore, CAPEX relating to these grids & consumers inflows falling in Deferred revenue and amortization of deferred revenue on these assets, shall be made part of RAB and other income for the Transmission Tariff at actual.

Further, with respect to inflows from consumers in the form of Grid Sharing charges for their dedicated connection as per Grid Sharing Policy, the same shall be passed through in tariff at actual and shall be actualized annually for calculation of RAB in the Annual Investment Update as explained in **Section 10**.

6.1. Summary of Planned Additions

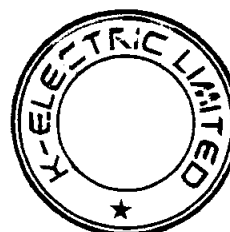
As per the investment plan, following additions are planned for the control period i.e., FY 2024 - 2030:

Grid Stations

Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Total Additions
500kV	-	1	1	1	1	1	1	1	1
220kV	10	11**	11	12	12	13	13	14	4**
132kV / 66 kV	61	61	62	66	67	67	69	70	9*
Total Grids	71	73	74	79	80	81	83	85	14

* 3x 132kV Grids are consumer funded.

** 220 kV Dhabeji Grid is to be energized in FY 2024, however capex has already been incurred till FY 2023.



Transmission Lines (KM) - Additions

Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Total Additions
500kV	-	9	9	9	9	9	9	9	9
220kV	364	545*	585	655	720	760	760	770	406*
132kV/66kV	990	992**	1,004	1,048	1,084	1,092	1,111	1,125	135**

Total 1,354 1,546 1,598 1,712 1,813 1,861 1,880 1,904 550

* 220kV NPQ - Dhabaji circuit & 220kV Dhabaji LILO moved in FY 2024, however capex has already been incurred till FY 2023.

**Differential km of 132kV Jacobline – Baloch is moved in FY 2024, however capex has already been incurred till FY 2023.

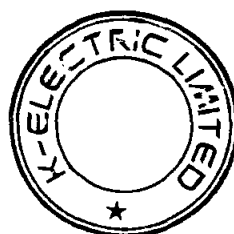
Transmission Lines (Rehabilitation) KM

Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Total Rehabilitation
500kV	-	-	-	-	-	-	-	-	-
220kV	-	-	-	-	48	48	48	48	48
132kV	452	480*	514	561	606	636	655	655	203*
66kV	-	-	-	-	-	-	-	-	-

Total 452 480 514 561 654 684 703 703 251

*Differential of actual of FY 2023 vs projected at the time of submission of investment plan has been moved to FY 2024, however capex has already been incurred till FY 2023.

Rehabilitation will not increase the overall length of the network, however, will help in enhancing the reliability and stability of the network.



Power Transformers & Auto Transformers Capacity (MVAs)

Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Total Additions
500kV	-	-	-	-	-	-	-	-	-
220kV	-	-	-	-	-	-	-	-	-
132kV & 66 kV	6,965	7,099	7,211	7,451	7,451	7,491	7,611	7,732	767
Power Transformer	6,965	7,099	7,211	7,451	7,451	7,491	7,611	7,732	767*
500kV	-	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
220kV	4,500	5,000**	5,250	5,750	6,250	6,750	6,750	7,000	2,500**
132kV	100	100	100	40	40	40	40	40	(60)
66kV	-	-	-	-	-	-	-	-	-
Auto Transformer	4,600	6,900	7,150	7,590	8,090	8,590	8,590	8,840	4,240

*200 MVA are consumer funded

**220 kV Dhabeji ATRs moved in FY 2024, however capex has already been incurred till FY 2023.

Number of Power Transformers & Auto Transformers

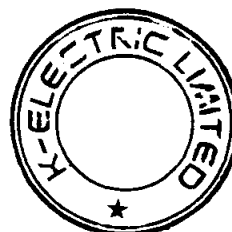
Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	Total Additions
500kV	-	-	-	-	-	-	-	-	-
220kV	-	-	-	-	-	-	-	-	-
132kV	181	183	185	191	191	192	195	197	16
Power Transformers	181	183	185	191	191	192	195	197	16**
500kV	-	3	3	3	3	3	3	3	3
220kV	18	20***	21	23	25	27	27	28	10***
132kV/66kV	2	2	2	1	1	1	1	1	(1)*
Auto Transformers	20	25	26	27	29	31	31	32	12

* Auto transformer at Vinder grid no more required due to upgradation planned under HVUB project.

** 5 PTRs are consumer funded

*** 220 kV Dhabeji ATRs moved in FY 2024, however capex has already been incurred till FY 2023.

The above additions are planned in order to enhance the capacity and improve the network reliability and stability of KE's transmission segment which in turn will enable KE to reduce the transmission constraints and serve the incremental power demand within its service area. However, the above planned additions, including scope of projects and locations, are subject to change due to revisions in the scope of the approved investment plan or NEPRA / GOP directives. In addition as the Investment Plan approval have been received in December 2023 which will be followed by approval of tariff, the execution of investment plan would be delayed, as a sustainable tariff is necessary for KE to commit investments planned, obtain necessary approvals from BoD and complete financial close for new financing. To ensure timely

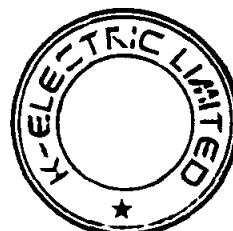


adjustments of any underspent amount annually and for revision of investment plan KE has proposed an Investment Plan Revision Mechanism explained in **section 10**.

6.2. MYT targets for the control period FY 2024 – FY 2030

The KPI targets based on technical scope of work & load flow studies validated by independent consultant were submitted by KE in the investment plan based on which the Authority approved the transmission loss targets for the control period i.e., FY 2024 – FY 2030. The transmission loss and reliability targets are given below against which KE's performance shall be measured:

KPI	Definition	Calculation	FY24	FY25	FY26	FY27	FY28	FY29	FY30
System Reliability	SAIFI (no.)	SAIFI= No of interruptions during one year / No of consumers (consumers = interconnection points with Grid consumers and count of 11 kV feeders)	3.17	2.85	2.57	2.31	2.19	2.08	1.98
	SAIDI (hr.)	SAIDI= \sum Duration of interruptions / No of consumers hrs (consumers = interconnection points with Grid consumers and count of 11 kV feeders)	4.35	3.91	3.52	3.17	3.01	2.86	2.72
Transmission Loss	The technical losses	FY T. Loss= $1 - \sum$ Units available for distribution / Total Sent-out	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%



7. Proposed Financing Plan

In view of the investment plan presented above, KE plans to engage with relevant stakeholders including lenders to execute the business plan contained in this petition under the new MYT 2024 – 2030.

Considering significant amount of CAPEX involved and capacity constraints in the local market as such Projects involve extensive imports of materials from abroad, therefore, arrangement of foreign loans will be necessary to ensure matching of foreign outflows with foreign inflows.

Accordingly, KE would need to reach out to foreign financial markets in addition to the local lenders / capital market. For foreign financing, we would require loans backed by Export Credit Agency (ECAs) such as Sinosure (Chinese ECA), Euler Hermes (German ECA), etc as well as funding from International Development Finance Institutions such as Asian Development Bank, FMO etc. in order to fund the overall CAPEX amount. **Furthermore, KE requests to actualize the allowed cost of borrowing in tariff based on the actual mix of foreign and local loans.**

Following financing plan is proposed for the new financing facilities to be availed during control period FY 2024 – 2030 for NEPRA's consideration:

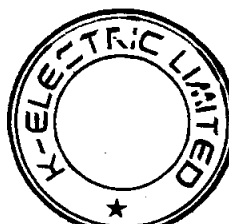
Loan parameters:

Category	Legend	ECA backed Loans	Foreign DFIs	Local Loans
Reference SOFR/ KIBOR	A	5.00%	5.00%	22.91%
Credit Adjustment Spread – CAS	B	0.26%	0.26%	
Spread	C	4.50%	5.80%	2.50%
Total Cost	D = A + B + C	9.76%	11.06%	25.41%
Currency Depreciation		Impact of currency depreciation further explained below in this section		N/A
Premium		One time cost – based on actual payment	N/A	N/A
Tax impact		based on actual to be claimed quarterly		N/A
Financing fees / Transaction Costs		based on actual to be claimed quarterly		
Hedging cost		to be claimed on annual basis for hedged loans		

*Note: Projected mix of foreign and local loans for computation of cost of debt has been used for tariff computation. However, KE requests the Authority to allow actualization of mix in Annual Investment Update as explained in **section 10**.

As shown in table above, KE requests the Authority to allow a spread of 4.5% on ECA backed loans and 5.80% for borrowing from foreign DFIs under foreign borrowing and 2.5% on local borrowing for the control period based on loan profile.

Furthermore, transaction costs already paid in the past for ongoing financing facilities have been incorporated in the cost of debt on amortization basis for tariff computation purposes.



It is important to note that spreads offered in previous transactions were based on stable country rating. However, recent degradation in credit rating of the country by Fitch from 'B-' to 'CCC' on July 10, 2023 and maintained in December 2023, by Moody's from 'B3' to 'Caa3' on February 28, 2023 and by S&P's from 'B-' to 'CCC+' on December 22, 2022, the leading credit agencies, has adversely impacted the investors' confidence and there may be limited access to foreign financing & capital markets, if similar range of sovereign rating continues.

Accordingly, in view of the prevailing economic conditions, downgraded Country rating, it is requested that KE shall be allowed requested spreads over SOFR for foreign loans. Furthermore, in case the actual pricing of loan is lower than requested, the same shall be actualized at the time of Annual Investment Update and passed on to the consumers. Moreover, apart from above mentioned spreads of foreign loans, foreign borrowing also involves payment of Premium in case of ECA backed loans and incidence of tax on payments in case of both ECA backed and Foreign DFI loans. KE requests the Authority to allow:

- (i) Premium based on actual which is expected to be on higher side from previous transactions owing to the downgraded country's rating and economic instability;
- (ii) Tax payments on premium and interest / markup, based on actual as allowed to other power sector entities with similar loan agreements. KE will submit a request for pass through of premium and tax as a separate cost, based on documentary evidence;
- (iii) Financing fees / transaction cost inclusive of taxes, which are allowed to other projects as a separate cost, shall also be allowed to KE as separate cost, based on documentary evidence; and
- (iv) Hedging cost shall also be allowed based on the formula (KIBOR – SOFR + CAS+ Hedging Spread).

The above pricing of loans has been provided based on the prevalent economic outlook, however, in case actual pricing of loans turns out to be higher or lower than above, KE will request the Authority for adjustment in the requested pricing in order to recover prudent cost.

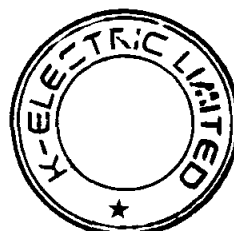
Impact of Currency Depreciation

KE has been informed by the State Bank of Pakistan that hedging will not be allowed in future which was also communicated to the Authority vide KE's letter having reference no. KE/BPR/NEPRA/2023/210, dated July 17, 2023. Accordingly, KE has not included hedging cost in the pricing of new and unhedged loans and instead foreign currency revaluation for all unhedged foreign loans is being requested.

Considering the above, in order to recover prudent cost incurred due to foreign currency devaluation, KE has devised a mechanism to determine effective cost of borrowing taking into account projected exchange rates and drawdowns as detailed in **Annexure B(iii)**. At the time of annual adjustment, the repayment of loans, markup payments and exchange gain / loss on foreign loans will be reported to the Authority along with effective cost of foreign loan as per mechanism given in **Annexure F**. Moreover, for hedged loans, hedging cost has been requested consistent with the mechanism followed in MYT 2017-23. This mechanism would ensure prudent recovery of interest / markup costs along with foreign exchange devaluation on the principal portion of the unhedged foreign loan which was earlier covered through hedging.

Implementation of Secured Overnight Financing Rate (SOFR)

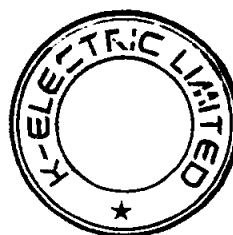
As the Authority is aware that SOFR has already superseded LIBOR as a new interest rate benchmark from June 2023 i.e., start of MYT 2024-30, consequently, instead of LIBOR, SOFR along with Credit Adjustment Spread (CAS) has been used as reference for computation of tariff. The CAS for 6-month tenor is 42.826 bps, for 3-month 26.161 bps and for 1-month tenor



11.448 bps and has been determined through historical median difference between USD LIBOR and SOFR over a five-year period, which has been adopted in the international market.

Quarterly / Annual indexation / adjustment of Cost of Borrowing

- (i) Quarterly indexation for KIBOR
- (ii) Annual adjustment of Foreign Cost of Borrowing along with currency depreciation
- (iii) Annual adjustment in loan proportion (Foreign ECA, Foreign DFI and local loan)
- (iv) Provision of separate allowance for transaction cost, premium and tax related to foreign loans as period cost based on actual payment as discussed above.



8. Metering Mechanism

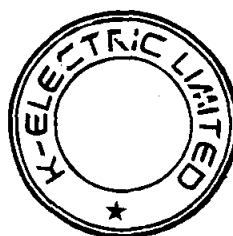
Consumers in transmission are classified in accordance with their connection to different voltage levels. Customers connected to 220kV and 132kV voltage levels are classified as B5, B4 and C3 consumers, respectively, and energy supplied to them is measured through meters installed at KE end, provided that the connecting circuit is under consumers jurisdiction. Thus, transmission loss across EHT consumer connecting circuits is not part of KE's transmission loss.

Whereas for 11kV, metering is done at 11kV side of power transformer i.e., transformer sent-out at 11kV side is considered for calculation of transmission loss.

Description	Connection Point
Power Input – Power plants	Power plants busbar connecting to KE's Transmission Line
Power Input – Interconnection Point	Transmission Line Bay (in KE Grid) connecting to NTDC / STDC Transmission Line or 220kV side of 500/220kV Auto Transformer at NTDC grid
Power Output 220/132kV Consumer	Transmission Line Bay (in KE Grid) connecting to Consumer's Transmission Line
Power Output 11kV Consumer/ Distribution	11kV switchgears incomers panel

Transmission loss is determined by utilizing the metered data for transmission consumers alongside net generation sent out i.e., energy metered at generation end excluding auxiliary load of generation and losses incurred across busbar, and net metering.

MWh transmission loss is calculated by subtracting the total energy passed through KE transmission network i.e., energy passed through 11kV side of power transformer and sales to B4, B5 and C3 customers from net generation sent out and net metering import. Percentage transmission loss is then calculated by dividing the MWh transmission loss by net generation sent out and net metering import.



9. Determination sought

This section details the tariff asks and explains the need for a separate tariff instead of integrated tariff, keeping in view the learnings of MYT 2017-23 and upcoming market changes. Tariff being filed includes return structure based on including Return on Regulatory Asset base and Depreciation, in line with MYT 2017-23.

9.1. Why proposing a change in I-MYT structure?

The MYT 2017-23 included costs and returns for all three segments i.e., Generation (All plants), Transmission and Distribution based on Regulatory Asset Base (RAB). However, going forward KE has planned to file separate tariffs for these segments considering:

Greater transparency

While the costs for three segments are defined in the MYT 2017-23 determination, certain components such as base rate component and working capital component are not bifurcated segment wise. Similarly, Plant wise tariff bifurcation in case of Generation segment is not available, KE understands that separate tariffs for generation, transmission, and Distribution, will not only provide greater transparency and insight regarding segment and plants performance to the company but also to the regulator and other stakeholders as well. Furthermore, this will also help to determine separate tariffs for generation plants and other segments while going into Central Dispatch system as part of the implementation of CTBCM model.

Power sector changes

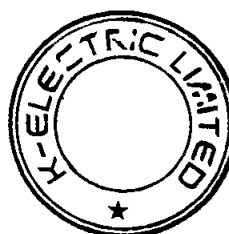
Upon implementation of CTBCM model, it is proposed that the bulk power consumers (BPCs) will be able to procure power directly through bilateral contracts and will only pay wheeling charges to the respective Transmission and Distribution Companies. Therefore, there is a need to determine wheeling charges along with a robust mechanism for indexation. Accordingly, KE is petitioning separate rates for transmission to enable wheeling to ensure recovery of all prudent costs and to help in any future unbundling initiatives.

Following sections discuss KE's petition with respect to separate tariff for transmission segment and its underlying assumptions:

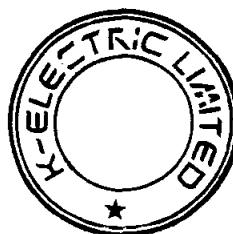
9.2. What is KE petitioning for?

This petition seeks the following determinations:

- Tariff for a control period of 7 years (FY 2024 – FY 2030) in line with MYT 2017-23
- In line with MYT 2017-23, depreciation and return on Regulatory Asset Base is being requested
- Year wise return components are being requested for tariff consideration instead of levelized return through base rate adjustment component; and
- Investment Plan revision mechanism is being proposed for below as summarized in **section 10**
 - Annual investment update for changes in USD to PKR rates & US / Pak CPI, actualization of Custom duties, taxes, contingencies, IDC, along with downward adjustment on account of any amounts not invested and carry forward of investments to next years and other factors.



- Specific approval by NEPRA on request of KE for any change in scope or timing of investments due to NEPRA / GoP directives, changes in demand, new technology, significant change in commodity prices etc. any time during the control period
- Quarterly indexation mechanism for cost of debt local, cost of equity and working capital tariff components is being requested to ensure recovery of prudent costs by KE as explained in below sections and summarized in **section 11**
- Mechanism for recovery/pass through of Other Expense/Income and its annual adjustment as explained in **section 9.3.1.3**;
- Annual adjustment mechanism of Cost of Foreign debt along with currency depreciation is being requested as explained in **section 7** and **section 9.3.1.4**;
- Annual adjustment mechanism of variation in sent out units is being requested as per **section 9.3.1.6**
- Return on Equity of USD 15% as currently allowed, along with indexation for changes in PKR to USD rates is being requested as per **section 9.3.1.4**
- Working capital mechanism is being requested to allow recovery of prudent costs as per **section 9.3.1.5**
- Approval for disposal/replacement of assets at the end of their useful life or in case the same is being replaced with better technology as per approved investment plan. Further, in case of any asset disposal other than part of its investment or operational plan (example real estate disposal), KE would seek specific pre-approval from the Honorable Authority as per **section 9.3.1.4**
- Approval for one-time opener in tariff for revision in tariff in case of unbundling based on evidence and justification provided at the time of unbundling as per **section 9.5** and **section 9.7**
- Approval for unrecovered cost of MYT 2017-23 as pass through in tariff as per **section 9.6**
- Approval for mechanism for wheeling consumers as per **section 9.8**
- Approval for sharing additional income from Regulated Assets / Income from Non-regulated business as per **section 9.9**



9.3. Request for New tariff Structure post 2023 – Transmission

9.3.1. Tariff Details

9.3.1.1. Tariff Mechanism

This section explains in detail the tariff mechanism of the transmission MYT to ensure cost reflective tariffs including component wise indexation to ensure that the prudent costs of the transmission business are adequately recovered.

9.3.1.2. Tariff Break up & Indexation Mechanism

Tariff break up is explained in detail in subsequent sections along with KE's proposed indexation mechanism for each tariff component.

For indexation purposes, following Indexation factors are proposed to be used, sources of which given in the table below:

Indexation Factors	Sources
Local Inflation (CPI)	Pakistan Bureau of Statistics (PBS)
Foreign Inflation (US CPI)	US Bureau of Labor Statistics
Exchange rates	National Bank of Pakistan (NBP)
KIBOR	State Bank of Pakistan (SBP)
SOFR	Federal Reserve Bank of New York

For tariff calculation purposes, KE has formulated CAPEX Investment plan over the MYT 2024 -30 period based on the values of macro-economic indicators for FY22 as detailed in **section 6**. These shall be indexed based on Investment Plan revision mechanism.

9.3.1.3. O&M expenses

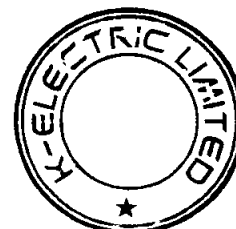
Major O&M component includes costs related to salaries, employee benefits, third party services, inter departmental energy consumption, stores & spares, repair & maintenance, travelling and other expenses that are essential for smooth operation of the transmission network, to ensure reliability of power supply to the distribution network.

O&M Base Tariff Component Calculation Methodology

For tariff calculation purposes, KE has calculated O&M component (FY 24 and onwards) by taking actual O&M amount of FY 2023 i.e **PKR 5,408 million**. KE requests NEPRA to index this amount for onward years with actual CPI of May each year against the reference **CPI of 227.96** as of May 2023 along with incorporating projected growth in units served to cater for the increase in network capacity and consumer base.

It is pertinent to highlight that, KE has planned extensive capacity enhancement and increase in consumer base in the proposed control period. Accordingly, O&M is expected to increase beyond CPI indexation for the proposed control period i.e., FY 2024 – FY 2030. However, KE has not requested for additional O&M beyond CPI and projected sent-out growth and will target to cover this gap through bringing efficiency wherever possible. Therefore, KE has requested for O&M incorporating growth in units served along with CPI indexation and requests not to apply any X factor as KE has not asked for any incremental O&M owing to proposed capacity enhancements and increase in consumer base.

O&M cost for FY 2023 i.e. **PKR 5,408 million** after indexation to May 2023 CPI and incorporation of projected growth in units served for FY 2024, translates to **PKR 7,649 million**. Furthermore, in accordance with the Authority's decision on the Investment plan, routine maintenance capital expenditures have been excluded from Investment plan allowed amount, with the directive to take these up as part of O&M in tariff.



Here we would like to highlight that, in KE's MYT 2017-23, the amount allowed in respect of O&M did not include capex nature related maintenance work and accordingly the same are required to be added in addition to O&M revenue requirement. Consequently, the corresponding expenses have been explicitly incorporated into the aforementioned O&M revenue requirement.

Projected O&M revenue requirement for the control period is given below:

Description	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
O&M Revenue requirement – PKR Mn*	7,649	8,006	8,262	8,452	8,595	8,734	8,862
O&M of capex nature transferred from investment plan (At FY-22 CPI)	1,092	903	614	516	585	670	651
O&M of capex nature transferred from investment plan at May -23 CPI	1,571	1,299	883	742	841	964	936
Total O&M revenue requirements	9,220	9,305	9,145	9,194	9,436	9,698	9,798

*based on reference CPI of May 23 along with projected growth in units served.

The total amount of O&M i.e. **PKR 9,220 million** has been translated into **PKR 0.4941 / kWh** based on projected units served for FY 2024.

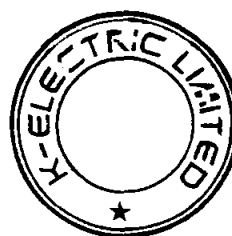
The above O&M revenue requirement projections (FY 25 and onwards) are based on reference CPI of May 2023 which will be indexed with actual CPI for the month of May for onward years at the time of filing of Annual Adjustments as per **section 9.3.1.6**.

For illustrative purposes, the amount used to compute revenue requirement for FY 25 (i.e. **PKR 9,305 million**) will be indexed with CPI of May 2024 at the end of FY 24 as per Annual O&M indexation mechanism given below:

O&M_(Rev)	=	O&M_(Ref) x CPI_(Rev)/CPI_(Ref)
Where;		
O&M _(Rev)	=	Revised O&M amount for respective year
O&M _(Ref)	=	Reference O&M amount for respective year
CPI _(Ref)	=	Reference CPI of 227.96 (as of May 2023)
CPI _(Rev)	=	Revised CPI notified by Pakistan Bureau of Statistics for the month of May (May 2024 for FY 2025 and so on).

At the end of each year adjustment will be requested for any over / (under) recovery of O&M due to variation in units sent out in order to allow recovery of CPI indexed projected O&M revenue requirement of that respective year. Here we would like to highlight that in case sent out is higher than included in the projected O&M revenue requirements the benefit will be passed on to the consumers and similarly in case of lower sent out the under-recovery will be adjusted in tariff. Further details of this are also mentioned in **section 9.3.1.6**.

Since KE Transmission business also includes 132 kV network and grids, O&M comparison with other power sector entities has been done in the Distribution Petition, where KE total



T&D O&M costs (Transmission, Distribution & Supply) including 220 kV network is compared with DISCOs O&M.

KE would like to highlight that the above O&M includes items of other expense and other income excluding the items which are either to be actualised or excluded from tariff working. Please refer to **section 9.3.1.3**. Furthermore, for details of actual O&M please refer audited financial statements enclosed as **Annexure G**.

Other income / expenses – specific items

Below other income / expense specific items are proposed to be actualized each year considering their unpredictable nature

- exchange gain / loss, excluding exchange loss /gain on loans/borrowings/hedging instruments
- expenses incurred based on directives of NEPRA / GoP
- Demurrage
- Detention charges; and
- miscellaneous income including service connection income

Actualized amounts of above items relating to Transmission shall be included in summary of Annual adjustment form as per **section 9.3.1.6**

Further, donations, LD recovered from suppliers and contractors, gain / loss on sales of Property plant and equipment, interest income on deposits, other interest income, Gain / loss on hedging instruments, liabilities written back / assets written off, penalties, scrap sales, return on bank deposits, and markup income/recovery etc. are proposed to be excluded from tariff workings and actualization.

9.3.1.4. Return on Regulatory Asset Base and Depreciation

Regulatory Asset base

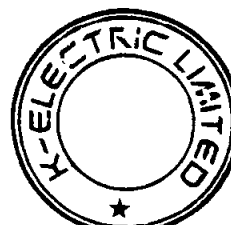
Regulatory Asset Base is defined as Property, plant and equipment excluding surplus on revaluation including Capital work in progress and Intangibles (mainly software used for regulated business), net of deferred revenue.

Regulatory Asset Base shall be calculated based on below formula:

Legend	Description
A	Opening Fixed Assets Cost
B	Capitalization
C	Disposal
$D = A + B - C$	Closing Fixed Assets Cost
E	Accumulated Depreciation
$F = D - E$	Closing Fixed Assets – WDV
G	Capital Work in Progress – Closing
H	Deferred Revenue – Closing
$I = \text{Sum } (F + G - H)$	Net RAB

RAB as of FY 2023 amounts to **PKR 130,894 million**.

Complete movement of RAB along with proposed additions (based on macroeconomic factors given in **section 6**) and depreciation is given in **Annexure B(i)**.



Further, RAB shall be adjusted based on Investment Plan revision mechanism, details of which are given under **section 10**.

KE as part of its investment plan would continue to dispose/replace assets at the end of their useful life or in case the same is being replaced with better technology as per approved investment plan. Further, in case of any asset disposal other than part of its investment or operational plan (example real estate disposal), KE would seek specific pre-approval from the Honorable Authority.

Moreover, return component i.e., Return on regulatory asset base and depreciation for support function have been calculated and allocated to transmission segment as per the mechanism detailed in distribution petition. Calculation given in **Annexure B(ii)**.

Moreover, KE understands that the return and depreciation on the investments executed during the control period, would continue post expiry of control period to ensure recovery of prudent cost incurred.

Return

Return shall be calculated based on Return on Equity, cost of debt and Debt to Equity ratio.

Debt Equity ratio

Debt to equity ratio of 70:30 has been considered as allowed under MYT 2017-23 (subject to discussion in **section 3.2** regarding Debt to equity ratio)

Cost of Debt

Cost of debt for local component shall be calculated based on 3 month KIBOR plus a spread of 2.5% and cost of debt for foreign component shall be calculated based on 3 month SOFR plus CAS plus spread of 4.5% on ECA backed loans and 5.8% for DFI based borrowing as explained in **section 7**.

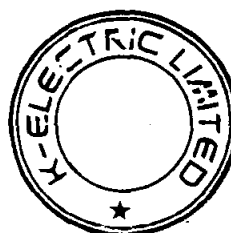
Accordingly, cost of debt has been calculated using reference 3-month KIBOR of **22.91%** (as at June 30, 2023), reference 3 month SOFR of **5.00%** (as at June 30, 2023) based on estimated local to foreign debt ratio of **25:75** on a year-on-year basis, basis of which is provided in the proposed financing plan under **section 7**.

Based on projected RAB movement, RoRBCoD has been calculated for every year as per the approved investment plan detailed in **section 6**.

Accordingly, RoRBCoD comes out to **PKR 1.5301 / kWh** including RoRBCoD local of **PKR 0.3661 / kWh** and RoRBCoD foreign of **PKR 1.1640 / kWh** for FY 2024.

KE proposes that RoRBCoD local shall be indexed based on changes in KIBOR at the start of each quarter as follows:

RoRBCoD Local_(Rev)	=	RoRBCoD Local_(Ref) for relevant year x CoD Local_(Rev) / CoD Local_(Ref)
Where;		
RoRBCoD Local _(Rev)	=	Revised Local RoRB cost of debt component of tariff
RoRBCoD _(Ref)	=	Reference Local RoRB cost of debt component of tariff
CoD Local _(Rev)	=	3 month KIBOR _(Rev) + 2.5%
CoD Local _(Ref)	=	3 month KIBOR _(Ref) + 2.5% which comes out at 25.41% as of 30 th June 2023
KIBOR _(Rev)	=	The revised 3 month KIBOR as published by State Bank of Pakistan latest available at the start of each quarter i.e., 1 st July, 1 st October, 1 st Jan, and 1 st April.



KIBOR _(Ref)	=	The reference 3 month KIBOR of 22.91 % as of 30 th June 2023
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Moreover, at the end of the year, any over / under recovery of RoRBCoD arising due to:

- Proposed Investment plan revision mechanism, as detailed in **section 10**;
- Change in foreign portion of RoRBCoD, SOFR along with exchange rate variation and effective actual KIBOR for local portion, should be adjusted annually;
- Any change in allowed spreads as explained in **section 7**; and
- Actualization of foreign & local loan mix, as detailed in **section 7**.

will be filed as per the detailed mechanism given in **Annexure F**.

Furthermore, the following items pertaining to borrowings (also explained in **section 7**) have been requested as passthrough as these are the legitimate cost associated with loan facilities:

- (i) Premium;
- (ii) Tax payments on premium and interest / markup; and
- (iii) Financing fees / other transaction costs inclusive of taxes.

Calculation of RoRBCoD is provided in **Annexure B(i)**.

Cost of Equity

Keeping in view currently allowed returns, return on equity of USD based 15% is being requested which is also similar to other private projects for example Pak Matiari-Lahore Transmission Company (PMLTC).

RoE is proposed to be indexed based on changes in USD to PKR exchange rate at the start of each quarter as follows:

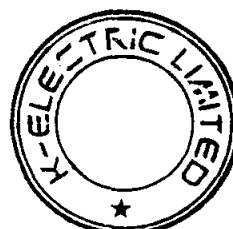
RoRBCoE_(Rev)	=	RoRBCoE_(Ref) for relevant year x ER_(Rev) / ER_(Ref)
Where;		
RoRBCoE _(Rev)	=	Revised RoRB cost of equity component of tariff
RoRBCoE _(Ref)	=	Reference RoRB cost of equity component of tariff
ER _(Rev)	=	The Revised TT & OD selling rate of USD as notified by National bank of Pakistan latest available at the start of each quarter i.e., 1 st July, 1 st October, 1 st Jan, and 1 st April.
ER _(Ref)	=	The Reference exchange rate of PKR 287.10 / USD as of 30 th June 2023

Based on projected RAB movement, RoRBCoE has been calculated for every year as per the approved investment plan detailed in **section 6**.

For the purpose of Exchange rate indexation, indexation with reference to FY 2016 has been calculated considering weightage of RAB each year till FY 2023 in line with mechanism used by NEPRA in the MYT 2017-23. Accordingly, reference indexed cost of equity has been calculated using reference exchange rate of **PKR 287.10 / USD** (as of 30th June 2023). Please refer calculation in **Annexure C**. Further, the exchange rate will change year on year based on new investments which has been shown in **Annexure B(i)** – RAB movement.

Accordingly, RoRBCoE comes out to **PKR 0.6936 / kWh** as of FY 2024. RoRBCoE calculation is provided in **Annexure B(i)**.

Further, at the end of each year, changes in RAB as detailed in proposed investment plan revision mechanism in **section 10**, will also impact calculation of Indexation. Accordingly,



Annexure B(i) will be re-calculated whenever RAB is updated under Investment Plan revision and Indexed RoE shall be updated accordingly.

Depreciation

Depreciation shall be calculated every year using a depreciation rate of **2.69% per annum** based on current depreciation rates, that accounts for different asset lives, residual value of assets and assets still in service despite fully depreciated.

Further, as detailed in proposed investment plan revision mechanism in **section 10**, depreciation component shall be updated with changes in RAB.

Accordingly, Depreciation component comes out to **PKR 0.2272 / kWh** for FY 2024. Depreciation computation is given in **Annexure B(i)**.

Amortization of Deferred Revenue

Currently two different type of Deferred Revenue treatments exist in the company as follows:

- 1. Related to Grid Sharing Charges:** It includes funds paid by customers for utilizing existing installed capacity for their dedicated connection as per Grid Sharing Policy. For these customers, similar to MYT 2017-23, KE proposes to deduct deferred revenue from RAB as it represents consumer funded assets. Accordingly, income on amortization of deferred revenue shall be included in other income component of tariff to offset the related depreciation allowed in tariff.
- 2. Related to Dedicated Consumer Funded Grids:** It includes cases where customer has constructed the dedicated consumer funded grid and decides to transfer it to KE and convert it into Common Distribution System (CDS).

For additions to deferred revenue relating to above, keeping in view the subjectivity of timing and scope involved in relation to the consumer funded assets and sharing receipts, KE has not included the same in investment plan and requests the Authority to allow deferred revenue addition on actual basis from FY24 onwards., as also explained in **section 6** above.

On the basis of movement in deferred revenue, amortization shall be calculated every year assuming a rate of **5.19% per annum** based on currently applicable rates, to be applied on unamortized deferred revenue.

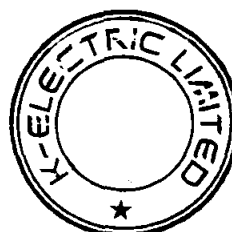
Accordingly, amortized revenue base component based on additions till FY23 comes out to **(PKR 0.0098) / kWh** for FY 2024.

Amortization computation is provided in **Annexure B(i)**.

9.3.1.5. Cost of working capital

To allow recovery of prudent cost, KE requests NEPRA for a working capital mechanism based on below formula, similar to working capital calculation in NTDC tariff determination.

Legend	Working Capital Components
A	Stores & Spares equal to 3% of gross fixed assets
B	Trade receivables (based on normal billing cycle of 30 days)
C	Cash & bank balances (1/6 of O&M expenses)
D =A+B+C	Current Assets
E	Current liabilities (2/3 rd of Current assets)



Legend	Working Capital Components
$F = D - E$	Net Working Capital
G	Cost of Debt (KIBOR + short term spread)
$H = F \times G$	Cost of working capital
I	Projected units
$J = H / I$	Working capital per unit

Working capital component has been calculated for the control period based on projected movement of balances year on year and reference 3-month KIBOR of 22.91% as of 30th June 2023 plus a short term spread of 2%.

Accordingly, working capital base component comes out to **PKR 0.0519/ kWh for FY 2024**. Working Capital component computation is provided in **Annexure D**.

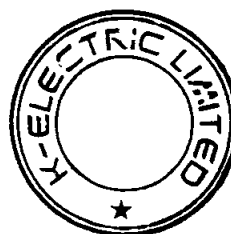
Cost of working capital shall be indexed with actual 3-month KIBOR at the start of each quarter as per below formula:

$W.C._{(Rev)}$	=	$W.C._{(Ref)} \times CoB_{(Rev)} / CoB_{(Ref)}$
Where;		
$W.C._{(Rev)}$	=	Revised Working capital component of Tariff
$W.C._{(Ref)}$	=	Reference Working capital component of Tariff
$CoB_{(Rev)}$	=	Revised Cost of borrowing; 3 month KIBOR _(Rev) + 2%
$CoB_{(Ref)}$	=	Reference Cost of borrowing; 3 month KIBOR _(Ref) + 2% which comes out to 24.91% as at 30 th June 2023
$KIBOR_{(Rev)}$	=	The revised 3 month KIBOR as published by State Bank of Pakistan available at the start of each quarter i.e., 1 st July, 1 st October, 1 st January, and April 1 st
$KIBOR_{(Ref)}$	=	The reference 3 month KIBOR of 22.91% as of 30 th June 2023

After each year end, the working capital requirement shall be updated based on balances as per financial statements and given formula, and any impact of under/over recovery shall be allowed in next year. Further, the balances going forward for the remaining control period shall also be re calculated based on given formula after each year end.

Accordingly, working capital requirement shall be actualized for current year over / under recovery adjustment and simultaneously updated for next year as per below formula:

Legend	Working Capital Components
A	Stores & Spares equal to 3% of gross fixed assets
B	Trade receivables (based on normal billing cycle of 30 days)
C	Cash & bank balances (1/6 of O&M expenses)
D	Annual adjustment (as per Annexure F)
E $= A + B + C + D$	Current Assets
F	Current liabilities (2/3 rd of Current assets)
$G = E - F$	Net Working Capital



Legend	Working Capital Components
H	Cost of Debt (KIBOR + short term spread)
I = G x H	Cost of working capital
J	Actual units served
K = I / J	Working capital per unit

9.3.1.6. Annual Adjustments

KE has prepared a mechanism for annual adjustments as illustrated in **Annexure F** through multiple forms under which KE will file:

- 1) Under / over recovery on account of actualization of units served as per **Form 2.2**;
- 2) Under / over recovery on account of actualization of working capital components as per **Form 2.3**; and
- 3) Under / over recovery on account of Annual investments update as per **Form 2.4** also covering impact of updated RoE (**Form 2.4.3**) and Cost of Debt (**Form 3.1**).

It is pertinent to mention that upon filing of abovementioned adjustments, KE will submit a revised tariff table with **Annexure F**, for the remaining control period. This revised tariff table will reflect any changes resulting from the aforementioned adjustments for annual Indexations, prior year adjustments and Investment updates.

9.3.1.7. Units served

Revenue requirement for the control period of 7 years i.e., FY 2024 – FY 2030 shall be calculated based on projected units served.

KE is proposing actualization of units served each year as allowed to NTDC / other DISCOs, as the same is based on multiple uncontrollable factors including economic growth, Government policies, incentive packages etc.

KE shall submit details of under / over recovery after completion of a financial year and the impact of under / over recovery shall be adjusted in the next year as Prior year cost.

Please refer illustration for the proposed mechanism given in **Form 2.2**.

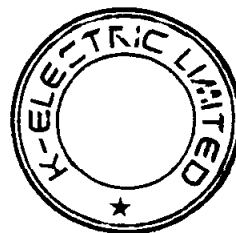
9.4. Comparison of current and proposed tariff

While KE is filing for a separate tariff for transmission segment, the tariff structure is similar to MYT 2017-23.

The requested O&M component is based on actual FY 2023 O&M expenses, i.e. **PKR 0.2898 / kWh** (excluding CPI indexation impact from May 2022 to May 2023). This is comparable to the Transmission O&M allowed in the MYT 2017-23, i.e. **PKR 0.2958 / kWh** (for FY 2023), reflecting a saving of **PKR (0.0060) / kWh**. Further, KE has included routine maintenance CAPEX nature expenses, that are excluded as per the investment plan decision, as part of O&M component having an impact of **PKR 0.0841 / kWh**, resulting in total requested O&M component of **PKR 0.4941 / kWh**, inclusive of CPI impact of **PKR 0.1201 / kWh**.

Moreover, KE is proposing actualization of units served (as given in **Annexure F**) due to variations in units sent out at allowed transmission loss each year as allowed to NTDC/ other DISCOs, as the same is based on multiple uncontrollable factors including economic growth, Government policies, incentive packages etc.

Further, in line with working capital mechanism allowed to NTDC, KE is also requesting for cost of working capital to ensure smooth operations of the transmission network and hence, ensure uninterrupted supply of power to the distribution network. Accordingly, KE has



requested a cost of working capital of **PKR 0.0519 / kWh** for FY 2024. No separate component of working capital was considered for transmission business earlier.

Further, Return on Regulatory Asset Base tariff components including RoRBCoD, RoRBCoE and depreciation have been calculated based on proposed addition to RAB, with same Return on Equity i.e., USD 15% as allowed under the MYT 2017-23. However, the change in RoRB components as compared to MYT 2017-23 are due to change in Macro-economic factors and increase in investments made to ensure reliability and continuity of smooth supply to consumers.

9.5. Pass through items – Corporate tax and WPPF / WWF

Currently, KE is an integrated entity therefore Corporate tax and WPPF / WWF on overall company level is a pass through item within MYT.

Considering that legal structure will remain same, KE is proposing that Corporate tax and WPPF / WWF shall be passed through to consumers in Supply Tariff.

However, going forward, in case of any change in legal structure whereby a Corporate tax and WWF / WPPF is separately levied on Transmission business, same shall be passed through as done in case of IPPs.

9.6. Costs relating to MYT 2017-23

Any unrecovered cost pertaining to MYT 2017-23 and not recovered in MYT 2017-23 shall be included as unrecovered cost in the quarterly tariff adjustments to be filed.

9.7. Costs pursuant to unbundling in future

In future, if there is any legal unbundling, KE will file for adjustment for additional costs /revision required in tariffs pursuant to unbundling with NEPRA for determination along with rationale.

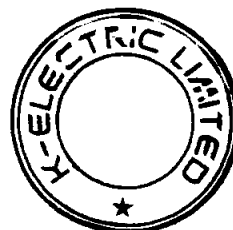
9.8. Mechanism for Wheeling consumers

Units served for the purpose of tariff shall include both, Units served for regulated consumers as well as Units served for Non-regulated consumers and units served adjustment and revenue requirement for Transmission segment to be passed on to Supply business shall be calculated accordingly.

Further, KE understands that the wheeling charges, including use of system charges, open access costs and cross subsidy are required to be recovered on uniform basis and subject to determination by Authority and these will be deduction at actual while calculating the revenue requirement for regulated consumers in supply business.

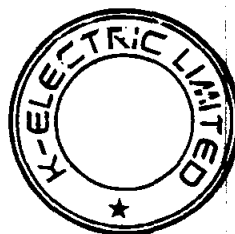
In addition to wheeling charges, the Wheeler (Generator) shall ensure to produce extra units by grossing up the demand of BPC to the extent of allowed level of technical losses as determined by NEPRA for KE's Transmission segment. The extra units generated would be delivered by the Generator in the network, compensating for the technical loss to the network company. Any shortage or excess energy (imbalances) shall be recovered / adjusted from BPCs / Competitive Supplier as per the applicable provisions of the regulatory framework and passed on to regulated consumers. Moreover, in case wheeling of power involves another DISCO / NTDC network, KE as part of its CTBCM Evaluation & Integration Plan currently under NEPRA approval, has already requested clarity from NEPRA on treatment of losses in such cases.

Further, cost for open access and cross subsidy or other charges recovered from consumers pursuant to open access costs determined by NEPRA shall be recovered from consumers as per the applicable framework and be adjusted as part of Supply business tariff adjustments.



9.9. Income from Non-regulated business / Additional income from Regulated Assets

KE would like to submit that any income / revenue which is not part of regulated activities e.g., income from K-Solar, shall not be passed through / form part of Tariff. Further, in case if Regulatory Asset Base is simultaneously used for regulated business as well as any other activity without impacting consumer services, the additional income shall be shared in the ratio of 50:50 between KE and consumers.



10. Proposed Investment Plan Revision Mechanism

Under the MYT 2024 – 30, tariff components i.e., RoRB – Cost of Debt, RoRB – Cost of equity, depreciation and amortization of deferred revenue have been calculated for the control period of 7 years i.e., FY 2024 – 2030, based on approved investment plan, and current macro-economic factors including exchange rates, KIBOR, SOFR and estimated mix of foreign and local borrowings.

These amounts will be required to be indexed for changes in macroeconomic factors such as exchange rates, KIBOR, SOFR, Pak / US CPI. Further, these amounts will also have to be revised in the event of any changes in scope of investments including revision in phasing of investments owing to NEPRA / GoP directives, unforeseen situations. Accordingly, KE has proposed a mechanism for periodic revision in the investment plan, and adjustment of the tariff components accordingly.

10.1 Proposed indexation and annual adjustment mechanism

Annual Investment Update – Annual investment update shall be carried out to account for changes in the following:

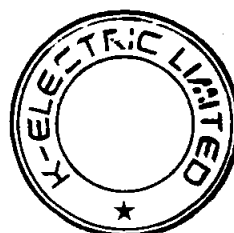
- USD to PKR rates for foreign CAPEX – The revised exchange rate shall be the average of 12 monthly exchange rates (i.e. last available rate for each month);
- US CPI for foreign CAPEX – The revised US CPI shall be the average of 12 month as published by US Bureau of Labor Statistics;
- Pak CPI for local CAPEX – The revised PAK CPI shall be the average of 12 month as published by PBS;
- Actualization of Custom duties, taxes, IDC & contingencies, alongwith supporting evidence of the claimed amount;
- KIBOR, Foreign cost of debt, Foreign / local loan ratio, and indexation on RoRB CoE;
- Downward adjustment on account of any amounts not invested and carry forward of investments to next years; and
- Adjustment to account for amount specifically approved during the year.

While doing Annual Investment update, investments for remaining years of control period shall be indexed to aforementioned macro-economic factors including Exchange rate, USCPI and Pak CPI.

Timeline for exchange rate & CPI indexation

For execution of investment plan a sustainable cost-reflective tariff is a key pre-requisite. This tariff is crucial for KE to obtain Board approvals, secure funds and negotiate financing with both local and international lenders for undertaking this investment plan: In the absence of tariff, the execution of investments has been delayed. Consequently, this will cause delays in meeting the approved completion timelines based on which the Investment Plan was prepared and approved. In this regard, KE humbly requests the Authority that the allowed completion period shall be taken as the period requested by KE for completion of planned investments with the addition of days between the date of Distribution, Transmission and Supply tariff determination, whichever is later, and July 01, 2023.

Furthermore, if the anticipated increase in consumer demand and sentouts differs from the initial projections, based on which the Investment plan was devised, KE will seek NEPRA's approval for revisions with necessary justifications.



Annual Investment Update scenarios

At the end of fiscal year, KE shall submit the impact of over/under investments based on actual amount invested compared with the indexed transmission CAPEX updated on Macro economic factors of completed years and actualization of other factors.

Calculation for revised allowed CAPEX is given below:

Description	Reference Factors	Updated factors – Average FY 2024*
US CPI	282.03 – FY 2022	319.33
Pak CPI	158.48 – FY 2022	250.76
PKR/USD	206 – 30 th June 2022	314.59

*Sample numbers used for illustrative purposes only. These will be actualized at year end.

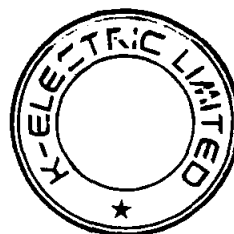
Description	Legend	FY 2024
Base CAPEX	A	42,454
CAPEX after indexation – [Base Capex - FCC x 319.33 / 282.03 x 314.59 / 206 + Base Capex - LCC x 250.76 / 158.48]	B	72,784
Actualization of IDC, Contingencies Taxes & Custom duties	C	1,673
Allowed indexed CAPEX	D = B + C	74,457

This comparison shall be made on total allowed amount and there can be multiple scenarios, as explained below:

Scenario No.	Description	Treatment
Scenario 1	Actual CAPEX incurred is equal to the updated allowed indexed CAPEX	Updated allowed indexed CAPEX to be considered for RAB
Scenario 2	Delay in CAPEX i.e. CAPEX in a year is lower than updated allowed indexed CAPEX	Actual CAPEX (being lower) to be considered for RAB Carry forward the remaining to next year and shall be consider part of allowed CAPEX for next year.
Scenario 3	Early CAPEX incurred i.e., CAPEX in a year is higher than allowed indexed CAPEX without any specific approval by NEPRA	The overspent amount is proposed to be netted off from the amount allowed in next year
Scenario 4	Higher CAPEX incurred based on NEPRA's specific approval	Actual CAPEX to be allowed and part of RAB

Accordingly, this mechanism will ensure provision of a defined indexation mechanism and will also give some flexibility to KE to move investments between years and investment heads to meet its operational needs, scope changes, sharp exchange variation at the end of the period which cannot be recovered through average indexation mechanism and price shocks.

At end of each year, while evaluating the CAPEX for completed year, next year's allowed investments shall be updated on Macro economic factors of completed year and added to the RAB for the purpose of tariff for the next fiscal year. Calculation for revised allowed CAPEX is given below:



Scenario 1 – Actual CAPEX incurred is equal to the updated allowed indexed CAPEX

Description	Legend	FY 2024
Actual CAPEX incurred	A	74,457
Allowed Indexed CAPEX	B	74,457
Amount (under spent) / over spent	$C = A - B$	-

Scenario 2 – Delay in CAPEX i.e. CAPEX in a year is lower than allowed indexed CAPEX

Description	Unit	FY 2024	FY 2025
Allowed indexed amount	A	74,457	69,060
Actual amount	B	73,407	70,110
Amount (under spent) / Over spent	$C = B - A$	(1,050)	1,050
Carry forward from previous year	D		1,050
Revised allowed CAPEX	$E = \text{Lower of B or (A+D)}$	73,407	70,110

Scenario 3 – Early CAPEX incurred i.e. CAPEX in a year is higher than allowed indexed CAPEX without any specific approval by NEPRA

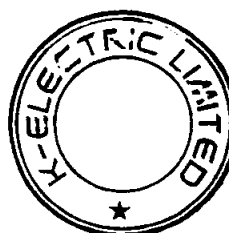
Description	Unit	FY 2024	FY 2025
Allowed indexed amount	A	74,457	69,060
Actual amount	B	81,457	62,060
Amount (under spent) / Over spent	$C = B - A$	7,000	(7,000)
Amount to be allowed	$D = A$	74,457	62,060
Over spent amount not considered for FY 2024 and to be added to actual investments in FY 2025	$E = C$		7,000
Revised allowed CAPEX	$F = \text{Lower of A or (B + E)}$	74,457	69,060

Scenario 4 – Higher CAPEX incurred based on NEPRA's specific approval

Description	Legend	FY 2024	FY 2025
Allowed indexed amount	A	74,457	69,060
Amount specifically approved	B	2,500	
Total allowed amount	$C = A + B$	76,957	69,060
Actual amount	D	76,957	59,060
Amount (under spent) / Over spent	$E = D - C$	-	(10,000)
Amount to be allowed	$F = D$	76,957	
Net amount to be carried forward from FY 25 to FY 26	$G = E$		(10,000)
Revised allowed CAPEX	$H = \text{Lower of C or D}$	76,957	59,060

Impact of change in the allowed investments on RoRB and Depreciation for the completed year shall be included in the last quarterly variation of the year and these shall be updated for FY 2025 accordingly.

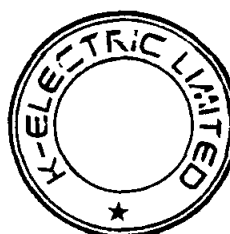
Based on above mechanism, RoRBCoD, RoRBRoE, Depreciation and Amortization of Deferred revenue base components shall be adjusted.



11. Summary of Base Tariff FY 2024 & Indexation Mechanism

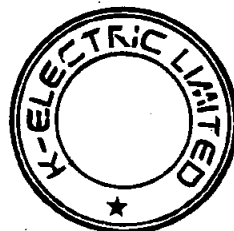
In view of the foregoing and considering the significant changes in tariff structure, following component wise indexation mechanism is requested to ensure recovery of prudent costs critical to ensure quality of service.

Tariff Components	Tariff – PKR / kWh	Indexation Mechanism	Reference
O&M expense	0.4941	<ul style="list-style-type: none"> Indexed annually with Pak CPI 	<ul style="list-style-type: none"> CPI of 227.96 for May 23 Given in section 9.3.1.3
Amort. Of Deferred Revenue	(0.0098)	<ul style="list-style-type: none"> Adjustment for Revision in Investment plan for Additions 	-
Working Capital	0.0519	<ul style="list-style-type: none"> Indexed quarterly with KIBOR and annual adjustment for changes in working capital requirements based on actualization of balances 	<ul style="list-style-type: none"> KIBOR of 22.91% as of 30th June 2023 Given in section 9.3.1.5
RoRB – Cost of Debt	Foreign – 1.1640 Local – 0.3661 Total – 1.5301	<ul style="list-style-type: none"> Local component to be Indexed quarterly with KIBOR Foreign component actualised annually with prevalent exchange rates at principal repayment date and actual markup payments Adjustment for Revision in Investment plan & Foreign/ Local Loan Proportion & Change in Allowed Spreads 	<ul style="list-style-type: none"> KIBOR of 22.91% as of 30th June 2023 SOFR of 5.00% as of 30th June 2023 Exchange rate of PKR 287.10 / USD as of 30th June 2023 Given in section 9.3.1.4
RoRB – Cost of Equity	0.6936	<ul style="list-style-type: none"> Indexed quarterly with USD to PKR exchange rate Adjustment for Revision in Investment plan 	<ul style="list-style-type: none"> Exchange rate of PKR 287.10 / USD as of 30th June 2023 Given in section 9.3.1.4
Depreciation	0.2272	<ul style="list-style-type: none"> Adjustment for Revision in Investment plan 	<ul style="list-style-type: none"> Given in section 9.3.1.4
Total Base Tariff	2.9871		
Units Served Adjustment		<ul style="list-style-type: none"> Annual Adjustment for under / over recovery 	<ul style="list-style-type: none"> Explained in section 9
Investment Plan Revision Mechanism		<ul style="list-style-type: none"> Investment plan revision mechanism 	<ul style="list-style-type: none"> Explained in section 10



12. Summary of evidence

Included in body of petition and Annexures



Transmission Tariff Petition

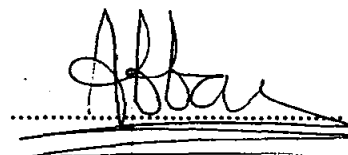
Sign by Authorized Representatives

1. Syed Muhammad Moonis Alvi, Chief Executive Officer



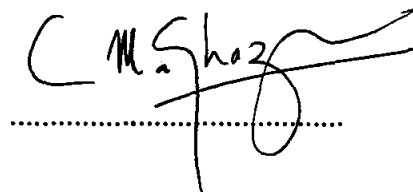
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2. Abbas Husain, Chief Generation & Transmission Officer

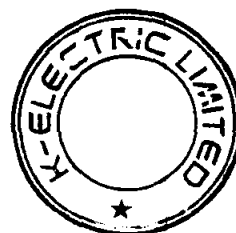


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3. Muhammad Aamir Ghaziani, Chief Financial Officer



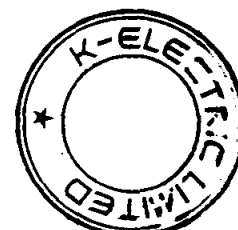
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Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025
ii Capex - indexed				
Base CAPEX - FCC	PKR Mn	$k = d \times (h/a) \times (j/c)$	5,246	
Base CAPEX - LCC	PKR Mn	$l = e \times (i/b)$	386	
Actual IDC, Custom Duties & Contingencies	PKR Mn	m		
Total	PKR Mn	$n = k + l + m$	5,632	
iii Capex - Additional based on specific approval				
Base CAPEX - FCC	PKR Mn	o	250	
Base CAPEX - LCC	PKR Mn	p	-	
IDC, Custom Duties & Contingencies	PKR Mn	p1	-	
Total	PKR Mn	$q = o + p + p1$	250	
iv Capex - Indexed + specific approved				
Base CAPEX - FCC	PKR Mn	$r = k + o$	5,496	
Base CAPEX - LCC	PKR Mn	$s = l + p$	386	
Actual IDC, Custom Duties & Contingencies	PKR Mn	t	-	
Total	PKR Mn	$u = r + s + t$	5,882	
v Capex - Actually incurred				
Base CAPEX - FCC	PKR Mn	v	3,298	
Base CAPEX - LCC	PKR Mn	w	425	
Actual IDC, Custom Duties & Contingencies	PKR Mn	x	-	
Total	PKR Mn	$y = v + w + x$	3,722	



Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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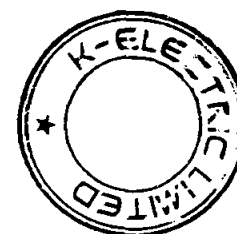
Description	Unit	Legend	FY 2024	FY 2025
1 Capex allowed - Reference				
i Macro economic factors - Reference				
PKR/US\$ Exchange Rate- Average	PKR / USD	a	206.0	206.0
Pak CPI	No.	b	158.5	158.5
US CPI	No.	c	282.0	282.0
iv Capex allowed				
Base CAPEX - FCC	PKR Mn	d	3,034	2,090
Base CAPEX - LCC	PKR Mn	e	244	285
IDC, Custom Duties & Contingencies	PKR Mn	f	-	-
Total	PKR Mn	g= d + e + f	3,278	2,375

Note: Amounts are for illustrative purposes only. Actual adjustments to be done based on breakup given by NEPRA in investment plan decision.

2 Capex allowed - Indexed on actual Macro economic factors till FY 2024

i Macro economic factors - actual [Average as defined in the petition]

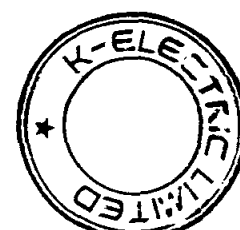
PKR/US\$ Exchange Rate- Average	PKR / USD	h	314.6
Pak CPI	No.	i	250.8
US CPI	No.	j	319.3



Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025
iii Actual Consumer funded assets				
Base CAPEX - FCC	PKR Mn	al	-	-
Base CAPEX - LCC	PKR Mn	am	500	-
Total	PKR Mn	an = al + am	500	-
iv Actual additions to deferred revenue				
Base CAPEX - FCC	PKR Mn	ao	-	-
Base CAPEX - LCC	PKR Mn	ap	625	-
Total	PKR Mn	aq = ao + ap	625	-
v Revised capex				
Base CAPEX - FCC	PKR Mn	ar = r + z + al	72,950	44,589
Base CAPEX - LCC	PKR Mn	as = s + aa + am	5,337	6,487
Actual IDC, Custom Duties & Contingencies	PKR Mn	at = m	764	-
Total	PKR Mn	au = ar + as + at	79,050	51,075



Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025
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vi Capex - (Under) / over spent

Base CAPEX - FCC	PKR Mn	$z = v - r$	6,632	
Base CAPEX - LCC	PKR Mn	$aa = w - s$	(537)	
Total	PKR Mn	$ab = z + aa$	6,094	

vii Capex - Under spent / over spent carried forward to next year

Base CAPEX - FCC	PKR Mn	ac		(6,632)
Base CAPEX - LCC	PKR Mn	ad		537
Total	PKR Mn	$ae = ac + ad$		(6,094)

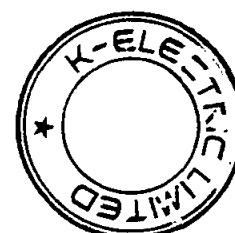
3 Revised capex to be allowed

Macro economic factors

i PKR/US\$ Exchange Rate- Average	PKR / USD	af	314.6	314.6
Pak CPI	No.	ag	250.8	250.8
US CPI	No.	ah	319.3	319.3

ii Revised capex for FY 2025 onwards indexed on latest macro economic factors

Base CAPEX - FCC	PKR Mn	$ai = (d+ac) \times (af/a) \times (ah/c)$		51,221
Base CAPEX - LCC	PKR Mn	$aj = (e+ad) \times (ag/b)$		5,949
Total	PKR Mn	$ak = ai + aj$		57,170



Transmission Tariff - FY 2024 to FY 2030

Annual Investment update - updated Capex

Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
---------------------	------------------

Description	Unit	Legend	FY 2024	FY 2025
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ii Capex - indexed

Base CAPEX - FCC	PKR Mn	$k = d \times (h/a) \times (j/c)$	66,068	
Base CAPEX - LCC	PKR Mn	$l = e \times (i/b)$	5,374	
Actual IDC, Custom Duties & Contingencies	PKR Mn	m	764	
Total	PKR Mn	$n = k + l + m$	72,206	

iii Capex - Additional based on specific approval

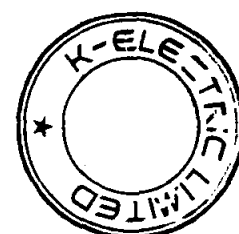
Base CAPEX - FCC	PKR Mn	o	250	
Base CAPEX - LCC	PKR Mn	p	-	
IDC, Custom Duties & Contingencies	PKR Mn	p1	-	
Total	PKR Mn	$q = o + p + p1$	250	

iv Capex - Indexed + specific approved

Base CAPEX - FCC	PKR Mn	$r = k + o$	66,318	
Base CAPEX - LCC	PKR Mn	$s = l + p$	5,374	
Actual IDC, Custom Duties & Contingencies	PKR Mn	t	764	
Total	PKR Mn	$u = r + s + t$	72,456	

v Capex - Actually incurred

Base CAPEX - FCC	PKR Mn	v	72,950	
Base CAPEX - LCC	PKR Mn	w	4,837	
Actual IDC, Custom Duties & Contingencies	PKR Mn	x	764	
Total	PKR Mn	$y = v + w + x$	78,550	



Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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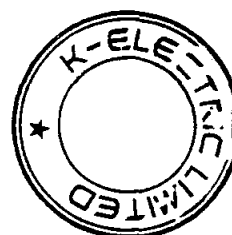
Description	Unit	Legend	FY 2024	FY 2025
1 Capex allowed - Reference				
i Macro economic factors - Reference				
PKR/US\$ Exchange Rate- Average	PKR / USD	a	206.0	206.0
Pak CPI	No.	b	158.5	158.5
US CPI	No.	c	282.0	282.0
ii Capex Allowed				
Base CAPEX - FCC		d	38,209	36,254
Base CAPEX - LCC		e	3,396	3,223
IDC, Custom Duties & Contingencies		f	849	806
Total CAPEX	PKR Mn	g = d + e + f	42,454	40,282

Note: Amounts are for illustrative purposes only. Actual adjustments to be done based on breakup given by NEPRA in investment plan decision.

2 Capex allowed - Indexed on actual Macro economic factors till FY 2024

i Macro economic factors - actual [Average as defined in the petition]

PKR/US\$ Exchange Rate- Average	PKR / USD	h	314.6
Pak CPI	No.	i	250.8
US CPI	No.	j	319.3

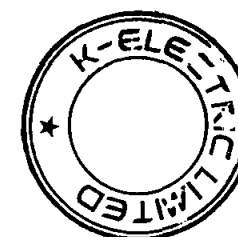


K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Annual Working capital adjustment

Form 2.3

For the year	Year 1 - FY 2024
--------------	------------------

Description	Unit	Legend	FY 2024	FY 2025	Comments
Average working capital Balance	PKR mn	$y = \text{average } x$	5,206	5,096	
Total Cost of working capital	PKR mn	$z = y \times c$	1,245	1,219	
Reference Cost of working capital claimed during the year	PKR mn	$aa = \text{Form 2.2}$	946		Based on Indexed number
Under/ (Over) Recovery of Working Capital Cost	PKR mn	$ab = z - aa$	299		
Working capital component for future years	PKR / kWh	$ac = z / d$		0.0601	

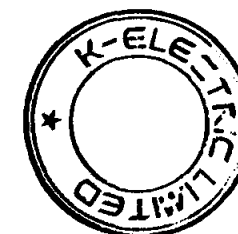


K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Annual Working capital adjustment

Form 2.3

For the year	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025	Comments
Current Liabilities					
Stores and Spares (3% of GFA)	PKR mn	k = h	6,254	7,920	
Revenue requirement per unit		l = Form 2.2	2.99	3.29	Indexed tariff rates on projected units served.
Revenue requirement in amount		m = l x d	53,713	66,783	
Trade debt (30 days of Revenue Receivable)	PKR mn	n	4,415	5,489	
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	o	1,537	1,551	Annual adjustments excluding impact of adjustment as per this form.
Receivable pertaining to Annual Adjustments excl. working capital over/under adjustment	PKR mn	oi = Form 2.1	3,413	-	
Total Current Assets	PKR mn	p = k + n + o + oi	15,618	14,960	
Current liabilities (2/3rd of above Current Assets)	PKR mn	q = p x 2 / 3	10,412	9,973	
Working Capital Computation					
Stores and Spares (3% of GFA)	PKR mn	r	6,254	7,920	
Trade debt (30 days of Revenue Receivable)	PKR mn	s	4,415	5,489	
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	t	1,537	1,551	
Receivable pertaining to Annual Adjustments excl. working capital over/under adjustment	PKR mn	u	3,413	-	
Total Current Assets	PKR mn	v = r + s + t + u	15,618	14,960	
Current Liabilities	PKR mn	w	10,412	9,973	
Working Capital requirement	PKR mn	x = v - w	5,206	4,987	

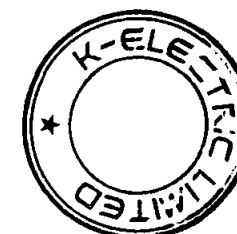


K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Annual Working capital adjustment

Form 2.3

For the year	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025	Comments
Assumptions					
KIBOR	%	a	21.9%	21.9%	FY 2024 is average of four quarters - going forward same as FY 2024
Short term borrowing spread	%	b	2.0%	2.0%	
	%	c = a + b	23.9%	23.9%	
Units served	No.	d	17,951	20,290	FY24 Actual. FY 25 as per updated projections.
Stores and Spares					
Transmission Gross Fixed Assets	PKR mn	e	207,238	262,003	Form 2.4.2
Support Gross Fixed Assets (Transmission Share)	PKR mn	f	1,218	2,003	Form 2.4.2.1
Total Gross Fixed Assets (GFA)	PKR mn	g = e + f	208,456	264,006	
Stores and Spares (3% of GFA)	PKR mn	h = g x 3%	6,254	7,920	
Cash and Bank					
Transmission O&M Expenses	PKR mn	i	9,220	9,305	As per initial determination with impact of indexation of CPI.
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	j = i / 6	1,537	1,551	

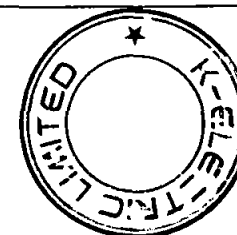


Transmission Tariff - FY 2024 to FY 2030

Annual units served adjustment

For the year	Year 1 - FY 2024
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Description	Unit	Calculation	Q1	Q2	Q3	Q4	Total
Units served							
O&M			0.49	0.49	0.49	0.49	
Amortization of Def. revenue			(0.01)	(0.01)	(0.01)	(0.01)	
RoRB - Cost of Borrowing- Local			0.37	0.36	0.36	0.35	
RoRB - Cost of Borrowing- Foreign			1.16	1.16	1.16	1.16	
RoRB - Cost of Equity			0.69	0.71	0.71	0.72	
Depreciation			0.23	0.23	0.23	0.23	
Working capital			0.05	0.05	0.05	0.05	
Indexed Transmission Tariff rate	PKR / kWh	a	2.99	2.99	2.99	3.00	
Projected units served for the year	GWh	b	5,229	4,304	3,716	5,410	18,659
O&M			2,584	2,127	1,836	2,673	9,219
Amortization of Def. revenue			(51)	(42)	(36)	(53)	(182)
RoRB - Cost of Borrowing- Local			1,914	1,545	1,320	1,903	6,682
RoRB - Cost of Borrowing- Foreign			6,087	5,010	4,326	6,297	21,719
RoRB - Cost of Equity			3,627	3,037	2,649	3,894	13,207
Depreciation			1,188	978	844	1,229	4,239
Working capital			271	219	187	269	946
Revenue requirement	PKR Mn	c = a * b	15,620	12,873	11,126	16,212	55,830
Actual units served	GWh	d	5,501	3,862	3,193	5,396	17,951
Revenue recovered on actual	PKR Mn	e = a * d	16,431	11,551	9,559	16,171	53,711
Variation (Excess) / under	PKR Mn	f = c - e					2,119



K-Electric Limited

Form 2.1

Transmission Tariff - FY 2024 to FY 2030

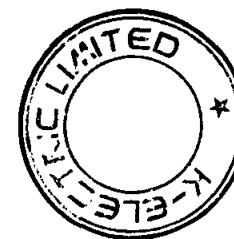
Summary of Annual adjustments and Prior year adjustments in tariff component

After completion of	Year 1 - FY 2024
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Description	Unit	References	Total
(Over) / under recovery due to units served	PKR Mn	Form 2.2	2,119
Other (income) / expense actualised items	PKR Mn	Note 1	(100)
(Over) / under recovery on account of actualization of working capital component	PKR Mn	Form 2.3	299
(Over) / under recovery on account of Annual Investment update	PKR Mn	Form 2.4.2	1,394
Total adjustment	PKR Mn	a	3,711

Note 1: To be submitted as per details given in **Section 9.3.1.3** of petition.

Note 2: The amount of total annual adjustment will be calculated by Q1 of next year and will be claimed as pass through in first quarterly variation to be filed by Supply business.



Year	Year 1 - FY 2024
Quarter	Quarter 2

Sources for Indexation

Description	Reference		Revised		Source for Revised
CPI	CPI(Ref)	227.96	CPI(Rev)	234.8	CPI published by Pakistan Bureau of Statistics available at the start of each quarter
Exchange rate	ER(Ref)	287.1	ER(Rev)	292.1	The Revised TT & OD selling rate of USD as notified by National bank available at October 1, 2023
KIBOR	KIBOR _(Ref)	22.9%	KIBOR _(Rev)	22.4%	The revised 3 month KIBOR as published by State Bank of Pakistan available at October 1, 2023
Spread on local borrowing	Sp-local	2.5%	Sp-local	2.5%	Same as allowed in reference
Cost of Debt - Local	CoD Local _(Ref)	25.4%	CoD Local _(Rev)	24.9%	KIBOR(Ref) + Sp-local
KIBOR	KIBOR _(Ref)	22.9%	KIBOR _(Rev)	22.4%	The revised 3 month KIBOR as published by State Bank of Pakistan available at October 1, 2023
Spread for working capital	Sp-WC	2.0%	Sp-WC	2.0%	Same as allowed in reference
Cost of borrowing - WC	CoB(Ref)	24.9%	CoB(Rev)	24.4%	KIBOR(Ref) + Sp-WC

1 O&M - Once in every year with indexation of Q1

Tariff component	Reference - PKR / kWh		Revised - PKR / kWh		Formula for Revised
O&M	O&M (Ref)	0.4941	O&M (Rev)	0.5089	O&M(Ref) for relevant year x CPI(Rev) / CPI (Ref)
Total		0.4941		0.5089	

2 Cost of Debt - Local

Tariff component	Reference - PKR / kWh		Revised - PKR / kWh		Formula for Revised
Cost of Debt - Local	RoRBCoD Local(Ref)	0.3661	RoRBCoD Local(Rev)	0.3589	RoRBCoD Local(Ref) for relevant year x CoD Local(Rev) / CoD Local (Ref)
Total		0.3661		0.3589	

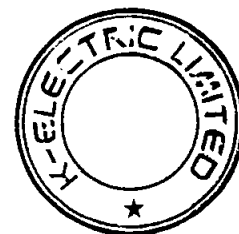
3 Cost of Equity

Tariff component	Reference - PKR / kWh		Revised - PKR / kWh		Formula for Revised
Cost of Equity	RoRBCoE (Ref)	0.6936	RoRBCoE (Rev)	0.7057	RoRBCoE (Ref) for relevant year x ER(Rev) / ER(Ref)
Total		0.6936		0.7057	

4 Working capital

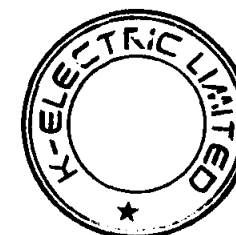
Tariff component	Reference - PKR / kWh		Revised - PKR / kWh		Formula for Revised
Working capital	W.C.(Ref)	0.0519	W.C.(Rev)	0.0508	W.C.(Ref) x CoB(Rev) / CoB(Ref)
Total		0.0519		0.0508	

Note: The quarterly indexation will be filed at the start of every quarter.



Form No.	Particulars
1.1	Quarterly indexation
2.1	Summary of Annual adjustments and Prior year adjustments in tariff component
2.2	Annual units served adjustment
2.3	Annual Working capital adjustment
2.4.1	Annual Investment update - updated Capex
2.4.1.1	Annual Investment update - updated Capex (Support)
2.4.2	Annual Investment update - updated RAB and Return
2.4.2.1	Annual Investment update - updated RAB and Return (Support)
2.4.3	Revised RoE Indexation
3.1	Actualised Cost of Debt foreign and loans mix

Note: Complete Tariff table will be updated after Annual adjustments. Further, these forms represents illustrative numbers and will be amended at the time of filing, depending upon the actual scenario prevailing at that time, based on actual numbers.



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
O&M Expenses

Annexure E

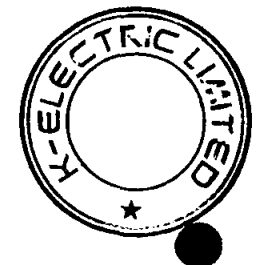
Description	Unit	Legends	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Assumptions										
Projected Units Served*	GWh	a	18,200	18,660	19,531	20,154	20,617	20,967	21,306	21,617
Pak CPI**	No.	b	165.23	227.96	227.96	227.96	227.96	227.96	227.96	227.96
Transmission O&M Calculation										
Actual O&M FY 23	PKR Mn	c	5,408							
Reference O&M after CPI adjustment for FY 24 and future sentout growth	PKR Mn	d		7,649	8,006	8,262	8,452	8,595	8,734	8,862
CAPEX nature O&M expenses***	PKR Mn	e		1,092	903	614	516	585	670	651
CAPEX nature O&M expenses - Indexed with PAK CPI for FY 24****	PKR Mn	$f = e / 158.48 * b$		1,571	1,299	883	742	841	964	936
Subtotal	PKR Mn	$g = d + f$		9,220	9,305	9,145	9,194	9,436	9,698	9,798
Per Unit O&M	PKR/ kWh	$h = g / a$		0.4941	0.4764	0.4538	0.4459	0.4501	0.4552	0.4533

* FY 23 actual units served. Onward years projected.

** Pak CPI for FY 23 as per May 22 and May 23 for FY 24.

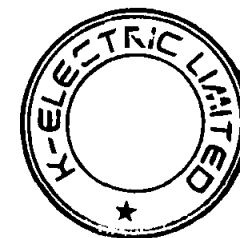
*** O&M expenses of CAPEX nature which are excluded as per Investment Plan decision included as part of O&M revenue requirement.

**** Investment plan CAPEX was based on CPI of FY 22 i.e 158.48 therefore, the same has been used for indexation purposes for onward years.



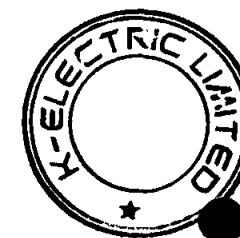
K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Projected working capital requirement

Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Current Liabilities										
Stores and Spares (3% of GFA)	PKR mn	i		5,542	6,777	8,231	9,401	10,827	11,346	12,301
Revenue requirement per unit	PKR/ Kwh	j		2.99	3.39	3.78	4.20	4.56	4.76	4.81
Revenue requirement	PKR mn	k = j x d		55,740	66,213	76,241	86,511	95,584	101,372	104,052
Trade debt (30 days of Revenue Receivable)	PKR mn	l = k x 30 / 365		4,581	5,442	6,266	7,110	7,856	8,332	8,552
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	m		1,537	1,551	1,524	1,532	1,573	1,616	1,633
Total Current Assets	PKR mn	n = i + l + m		11,660	13,771	16,021	18,044	20,256	21,294	22,486
Current liabilities (2/3rd of above Current Assets)	PKR mn	o = n x 2/3		7,773	9,180	10,681	12,029	13,504	14,196	14,990
Working Capital Computation										
Stores and Spares (3% of GFA)	PKR mn	p = f		5,542	6,777	8,231	9,401	10,827	11,346	12,301
Trade debt (30 days of Revenue Receivable)	PKR mn	p1 = l		4,581	5,442	6,266	7,110	7,856	8,332	8,552
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	p2 = h		1,537	1,551	1,524	1,532	1,573	1,616	1,633
Total Current Assets	PKR mn	p3 = p + p1 + p2		11,660	13,771	16,021	18,044	20,256	21,294	22,486
Current Liabilities	PKR mn	q = o		7,773	9,180	10,681	12,029	13,504	14,196	14,990
Working Capital requirement	PKR mn	r = p - q		3,887	4,590	5,340	6,015	6,752	7,098	7,495
Average working capital	PKR mn	s = average r		3,887	4,238	4,965	5,678	6,383	6,925	7,297
Total Cost of working capital	PKR mn	t = s x c		968	1,056	1,237	1,414	1,590	1,725	1,818
Cost of working capital - per unit	PKR/ Kwh	u = t / d		0.0519	0.0541	0.0614	0.0686	0.0758	0.0810	0.0841



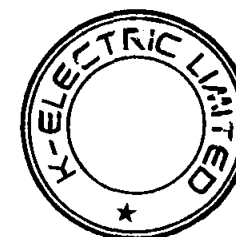
K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Projected working capital requirement

Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Assumptions										
KIBOR	%	a		22.9%	22.9%	22.9%	22.9%	22.9%	22.9%	22.9%
Short term borrowing spread	%	b		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Total	%	c = a + b		24.9%	24.9%	24.9%	24.9%	24.9%	24.9%	24.9%
Projected Units served	No.	d		18,660	19,531	20,154	20,617	20,967	21,306	21,617
Stores and Spares										
Transmission Gross Fixed Assets	PKR mn	e		183,700	224,485	272,576	311,216	358,415	375,275	406,673
Support Gross Fixed Assets (Transmission Share)	PKR mn	e1		1,028	1,431	1,790	2,152	2,493	2,910	3,344
Total Gross Fixed Assets (GFA)	PKR mn	e2 = e + e1		184,728	225,916	274,366	313,368	360,908	378,185	410,017
Stores and Spares (3% of GFA)	PKR mn	f = e2 x 3%		5,542	6,777	8,231	9,401	10,827	11,346	12,301
Cash and Bank										
Transmission O&M Expenses	PKR mn	g		9,220	9,305	9,145	9,194	9,436	9,698	9,798
Cash & Bank balance (1/6 of O&M Expenses)	PKR mn	h = g / 6		1,537	1,551	1,524	1,532	1,573	1,616	1,633



Particulars		Jun-16	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	
		Actualized								Forecasted							
Weightage of RAB (B)																	
FY 2016	%	100%	89%	55%	45%	37%	34%	30%	27%	21%	17%	14%	13%	11%	11%	11%	
FY 2017	%	0%	11%	7%	6%	5%	4%	4%	3%	3%	2%	2%	2%	1%	1%	1%	
FY 2018	%	0%	0%	38%	31%	25%	23%	21%	18%	14%	12%	10%	9%	8%	8%	7%	
FY 2019	%	0%	0%	0%	19%	15%	14%	13%	11%	9%	7%	6%	5%	5%	5%	5%	
FY 2020	%	0%	0%	0%	0%	17%	16%	14%	13%	10%	8%	7%	6%	5%	5%	5%	
FY 2021	%	0%	0%	0%	0%	0%	9%	8%	7%	5%	4%	4%	3%	3%	3%	3%	
FY 2022	%	0%	0%	0%	0%	0%	0%	11%	10%	7%	6%	5%	4%	4%	4%	4%	
FY 2023	%	0%	0%	0%	0%	0%	0%	0%	11%	9%	7%	6%	5%	5%	5%	5%	
FY 2024	%	0%	0%	0%	0%	0%	0%	0%	0%	23%	19%	16%	14%	13%	12%	12%	
FY 2025	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	14%	13%	11%	11%	11%	
FY 2026	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	14%	13%	12%	12%	
FY 2027	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	11%	11%	11%	
FY 2028	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	9%	9%	
FY 2029	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	
FY 2030	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Year wise Indexation - considering RAB weightage (A x B)																	
FY 2016	%	0%	-0.01%	3%	13%	19%	18%	21%	37%	36%	30%	25%	22%	20%	19%	19%	
FY 2017	%	0%	0%	0%	2%	2%	2%	3%	5%	5%	4%	3%	3%	3%	3%	2%	
FY 2018	%	0%	0%	0%	7%	11%	11%	13%	23%	23%	19%	16%	14%	13%	12%	12%	
FY 2019	%	0%	0%	0%	0%	3%	2%	4%	9%	10%	8%	7%	6%	5%	5%	5%	
FY 2020	%	0%	0%	0%	0%	0%	0%	2%	7%	8%	7%	6%	5%	4%	4%	4%	
FY 2021	%	0%	0%	0%	0%	0%	0%	1%	4%	4%	4%	3%	3%	2%	2%	2%	
FY 2022	%	0%	0%	0%	0%	0%	0%	0%	4%	5%	4%	3%	3%	3%	2%	2%	
FY 2023	%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	
FY 2024	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2025	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2026	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2027	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2028	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2029	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
FY 2030	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Total Indexation	%	0.00%	-0.01%	3.09%	22.45%	35.02%	33.37%	43.01%	88.01%	90.75%	75.21%	63.16%	55.24%	50.31%	48.89%	47.99%	
RoE - USD based	%								15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	
Indexation	%								88.01%	90.75%	75.21%	63.16%	55.24%	50.31%	48.89%	47.99%	
RoE - Indexed	%								28.20%	28.61%	26.28%	24.47%	23.29%	22.55%	22.33%	22.20%	

*RAB as per Annexure B(ii) including support RAB on respective ratio as per Annexure B(ii)



Particulars		Jun-16	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
		Actualized								Forecasted						
Average Exchange rate for the year	PKR / USD	104.82	104.81	110.01	136.17	158.38	160.21	178.03	248.00	287.10	287.10	287.10	287.10	287.10	287.10	287.10
Regulatory Asset Base (RAB) at year end*	PKR mn	35,150	39,700	63,664	78,263	94,822	103,928	116,485	131,322	170,246	205,434	244,626	279,679	307,109	316,047	321,969
Additions, net of Depreciation & Disposals during the year	PKR mn		4,550	23,963	14,600	16,559	9,106	12,557	14,836	38,925	35,188	39,192	35,053	27,430	8,937	5,922

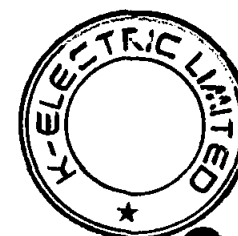
Year wise Indexation based on exchange rates (A)

FY 2016	%		-0.01%	4.95%	29.91%	51.10%	52.84%	69.84%	136.59%	173.90%	173.90%	173.90%	173.90%	173.90%	173.90%	173.90%
FY 2017	%			4.96%	29.92%	51.12%	52.86%	69.87%	136.63%	173.93%	173.93%	173.93%	173.93%	173.93%	173.93%	173.93%
FY 2018	%				23.78%	43.97%	45.64%	61.84%	125.44%	160.99%	160.99%	160.99%	160.99%	160.99%	160.99%	160.99%
FY 2019	%					16.31%	17.65%	30.74%	82.13%	110.84%	110.84%	110.84%	110.84%	110.84%	110.84%	110.84%
FY 2020	%						1.15%	12.41%	56.58%	81.27%	81.27%	81.27%	81.27%	81.27%	81.27%	81.27%
FY 2021	%							11.12%	54.80%	79.20%	79.20%	79.20%	79.20%	79.20%	79.20%	79.20%
FY 2022	%								39.30%	61.26%	61.26%	61.26%	61.26%	61.26%	61.26%	61.26%
FY 2023	%									15.77%	15.77%	15.77%	15.77%	15.77%	15.77%	15.77%
FY 2024	%										0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
FY 2025	%											0.00%	0.00%	0.00%	0.00%	0.00%
FY 2026	%												0.00%	0.00%	0.00%	0.00%
FY 2027	%													0.00%	0.00%	0.00%
FY 2028	%														0.00%	0.00%
FY 2029	%															0.00%
FY 2030	%															0.00%

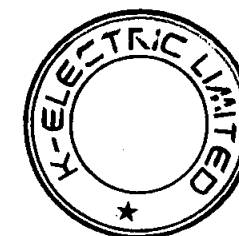
Calculated with reference to exchange rate of a relevant year vs exchange rate of base year for example 16.31% in FY 2020 calculated as PKR 158.38 / USD divided by PKR 136.17 / USD

Year wise break up of RAB

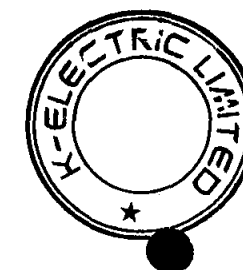
FY 2016	PKR mn	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150
FY 2017	PKR mn		4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550
FY 2018	PKR mn			23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963
FY 2019	PKR mn				14,600	14,600	14,600	14,600	14,600	14,600	14,600	14,600	14,600	14,600	14,600	14,600
FY 2020	PKR mn					16,559	16,559	16,559	16,559	16,559	16,559	16,559	16,559	16,559	16,559	16,559
FY 2021	PKR mn						9,106	9,106	9,106	9,106	9,106	9,106	9,106	9,106	9,106	9,106
FY 2022	PKR mn							12,557	12,557	12,557	12,557	12,557	12,557	12,557	12,557	12,557
FY 2023	PKR mn								14,836	14,836	14,836	14,836	14,836	14,836	14,836	14,836
FY 2024	PKR mn									38,925	38,925	38,925	38,925	38,925	38,925	38,925
FY 2025	PKR mn										35,188	35,188	35,188	35,188	35,188	35,188
FY 2026	PKR mn											39,192	39,192	39,192	39,192	39,192
FY 2027	PKR mn												35,053	35,053	35,053	35,053
FY 2028	PKR mn													27,430	27,430	27,430
FY 2029	PKR mn														8,937	8,937
FY 2030	PKR mn															5,922
Total RAB		35,150	39,700	63,664	78,263	94,822	103,928	116,485	131,322	170,246	205,434	244,626	279,679	307,109	316,047	321,969



			FY 2024			
Description	Unit	Reference	Hedged Loans	Un-Hedged Loans	Total	Remarks
Foreign Debt Movement in PKR						
Opening	PKR Mn	o	17,125	4,683	21,808	
Addition	PKR Mn	p = e x k	-	27,450	27,450	
Repayment excluding impact of currency depreciation	PKR Mn	q = f x l	(4,666)	(2,312)	(6,978)	
Closing	PKR Mn	r = o + p + q	12,458	29,822	42,280	Repayment at drawdown rate.
Average foreign debt						
Average foreign debt	PKR Mn	s	15,107	15,140	30,247	Average balance during the year calculated on daily outstanding position
Debt Repayment including impact of currency depreciation	PKR Mn	t	-	(2,689)	(2,689)	Repayment of loan at market rate prevailing at the time of payment
Markup Amount in PKR	PKR Mn	u = i x m	2,343	1,151	3,495	Markup in equivalent PKR rate prevailing at the date of payment
Amortization of Transaction cost	PKR Mn	u1	50	57	106	Transaction cost of opening loans to be amortised during FY 24.
Exchange (gain) / loss on repayment of Principal	PKR Mn	v = q - t	-	378	378	Difference of debt repayment on actual rate and drawdown rate.
Hedge cost for hedged loans	PKR Mn	v1	1,890	-	1,890	Hedging cost for hedged loans.
Exchange (gain) / loss on Outstanding balance of unhedged loans	PKR Mn	v2 = g * (n1 - n)	-	2,484	2,484	Revaluation exchange loss / (gain) on closing balance for unhedged loans.
Total Markup & Exchange (gain) / loss	PKR Mn	w = u + u1 + v + v1 + v2	4,283	4,070	8,353	
Effective interest rate of foreign borrowing	%	x = w / s	28.35%	26.88%	27.62%	
Cost of Borrowing Foreign						
Foreign Debt Rate	%	y = x			27.62%	To be actualised at year end
Local Loan						
Local Debt movement						
Opening	PKR Mn	z			11,888	Amount based on movement of local loans.
Addition	PKR Mn	aa			-	Projected additions to be actualised each year.
Repayment	PKR Mn	ab			(3,846)	Projected repayments to be actualised each year.
Closing	PKR Mn	ac = z + aa + ab			8,042	
Average	PKR Mn	ad			10,199	Average balance during the year calculated on daily outstanding position



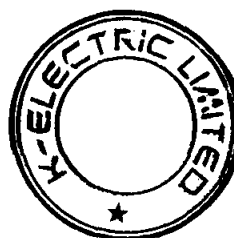
Description	Unit	Reference	FY 2024		Total	Remarks
			Hedged Loans	Un-Hedged Loans		
Debt %	%	a			70%	
Foreign Debt ratio	%	b = s / (s + ad)			75%	Calculated on average outstanding loans
Local Debt ratio	%	c = ad / (s + ad)			25%	Calculated on average outstanding loans
Foreign Loans & Cost of Debt						
Foreign Debt Movement in USD						
Opening	USD Mn	d	109.89	22.16	132.05	Amount based on movement of foreign loans in USD
Addition	USD Mn	e	-	90.00	90.00	Projected additions to be actualised each year.
Repayment	USD Mn	f	(33.54)	(8.82)	(42.37)	Projected repayments to be actualised each year.
Closing	USD Mn	g = d + e + f	76.35	103.33	179.68	
Average	USD Mn	h	95.57	55.87	151.44	Average balance during the year calculated on daily outstanding position
Actual Markup on Foreign Loans	USD Mn	i	7.82	3.78	11.61	Markup to be paid during the year
Projected Exchange Rates						
Opening effective exchange rate	PKR / USD	j	163.18	288.60	165.15	Actual average exchange rates of foreign loans computed by dividing loan amounts in PKR at drawdown rate by loan amounts in USD
Drawdown	PKR / USD	k	0	305.00	305.00	Projected rate of expected drawdown (with 10% currency depreciation) to be made during the year, to be actualized based on actual exchange rate and drawdown amounts. Rate computed by dividing total drawdowns in PKR by total drawdowns in USD during the year.
Repayment	PKR / USD	l	139.11	261.95	164.69	Average rate of repayment (excluding currency depreciation) i.e hedged / drawdown rate.
Markup	PKR / USD	m	299.53	304.35	301.10	Projected rate of expected markup to be paid during the year, to be actualized based on actual exchange rate and markup amounts. Rate computed by dividing total markup in PKR by total markup in USD
Effective exchange rate of loan	PKR / USD	n = r / g	163.18	288.60	235.31	
Closing exchange rate	PKR / USD	n1	312.64	312.64	312.64	To be actualised at year end



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Allocation of Support RoRB & Depreciation

Annexure B(ii)

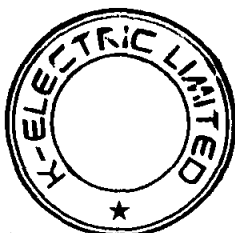
Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Depreciation rate %	%	o		12.9%	12.9%	12.9%	12.9%	12.9%	12.9%	12.9%
Accumulated Depreciation										
Opening	PKR Mn	o1		2,969	3,721	4,708	6,001	7,583	9,448	11,617
Depreciation for the year	PKR Mn	p = average (m,n) x o		752	987	1,293	1,582	1,865	2,169	2,510
Depreciation - Disposal	PKR Mn	p1		-	-	-	-	-	-	-
Closing	PKR Mn	q = o1 + p + p1	2,969	3,721	4,708	6,001	7,583	9,448	11,617	14,127
Net RAB	PKR Mn	r = l3 + n - q	2,684	5,210	6,598	7,541	8,118	8,913	9,491	9,032
Average RAB	PKR Mn	s = average r		3,947	5,904	7,069	7,829	8,515	9,202	9,262
Calculation of RoRB and Depreciation										
Cost of Debt - Local	PKR Mn	t = b x d x g x s		600	897	1,074	1,189	1,294	1,398	1,407
Cost of Debt - Foreign	PKR Mn	u = b x c x h x s		90	135	162	179	195	211	212
Cost of Equity	PKR Mn	v = j x k2 x s		339	465	519	547	576	617	617
Depreciation	PKR Mn	w = p		752	987	1,293	1,582	1,865	2,169	2,510
Capitalization & Disposal %										
Capitalization as % of Opening CWIP & Additions	%	x = - (l2 / (l1 + l))		30.70%	50.96%	47.98%	49.26%	42.56%	46.15%	53.24%
Disposal as % of opening cost	%	y = - (m2 / m)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Disposal as % of opening Acc. Dep	%	z = - (p1 / o1)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Support Return Allocation on Transmission Network										
RoRB - Allocation Percentages based on proportion of FY 23 expenses	%	aa		16%	16%	16%	16%	16%	16%	16%
Cost of Debt - Local	PKR Mn	ab = aa x t		96	144	173	191	208	225	226
Cost of Debt - Foreign	PKR Mn	ac = aa x u		15	22	26	29	31	34	34
Cost of Equity	PKR Mn	ad = aa x v		54	75	83	88	93	99	99
Depreciation	PKR Mn	ae = aa x w		121	159	208	255	300	349	404
Support RAB Allocation on Transmission Network										
RoRB and Dep - Allocation Percentages based on proportion of FY 23 expenses	%	af		16%	16%	16%	16%	16%	16%	16%
Cost of Fixed Assets (Gross Fixed Assets)	PKR Mn	ag = af x n		1,028	1,431	1,790	2,152	2,493	2,910	3,344
Net RAB	PKR Mn	ah = af x r		838	1,061	1,213	1,306	1,434	1,527	1,453



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Allocation of Support RoRB & Depreciation

Annexure B(ii)

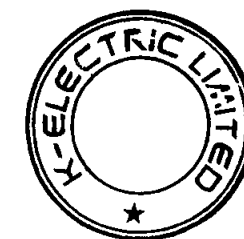
Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Assumptions										
Projected Units served	GWh	a		18,660	19,531	20,154	20,617	20,967	21,306	21,617
Debt %	%	b		70%	70%	70%	70%	70%	70%	70%
Foreign Debt %	%	c		15%	15%	15%	15%	15%	15%	15%
Local Debt %	%	d		85%	85%	85%	85%	85%	85%	85%
Cost of Debt - Local										
KIBOR	%	e		22.91%	22.91%	22.91%	22.91%	22.91%	22.91%	22.91%
Spread	%	f		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
CoD - Local	%	g = e + f		25.41%	25.41%	25.41%	25.41%	25.41%	25.41%	25.41%
CoD - Foreign	%	h = Distribution Petition		22.42%	22.42%	22.42%	22.42%	22.42%	22.42%	22.42%
Weighted Average cost of borrowing	%	i = (c x h) + (d x g)		24.97%	24.97%	24.97%	24.97%	24.97%	24.97%	24.97%
Equity %	%	j		30%	30%	30%	30%	30%	30%	30%
Cost of Equity - Base	%	k		15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Cost of Equity - Indexation (Annexure C)	%	k1		90.75%	75.21%	63.16%	55.24%	50.31%	48.89%	47.99%
Cost of Equity - Indexed	%	k2 = k*(1+k1)		28.6%	26.3%	24.5%	23.3%	22.5%	22.3%	22.2%
1 RAB Movement										
Capital Work in Progress										
Opening	PKR Mn	l		391	2,542	2,411	2,418	2,322	2,862	3,020
Addition	PKR Mn	l1		3,278	2,375	2,236	2,159	2,660	2,747	2,051
Capitalization	PKR Mn	l2		(1,126)	(2,506)	(2,230)	(2,255)	(2,120)	(2,589)	(2,700)
Closing CWIP	PKR Mn	l3 = l + l1 + l2	391	2,542	2,411	2,418	2,322	2,862	3,020	2,372
Operating Fixed Assets (without revaluation)										
Opening	PKR Mn	m		5,262	6,388	8,895	11,124	13,379	15,499	18,088
Capitalization	PKR Mn	m1		1,126	2,506	2,230	2,255	2,120	2,589	2,700
Disposal	PKR Mn	m2		-	-	-	-	-	-	-
Closing	PKR Mn	n = (m + m1 + m2)	5,262	6,388	8,895	11,124	13,379	15,499	18,088	20,787



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Projected Regulatory Asset Base (RAB) Movement

Annexure B(i)

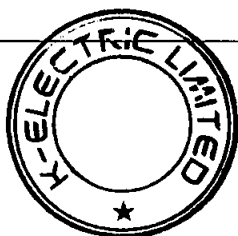
Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Depreciation on transmission assets	PKR Mn	aj		4,118	5,490	6,685	7,852	9,007	9,868	10,517
Depreciation on support assets	PKR Mn	aj1 = Annexure B(ii)		121	159	208	255	300	349	404
Depreciation Total	PKR Mn	aj2 = aj + aj1		4,239	5,649	6,893	8,107	9,307	10,217	10,921
Amortization of deferred revenue	PKR Mn	ak		(182)	(173)	(164)	(155)	(147)	(140)	(132)
Total Transmission Tariff component summary										
Cost of Borrowing - Foreign	PKR / kWh	al = y / a		1.1640	1.3844	1.6073	1.8307	2.0149	2.1056	2.1249
Cost of Borrowing - Local	PKR / kWh	am = ad / a		0.3661	0.4366	0.5069	0.5769	0.6346	0.6634	0.6693
Cost of Equity	PKR / kWh	an = ai / a		0.6936	0.7583	0.8198	0.8883	0.9465	0.9798	0.9827
Depreciation	PKR / kWh	ao = aj2 / a		0.2272	0.2892	0.3420	0.3932	0.4439	0.4795	0.5052
Amortization of Deferred Revenue	PKR / kWh	ap = ak / a		(0.0098)	(0.0088)	(0.0081)	(0.0075)	(0.0070)	(0.0066)	(0.0061)
Total	PKR / kWh	aq = sum (al:ap)		2.4411	2.8597	3.2679	3.6815	4.0329	4.2217	4.2760
Capitalization & Disposal %										
Capitalization as % of Opening CWIP & Additions	%	ar = - (k3 / (k1 + k2))		69.8%	61.1%	67.3%	58.5%	74.2%	48.2%	91.0%
Disposal as % of opening cost	%	as = - (m2 / m)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Disposal as % of opening Acc. Dep	%	at = - (p1 / o1)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Projected Regulatory Asset Base (RAB) Movement

Annexure B(i)

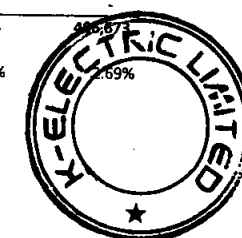
Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Accumulated Depreciation										
Opening	PKR Mn	o1		33,293	37,411	42,901	49,586	57,438	66,445	76,313
Depreciation for the year	PKR Mn	$p = \{ (m + n) / 2 \} \times o$		4,118	5,490	6,685	7,852	9,007	9,868	10,517
Depreciation - Disposal	PKR Mn	p1		-	-	-	-	-	-	-
Closing	PKR Mn	$q = o1 + p + p1$	33,293	37,411	42,901	49,586	57,438	66,445	76,313	86,830
CWIP + Fixed assets										
	PKR Mn	$r = l + n - q$	134,401	172,737	207,529	246,406	281,211	308,365	317,070	322,934
Amortization of deferred revenue %	%			5.19%	5.19%	5.19%	5.19%	5.19%	5.19%	5.19%
Deferred revenue										
Opening	PKR Mn	s		3,511	3,329	3,156	2,992	2,837	2,690	2,550
Additions	PKR Mn	s1		-	-	-	-	-	-	-
Amortization	PKR Mn	$s2 = (r1 + r2) \times a2$		(182)	(173)	(164)	(155)	(147)	(140)	(132)
Closing	PKR Mn	$t = s + s1 + s2$	3,511	3,329	3,156	2,992	2,837	2,690	2,550	2,418
RAB										
	PKR Mn	$t = r - t$	130,890	169,408	204,373	243,413	278,373	305,675	314,520	320,516
Average RAB	PKR Mn	$u = \text{average } (t)$		150,149	186,891	223,893	260,893	292,024	310,097	317,518
Tariff Components Computations										
Foreign Debt %	%	v		75%	75%	75%	75%	75%	75%	75%
Cost of Debt - Foreign	%	w		27.62%	27.62%	27.62%	27.62%	27.62%	27.62%	27.62%
CoD - Foreign-Transmission	PKR Mn	$x = d \times u \times v \times w$		21,706	27,017	32,366	37,715	42,215	44,828	45,901
Cost of Debt - Foreign - support	PKR Mn	$x1 = \text{Annexure B(ii)}$		15	22	26	29	31	34	34
CoD - Foreign (Including Support)	PKR Mn	$y = x + x1$		21,720	27,039	32,392	37,744	42,247	44,862	45,935
Local Debt %	%	z		25%	25%	25%	25%	25%	25%	25%
Cost of Debt - Local	%	aa		25.41%	25.41%	25.41%	25.41%	25.41%	25.41%	25.41%
CoD - Local - Transmission	PKR Mn	$ab = u \times aa \times z \times d$		6,735	8,383	10,043	11,702	13,098	13,909	14,242
CoD - Local - support	PKR Mn	$ac = \text{Annexure B(ii)}$		96	144	173	191	208	225	226
CoD - Local (Including Support)	PKR Mn	$ad = ab + ac$		6,831	8,527	10,215	11,893	13,307	14,134	14,468
CoD - Total	PKR Mn	$ae = y + ad$		28,552	35,566	42,608	49,637	55,553	58,996	60,403
Cost of Equity	%	af		28.6%	26.3%	24.5%	23.3%	22.5%	22.3%	22.2%
RoE	PKR Mn	$ag = u \times h \times af$		12,889	14,735	16,439	18,226	19,752	20,776	21,145
RoE - support	PKR Mn	$ah = \text{Annexure B(ii)}$		54	75	83	88	93	99	99
RoE - Total	PKR Mn	$ai = ag + ah$		12,943	14,810	16,522	18,314	19,845	20,875	21,244



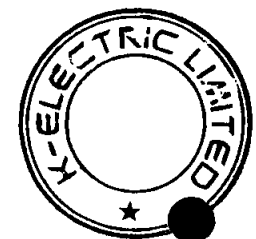
K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Projected Regulatory Asset Base (RAB) Movement

Annexure B(i)

Description	Unit	Reference	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Assumptions										
Projected Units served	GWh	a		18,660	19,531	20,154	20,617	20,967	21,306	21,617
Depreciation rate %	%	a1		2.69%	2.69%	2.69%	2.69%	2.69%	2.69%	2.69%
Amortization Deferred Revenue %	%	a2		5.19%	5.19%	5.19%	5.19%	5.19%	5.19%	5.19%
Cost of Debt - Foreign including currency depreciation	%	b = Annexure B(iii)		27.62%	27.62%	27.62%	27.62%	27.62%	27.62%	27.62%
Cost of Debt - Local										
KIBOR	%			22.91%	22.91%	22.91%	22.91%	22.91%	22.91%	22.91%
Spread	%			2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
CoD - Local	%	c		25.41%	25.41%	25.41%	25.41%	25.41%	25.41%	25.41%
Debt %	%	d		70%	70%	70%	70%	70%	70%	70%
Foreign Debt %	%	e		75%	75%	75%	75%	75%	75%	75%
Local Debt %	%	f		25%	25%	25%	25%	25%	25%	25%
Weighted average cost of debt	%	g = (b x e) + (c x f)		27.06%	27.06%	27.06%	27.06%	27.06%	27.06%	27.06%
Equity %	%	h		30%	30%	30%	30%	30%	30%	30%
Cost of Equity - Base	%	i		15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Cost of Equity - Indexation (Annexure C)	%	j		90.75%	75.21%	63.16%	55.24%	50.31%	48.89%	47.99%
Cost of Equity - Indexed	%	k = i x (1 + j)		28.61%	26.28%	24.47%	23.29%	22.55%	22.33%	22.20%
Total Summary										
RAB Movement										
Capital Work in Progress										
Opening	PKR Mn	k1		45,229	26,447	25,944	23,416	27,433	16,395	18,107
Addition	PKR Mn	k2		42,454	40,282	45,562	42,657	36,161	18,573	16,381
Capitalization	PKR Mn	k3		(61,235)	(40,785)	(48,090)	(38,640)	(47,199)	(16,861)	(31,397)
Closing	PKR Mn	l = k1 + k2 + k3	45,229	26,447	25,944	23,416	27,433	16,395	18,107	3,091
Operating Fixed Assets (without revaluation)										
Opening	PKR Mn	m		122,465	183,700	224,485	272,576	311,216	358,415	375,275
Capitalization	PKR Mn	m1		61,235	40,785	48,090	38,640	47,199	16,861	31,397
Disposal	PKR Mn	m2		-	-	-	-	-	-	-
Closing	PKR Mn	n = m + m1 + m2	122,465	183,700	224,485	272,576	311,216	358,415	375,275	406,672
Depreciation rate %	%	o = a1		2.69%	2.69%	2.69%	2.69%	2.69%	2.69%	2.69%

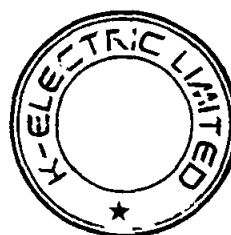


Transmission Tariff - PKR / kW / hour									
Year	FY	O&M	Amortization of Def. revenue	RoRB - Cost of Borrowing- Local	RoRB - Cost of Borrowing- Foreign	RoRB - Cost of Equity	Depreciation	Working capital	Total
		a	b	c	d	e	f	g	h=sum(a:g)
1	2024	0.4941	(0.0098)	0.3661	1.1640	0.6936	0.2272	0.0519	2.9871
2	2025	0.4764	(0.0088)	0.4366	1.3844	0.7583	0.2892	0.0541	3.3902
3	2026	0.4538	(0.0081)	0.5069	1.6073	0.8198	0.3420	0.0614	3.7830
4	2027	0.4459	(0.0075)	0.5769	1.8307	0.8883	0.3932	0.0686	4.1960
5	2028	0.4501	(0.0070)	0.6346	2.0149	0.9465	0.4439	0.0758	4.5588
6	2029	0.4552	(0.0066)	0.6634	2.1056	0.9798	0.4795	0.0810	4.7578
7	2030	0.4533	(0.0061)	0.6693	2.1249	0.9827	0.5052	0.0841	4.8134



Glossary

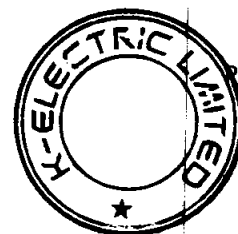
Acronym	Definition
ATR	Auto Transformers
BPC	Bulk Power Consumers
CAPEX	Capital Expenditure
CPPA – G	Central Power Purchasing Agency – Guarantee
CTBCM	Competitive Trading Bilateral Contract Market
EHT	Extra High-Tension lines
GIS	Gas Insulated Substation
GOP	Government of Pakistan
HVUB	Hub, Vinder, Uthal & Bela
IPPs	Independent Power Producers
KE	K– Electric
KIBOR	Karachi Interbank Offering Rate
KKI	KANUPP - K-Electric Interconnection
KM	Kilometers
LDC	Load Dispatch Center
LIBOR	London Interbank Offering Rate
LILO	Loop in Loop out
MVA	Megavolt Amperes
MYT	Multi Year Tariff
NEPRA	National Electric Power Regulatory Authority
NTDC	National Transmission & Despatch Company
O&M	Operating & Maintenance
RAB	Regulatory Asset Base
RCA	Root Cause Analysis
ROE	Return on Equity
RoRB	Return on Regulatory Asset Base
RoRBCOD	Return on Regulatory Asset Base - Cost of Debt
RoRBCOE	Return on Regulatory Asset Base - Cost of Equity
RTV	Room Temperature Vulcanized
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SOFR	Secured Overnight Financing Rate



Annexures

List of Annexures

Annexure	Description
A	Tariff Table
B(i)	Movement of RAB along with proposed additions and depreciation
	RoRBCoD calculation
	RoRBCoE calculation
	Depreciation calculation
	Amortization of Deferred Revenue calculation
B(ii)	Allocation of Support RoRB
B(iii)	Foreign Cost of Debt with Exchange rate variation
C	Calculation of Indexation for RoE component
D	Projected Working capital
E	O&M expense tariff component
F	Illustration of Indexation Mechanism
G	Audited Financial Statements FY 2023
H	Units & Losses



Please note that the below form represents only the illustration 2 given in the petition. This form will be amended at the time of filing, depending upon the actual scenario prevailing at that time as per the other illustrations given in the main petition document.

After completion of	Year 1 - FY 2024
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Description	Unit	Legend	FY 2024	FY 2025
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vi Capex - (Under) / over spent

Base CAPEX - FCC	PKR Mn	$z = v - r$	(2,198)	
Base CAPEX - LCC	PKR Mn	$aa = w - s$	39	
Total	PKR Mn	$ab = z + aa$	(2,160)	

vii Capex - Under spent capex carried forward to next years

Base CAPEX - FCC	PKR Mn	ac		2,198
Base CAPEX - LCC	PKR Mn	ad		(39)
Total	PKR Mn	$ae = ac + ad$		2,160

3 Revised capex to be allowed

i Macro economic factors

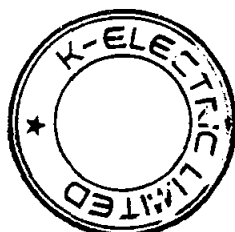
PKR/US\$ Exchange Rate- Average	PKR / USD	af	314.6	314.6
Pak CPI	No.	ag	250.8	250.8
US CPI	No.	ah	319.3	319.3

ii Revised capex for FY 2025 onwards indexed on latest macro economic factors

Base CAPEX - FCC	PKR Mn	$ii = (d+ac) \times (af/a) \times (ah/c)$		7,415
Base CAPEX - LCC	PKR Mn	$aj = (e + ad) \times (ag/b)$		390
Total	PKR Mn	$ak = ai + aj$		7,805

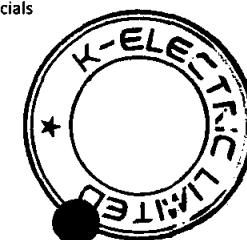
iii Revised capex

Base CAPEX - FCC	PKR Mn	$al = r + z$	3,298	9,614
Base CAPEX - LCC	PKR Mn	$am = s + aa$	425	351
Actual IDC, Custom Duties & Contingencies	PKR Mn	$an = x$	-	-
Total	PKR Mn	$ao = al + am + an$	3,722	9,965



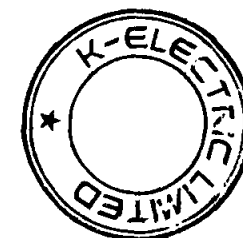
After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
1 Updated RAB movement						
Assumptions						
Capitalization %	%	a = c/j		69.0%	61.1%	Percentages are actualized based on financial statements
Disposal Cost %	%	b = c/o		0.8%	0.0%	
Disposal Acc. Dep%	%	c = c/t		3.3%	0.0%	
Depreciation rate %	%	d		2.69%	2.69%	As per initial determination.
Amortization of deferred revenue %	%	e		5.19%	5.19%	As per initial determination.
Exchange rate - average	PKR/USD	f		315	315	Updated based on FY 2024
Pak CPI	No.	g		251	251	Updated based on FY 2024
US CPI	No.	h		319	319	Updated based on FY 2024
PKR Based Working						
Capital Work in Progress						
Opening	PKR Mn	i		45,229	38,526	Form 2.4.1.1 From %age method for Future. FY24 as per financials
Addition	PKR Mn	j		79,050	51,075	
Capitalization	PKR Mn	k = a x (l + j)		(85,752)	(54,765)	
Closing	PKR Mn	l = i + j + k	45,229	38,526	34,837	
Operating Fixed Assets (without revaluation)						
Opening	PKR Mn	m		122,465	207,238	From %age method for Future. FY24 as per financials
Capitalization	PKR Mn	n = - k		85,752	54,765	
Disposal	PKR Mn	o = m x b		(980)	-	
Closing	PKR Mn	p = m + n + o	122,465	207,238	262,003	
Accumulated Depreciation						
Opening	PKR Mn	q		33,293	36,626	From %age method for Future. FY24 as per financials
Depreciation for the year	PKR Mn	r = average (m + p) x d		4,435	6,312	
Depreciation - Disposal	PKR Mn	s = q x c		(1,102)	-	
Closing	PKR Mn	t = q + r + s	33,293	36,626	42,938	



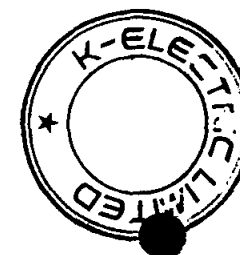
After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
CWIP + Fixed assets	PKR Mn	u = l + p - t	134,401	209,138	253,902	
Average RAB - Excl. Deferred Revenue		v		171,770	231,520	
Deferred revenue						
Opening	PKR Mn	w		3,511	3,922	
Additions	PKR Mn	x		625	-	
Amortization	PKR Mn	y = (w + x) x e		(214)	(203)	
Closing	PKR Mn	z = w + x + y	3,511	3,922	3,718	
RAB	PKR Mn	aa = u - z	130,890	205,217	250,183	
Average RAB - PKR	PKR Mn	ab		168,053	227,700	
2 Updated RoRB %						
CoD - Foreign	%	ac		23.94%	15.00%	As per Form 3.1
Cost of Debt - Local						
KIBOR	%	ad		21.91%	21.91%	Average of actual KIBOR used for markup payments during the year
Spread	%	ae		2.50%	2.50%	As per determination
CoD - Local	%	af = ad + ae		24.41%	24.41%	
Foreign Debt %	%	ag		74.1%	88.5%	As per Form 3.1
Local Debt %	%	ah		25.9%	11.5%	As per Form 3.1
Weighted average cost of debt	%	ai = (ac x ag) + (af x ah)		24.06%	16.08%	
Cost of Equity - Base	%	aj		15.0%	15.0%	
Cost of Equity - Indexation	%	ak		86.3%	68.8%	As per form 2.4.3
Cost of Equity - Indexed	%	al = aj x (1 + ak)		27.9%	25.3%	



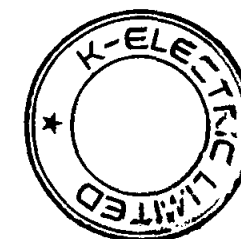
After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
Debt %	%	am		70.00%	70.00%	
Equity	%	an		30.00%	30.00%	
Return on Regulatory Asset Base - Revised		ao = (ai x am) + (al x an)		25.23%	18.85%	
3 Updated RoRB amount						
Average RAB - PKR	PKR Mn	ap = ab		168,053	227,700	
Total Debt %	%	aq = am		70.00%	70.00%	
Foreign Debt %	%	ar = ag		74.1%	88.5%	
Cost of Debt - Foreign	%	as = ac		23.94%	15.00%	
CoD - Foreign	PKR Mn	at = ap x aq x ar x as		20,856	21,170	
CoD - Foreign - support	PKR Mn	au		30	101	Form 2.4.1.1
CoD - Foreign - (Including Support)	PKR Mn	av = at + au		20,886	21,271	
Local Debt %	%	aw = ah		25.9%	11.5%	
Cost of Debt - Local	%	ax = af		24.41%	24.41%	
CoD - Local - Transmission	PKR Mn	ay = ap x aq x aw x ax		7,451	4,457	
CoD - Local - support	PKR Mn	az		178	174	Form 2.4.1.1
CoD - Local - (Including Support)	PKR Mn	ba = ay + az		7,629	4,631	
Equity %	%	bb = an		30%	30%	
Cost of Equity - Indexed	%	bc = al		27.9%	25.3%	
RoE - Transmission	PKR Mn	bd = ap x bb x bc		14,087	17,299	
RoE - support	PKR Mn	be		102	122	Form 2.4.1.1
RoE - Total	PKR Mn	bf = bd + be		14,189	17,421	
Depreciation on transmission assets	PKR Mn	bg = r		4,435	6,312	
Depreciation on support assets	PKR Mn	bh		133	208	Form 2.4.1.1
Total depreciation	PKR Mn	bi = bg + bh		4,568	6,520	
Amortization of deferred revenue	PKR Mn	bj = y		(214)	(203)	



After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
Units Served	No.	bk		17,951	20,290	FY24 Actual. FY 25 as per updated projections.
Revised tariff components						
CoD - Foreign	PKR / kWh	bl = av / bk		1.16	1.04	
CoD - Local	PKR / kWh	bm = ba / bk		0.42	0.23	
RoE	PKR / kWh	bn = bf / bk		0.79	0.86	
Depreciation	PKR / kWh	bo = bi / bk		0.25	0.32	
Amortization of deferred revenue	PKR / kWh	bp = bj / bk		(0.01)	(0.01)	
4 Over / (Under) recovery in FY 2024						
Units Served - actual	GWh	bq		17,951		
Amount to be recovered on above tariff components						
CoD - Foreign	PKR Mn	br = bq x bl		20,886		
CoD - Local	PKR Mn	bs = bm x bq		7,629		
RoE	PKR Mn	bt = bn x bq		14,189		
Depreciation	PKR Mn	bu = bo x bq		4,568		
Amortization of deferred revenue	PKR Mn	bv = bp x bq		(214)		
Total	PKR Mn	bw = br + bs + bt + bu + bv		47,058		
Amount already recovered						
CoD - Foreign	PKR Mn	bx		21,719		
CoD - Local	PKR Mn	by		6,682		
RoE	PKR Mn	bz		13,207		
Depreciation	PKR Mn	ca		4,239		
Amortization of deferred revenue	PKR Mn	cb		(182)		
Total	PKR Mn	cc = bx + by + bz + ca + cb		45,664		
(Over) / Under recover to be allowed in next year		cd = bw - cc		1,394		



After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
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5 Formulas for percentages

Capitalization % as per financial statements

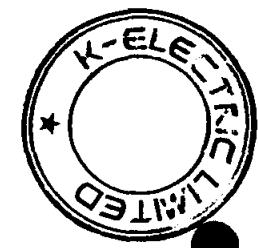
Opening CWIP	PKR Mn	ce		100		
Addition to CWIP	PKR Mn	cf		52		
Available for capitalization	PKR Mn	cg = ce + cf		152		
Capitalization	PKR Mn	ch		(105)		
Closing	PKR Mn	ci = ce + cf + ch		47		
Capitalization %	%	cj = ch / cg		69.00%		

Disposal Cost % as per financial statements

Opening PPE	PKR Mn	ck		100.00		
Addition	PKR Mn	cl = cv		104.88		
Disposal	PKR Mn	cm		(0.80)		
Closing	PKR Mn	cn = ck + cl + cm		204.08		
Disposal Cost %	%	co = cm / ck		0.80%		

Disposal Acc. Depreciation % as per financial statements

Opening Acc. Dep	PKR Mn	cp		50.00		
Depreciation	PKR Mn	cq		10.00		
Disposal	PKR Mn	cr		(1.65)		
Closing	PKR Mn	cs = cp + cq + cr		58.35		
Acc. Dep. Disposal %	%	ct = cr / cp		3.31%		



After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
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1 Updated RAB movement

Assumptions

Capitalization %	%	a		69.0%	51.0%	FY 2024 %ages are actualized based on financial statements. Onward years to be actualised.
Disposal Cost %	%	b		10.0%	11.2%	
Disposal Acc. Dep%	%	c		18.0%	20.4%	
Depreciation rate %	%	d		12.9%	12.9%	
Exchange rate - average	PKR/USD	e		314.59	314.59	As per initial determination.
Pak CPI	No.	f		250.76	250.76	
US CPI	No.	g		319.33	319.33	

PKR Based Working

Capital Work in Progress

Opening	PKR Mn	h		391	1,275	Form 2.4.1.1 From %age method for Future. FY24 matched with Accounts
Addition	PKR Mn	i		3,722	9,965	
Capitalization	PKR Mn	j = a x h		(2,838)	(5,728)	
Closing	PKR Mn	k = h + i + j	391	1,275	5,512	

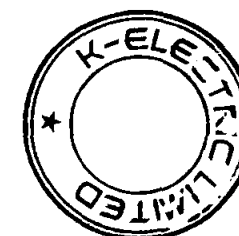
Operating Fixed Assets (without revaluation)

Opening	PKR Mn	l		5,262	7,574	From %age method for Future. FY24 matched with Accounts
Capitalization	PKR Mn	m = -j		2,838	5,728	
Disposal	PKR Mn	n = l x b		(526)	(850)	
Closing	PKR Mn	o = l + m + n	5,262	7,574	12,452	

Accumulated Depreciation

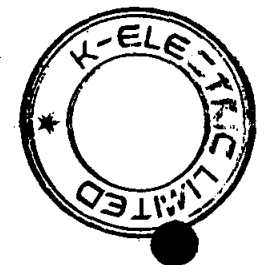
Opening	PKR Mn	p		2,969	3,263	From %age method for Future. FY24 matched with Accounts
Depreciation for the year	PKR Mn	q = avg (l, o) x d		829	1,293	
Depreciation - Disposal	PKR Mn	r = p x c		(534)	(665)	
Closing	PKR Mn	s = p + q + r	2,969	3,263	3,892	

CWIP + Fixed assets (RAB)	PKR Mn	t = k + o - s	2,684	5,586	14,073
Average RAB		t1 = Avg t		4,135	9,829



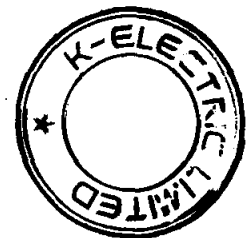
After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
3 Support RAB Allocation on Generation, Transmission & Distribution Network						
CAPEX Allocation Percentages						
Transmission	%	u		16%	16%	As per Initial Submission
Cost of Fixed Assets (Gross Fixed Assets)						
Transmission	PKR Mn	v = o x u		1,218	2,003	
Net RAB						
Transmission	PKR Mn	w = t x u		899	2,264	
4 Updated RoRB %						
CoD - Foreign	%	x		24.41%	24.41%	As per Distribution Cost of Debt form
Cost of Debt - Local						
KIBOR	%	y		21.91%	21.91%	Average of actual KIBOR used for markup payments during the year As per determination
Spread	%	z		2.50%	2.50%	
CoD - Local	%	aa = y + z		24.41%	24.41%	
Foreign Debt %	%	ab		14.6%	36.6%	As per Distribution Cost of Debt form
Local Debt %	%	ac		85.4%	63.4%	As per Distribution Cost of Debt form
Weighted average cost of debt	%	ad = x x ab + aa x ac		24.41%	24.41%	
Cost of Equity - Base	%	ae		15.0%	15.0%	
Cost of Equity - Indexation	%	af		86.3%	68.8%	
Cost of Equity - indexed	%	ag = ae x (1+af)		27.9%	25.3%	



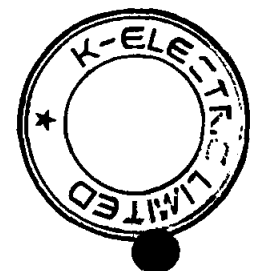
After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
Debt %	%	ah		70.00%	70.00%	
Equity	%	ai		30.00%	30.00%	
2 Updated RoRB amount						
Average RAB - PKR	PKR Mn	aj		1,218	1,611	
Total Debt %	%	ak		70.00%	70.00%	
Foreign Debt %	%	al=ab		14.6%	36.6%	
Cost of Debt - Foreign	%	am= x		24.41%	24.41%	
CoD - Foreign - Support	PKR Mn	an=aj x ak x al x am		30	101	
Local Debt %	%	ao=ac		85.4%	63.4%	
Cost of Debt - Local	%	ap=aa		24.41%	24.41%	
CoD - Local - Support	PKR Mn	aq= aj x ak x ao x ap		178	174	
Equity %	%	ar=ai		30%	30%	
Cost of Equity - Indexed	%	as=ag		27.9%	25.3%	
RoE - Support	PKR Mn	at= as x ar x aj		102	122	
Depreciation on support assets	PKR Mn	au= q x u		133	208	
Total depreciation	PKR Mn	av= au		133	208	



After completion of	Year 1 - FY 2024
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Description	Unit	Reference	FY 2023	FY 2024	FY 2025	Comments
3 Formulas for percentages						
<u>Capitalization % as per financial statements</u>						
Opening CWIP	PKR Mn	aw		100		
Addition to CWIP	PKR Mn	ax		52		
Available for capitalization	PKR Mn	ay=aw + ax		152		
Capitalization	PKR Mn	az		(105)		
Closing	PKR Mn	ba= aw + ax + az		47		
Capitalization %	%	bb= az/ay		69.00%		
<u>Disposal Cost % as per financial statements</u>						
Opening PPE	PKR Mn	bc		100		
Addition	PKR Mn	bd		105		
Disposal	PKR Mn	be		(10)		
Closing	PKR Mn	bf=bc + bd + be		195		
Disposal Cost %	%	bg= be/bc		10.00%		
<u>Disposal Acc. Depreciation % as per financial statements</u>						
Opening Acc. Dep	PKR Mn	bh		50		
Depreciation	PKR Mn	bi		10		
Disposal	PKR Mn	bj		(9)		
Closing	PKR Mn	bk=bh + bi + bj		51		
Acc. Dep. Disposal %	%	bl= bj/bh		18.00%		



Particulars		Jun-16	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
						Actualized					Forecasted
Average Exchange rates FTY	PKR / USD	104.82	104.81	110.01	136.17	158.38	160.21	178.03	248.00	314.59	314.59
Regulatory Asset Base (RAB) at year end*	PKR mn	35,150	39,700	63,664	78,263	94,822	103,928	116,485	131,322	210,802	264,256
Additions during the year	PKR mn		4,550	23,963	14,600	16,559	9,106	12,557	14,836	79,480	53,454

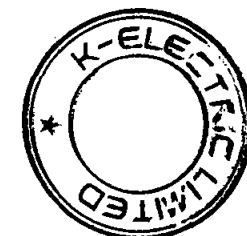
Indexation based on exchange rates (A)

FY 2016	%		-0.01%	4.95%	29.91%	51.10%	52.84%	69.84%	136.59%	200.12%	200.12%
FY 2017	%			4.96%	29.92%	51.12%	52.86%	69.87%	136.63%	200.16%	200.16%
FY 2018	%				23.78%	43.97%	45.64%	61.84%	125.44%	185.98%	185.98%
FY 2019	%					16.31%	17.65%	30.74%	82.13%	131.03%	131.03%
FY 2020	%						1.15%	12.41%	56.58%	98.63%	98.63%
FY 2021	%							11.12%	54.80%	96.36%	96.36%
FY 2022	%								39.30%	76.71%	76.71%
FY 2023	%									26.85%	26.85%
FY 2024	%										0.00%
FY 2025	%										
FY 2026	%										
FY 2027	%										
FY 2028	%										
FY 2029	%										
FY 2030	%										

Calculated with reference to exchange rate of a relevant year vs exchange rate of base year for example 16.31% in FY 2020 calculated as PKR 158.38 / USD divided by PKR 136.17 / USD

Year wise break up of RAB

FY 2016	PKR mn	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150	35,150
FY 2017	PKR mn		4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550
FY 2018	PKR mn			23,963	23,963	23,963	23,963	23,963	23,963	23,963	23,963
FY 2019	PKR mn				14,600	14,600	14,600	14,600	14,600	14,600	14,600
FY 2020	PKR mn					16,559	16,559	16,559	16,559	16,559	16,559
FY 2021	PKR mn						9,106	9,106	9,106	9,106	9,106
FY 2022	PKR mn							12,557	12,557	12,557	12,557
FY 2023	PKR mn								14,836	14,836	14,836
FY 2024	PKR mn									79,480	79,480
FY 2025	PKR mn										53,454
FY 2026	PKR mn										
FY 2027	PKR mn										
FY 2028	PKR mn										
FY 2029	PKR mn										
FY 2030	PKR mn										
Total RAB		35,150	39,700	63,664	78,263	94,822	103,928	116,485	131,322	210,802	264,256



Particulars	Jun-16	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
	Actualized									Forecasted

Weightage of RAB (B)

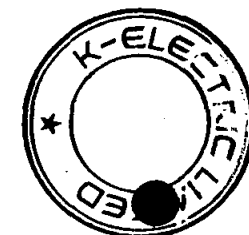
FY 2016	%	100%	89%	55%	45%	37%	34%	30%	27%	17%	13%
FY 2017	%	0%	11%	7%	6%	5%	4%	4%	3%	2%	2%
FY 2018	%	0%	0%	38%	31%	25%	23%	21%	18%	11%	9%
FY 2019	%	0%	0%	0%	19%	15%	14%	13%	11%	7%	6%
FY 2020	%	0%	0%	0%	0%	17%	16%	14%	13%	8%	6%
FY 2021	%	0%	0%	0%	0%	0%	9%	8%	7%	4%	3%
FY 2022	%	0%	0%	0%	0%	0%	0%	11%	10%	6%	5%
FY 2023	%	0%	0%	0%	0%	0%	0%	0%	11%	7%	6%
FY 2024	%	0%	0%	0%	0%	0%	0%	0%	0%	38%	30%
FY 2025	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
FY 2026	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2027	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2028	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2029	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2030	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Year wise indexation - considering RAB weightage (A x B)

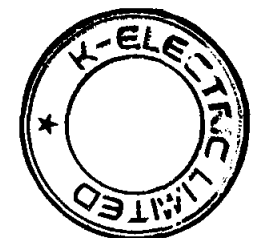
FY 2016	%	0%	-0.01%	3%	13%	19%	18%	21%	37%	33%	27%
FY 2017	%	0%	0%	0%	2%	2%	2%	3%	5%	4%	3%
FY 2018	%	0%	0%	0%	7%	11%	11%	13%	23%	21%	17%
FY 2019	%	0%	0%	0%	0%	3%	2%	4%	9%	9%	7%
FY 2020	%	0%	0%	0%	0%	0%	0%	2%	7%	8%	6%
FY 2021	%	0%	0%	0%	0%	0%	0%	1%	4%	4%	3%
FY 2022	%	0%	0%	0%	0%	0%	0%	0%	4%	5%	4%
FY 2023	%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%
FY 2024	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2025	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2026	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2027	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2028	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2029	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FY 2030	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Total indexation	%	0.00%	-0.01%	3.09%	22.45%	35.02%	33.37%	43.01%	88.01%	86.28%	68.82%
RoE - USD based	%								15.00%	15.00%	15.00%
Indexation	%								88.01%	86.28%	68.82%
RoE - Indexed	%								28.20%	27.94%	25.32%

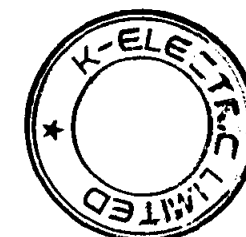
*RAB as per Form 2.4.2 including support RAB on respective ratio as per Form 2.4.2.1



Actualised Cost of Debt foreign and loans mix			FY 2024			FY 2025			
Description	Unit	Reference	Hedged Loans	Un-Hedged Loans	Total	Hedged Loans	Un-Hedged Loans	Total	Remarks
Debt %	%	a			70%			70%	
Foreign Debt ratio	%	b = s / (s + ad)			74%			89%	Calculated on average outstanding loans
Local Debt ratio	%	c = ad / (s + ad)			26%			11%	Calculated on average outstanding loans
Foreign Loans & Cost of Debt									
Foreign Debt Movement in USD									
Opening	USD Mn	d	109.89	22.16	132.05	75.89	94.16	170.05	Amount based on movement of foreign loans in USD
Addition	USD Mn	e	-	81.00	81.00	-	75.00	75.00	Actual additions for the year
Repayment	USD Mn	f	(34.00)	(9.00)	(43.00)	(33.54)	(9.07)	(42.62)	Actual repayments for the year
Closing	USD Mn	g = d + e + f	75.89	94.16	170.05	42.35	160.08	202.43	
Average	USD Mn	h	95.57	55.87	151.44	59.00	125.00	184.00	Average balance during the year calculated on daily outstanding position
Actual Markup on Foreign Loans	USD Mn	i	4.10	3.78	7.88	3.90	5.67	9.57	Markup payments during the year
Exchange Rates									
Opening effective exchange rate	PKR / USD	j	163.18	288.60	165.15	163.32	287.09	231.85	Actual average exchange rates of foreign loans computed by dividing loan amounts in PKR at drawdown rate by loan amounts in USD
Drawdown	PKR / USD	k	0	305.00	305.00	-	314.15	314.15	Actual rate of drawdowns. Rate computed by dividing total drawdowns in PKR by total drawdowns in USD during the year.
Repayment	PKR / USD	l	139.11	261.95	164.69	143.28	269.81	169.64	Average rate of repayment (excluding currency depreciation) i.e. hedged / drawdown rate.
Markup	PKR / USD	m	299.53	304.35	301.10	308.51	313.48	310.13	Actual rate prevailing at the date of payment of Markup. Rate computed by dividing total markup in PKR by total markup in USD
Effective exchange rate of loan	PKR / USD	n = r / g	163.32	287.09	231.85	179.19	300.75	275.44	Actual exchange rates at year end.
Closing exchange rate	PKR / USD	n1	312.00	312.00	312.00	327.60	327.60	327.60	
Foreign Debt Movement in PKR									
Opening	PKR Mn	o	17,125	4,683	21,808	12,395	27,031	39,426	Repayment at drawdown rate.
Addition	PKR Mn	p = e x k	-	24,705	24,705	-	23,561	23,561	
Repayment excluding impact of currency depreciation	PKR Mn	q = f x l	(4,730)	(2,358)	(7,087)	(4,806)	(2,448)	(7,230)	
Closing	PKR Mn	r = o + p + q	12,395	27,031	39,426	7,589	48,144	55,758	
Average foreign debt	PKR Mn	s	15,107	14,001	29,108	10,550	36,600	47,150	Average balance during the year calculated on daily outstanding position



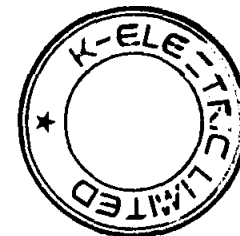
Description	Unit	Reference	FY 2024			FY 2025			Remarks
			Hedged Loans	Un-Hedged Loans	Total	Hedged Loans	Un-Hedged Loans	Total	
Debt Repayment including impact of currency depreciation	PKR Mn	t	-	(2,405)	(2,405)	-	(2,497)	(2,497)	Repayment of loan at market rate prevailing at the time of payment
Markup Amount in PKR	PKR Mn	$u = i \times m$	1,228	1,151	2,379	1,203	1,779	2,982	Markup in equivalent PKR rate prevailing at the date of payment
Amortization of Transaction cost	PKR Mn	u1	50	146	196	50	149	199	Transaction cost of opening loans.
Exchange (gain) / loss on repayment of Principal	PKR Mn	$v = q - t$	-	47	47	-	49	49	Difference of debt repayment on actual rate and drawdown rate.
Hedged cost for hedged loans	PKR Mn	v1	2,001	-	2,001	1,890	-	1,890	Hedging cost for hedged loans.
Exchange (gain) / loss on Outstanding balance of unhedged loans	PKR Mn	$v2 = g * (n1 - n)$	-	2,346	2,346	-	4,299	4,299	Revaluation exchange loss / (gain) on closing balance for unhedged loans.
Exchange (gain) / loss claimed in previous year on outstanding balance	PKR Mn	v3	-	-	-	-	(2,346)	(2,346)	Reversal of opening balance of revaluation already claimed in previous years.
Total Markup & Exchange (gain) / loss	PKR Mn	$w = u + u1 + v + v1 + v2 + v3$	3,279	3,690	6,969	3,143	3,930	7,073	
Effective interest rate of foreign borrowing	%	$x = w / s$	21.70%	26.36%	23.94%	29.79%	10.74%	15.00%	
Cost of Borrowing Foreign									
Foreign Debt Rate	%	$y = x$			23.94%			15.00%	Actualized cost of debt for FY 24
Local Loan									
Local Debt movement									
Opening	PKR Mn	z		11,888	11,888		8,188	8,188	Amount based on movement of local loans.
Addition	PKR Mn	aa		500	500		750	750	Actual additions for the year
Repayment	PKR Mn	ab		(4,200)	(4,200)		(4,620)	(4,620)	Actual repayments for the year
Closing	PKR Mn	$ac = z + aa + ab$		8,188	8,188		4,318	4,318	
Average	PKR Mn	ad		10,199	10,199		6,100	6,100	Average balance during the year calculated on daily outstanding position



K-Electric Limited
Transmission Tariff - FY 2024 to FY 2030
Units & Losses

Annexure H

Description	Unit	Legend	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Sent out	GWh	a	18,906	19,788	20,419	20,889	21,243	21,587	21,902
Transmission Loss	%	b	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%
Units served	GWh	$c = a \times (1 - b)$	18,660	19,531	20,154	20,617	20,967	21,306	21,617
Distribution Loss	%	d	14.24%	13.93%	13.49%	13.04%	12.72%	12.46%	12.26%
Units billed	GWh	$e = c \times (1 - d)$	16,004	16,810	17,435	17,929	18,300	18,652	18,967
T&D Loss	%	$f = 1 - ((1 - b) \times (1 - d))$	15.35%	15.05%	14.61%	14.17%	13.85%	13.60%	13.40%





**CERTIFIED TRUE COPY OF THE RESOLUTION
PASSED AT THE MEETING OF BOARD OF DIRECTORS OF
K-ELECTRIC LIMITED**

**HELD ON 22 DECEMBER 2023 IN KE BOARD ROOM
3RD FLOOR, KE HOUSE, 39-B SUNSET BOULEVARD, PHASE-II, DHA, KARACHI**

AGENDA ITEM NO. 01

**TO DISCUSS UPDATE ON INVESTMENT PLAN APPROVAL AND DISCUSS AND APPROVE UPDATED
TARIFF PETITION FOR TRANSMISSION, DISTRIBUTION AND SUPPLY SEGMENTS**

- 1.1 The Board was informed that, in view of earlier Board resolution approved through circulation dated November 29, 2022, KE filed separate tariff petitions for Generation, Transmission, Distribution and Supply segment on December 1, 2022. However, NEPRA admitted petition for Generation and vide letter dated January 26, 2023, returned the tariff petitions for Transmission, Distribution & Supply with a direction that first Investment Plan and Power Acquisition Plan be filed. Accordingly, KE filed Investment Plan on January 30, 2023 and Power Acquisition Plan (PAP) on March 20, 2023. After public hearing and multiple rounds of meeting, NEPRA intimated approval of investment plan vide email dated December 12, 2023.
- 1.2 Consequently, the company intends to file the revised tariff petitions for Transmission, Distribution and Supply segments and Board approval is requested for the same.

DECISION:

IT IS HEREBY RESOLVED THAT in continuation of the earlier resolution passed by the Board through circulation on November 29, 2022, the Board agrees to and confirms the revised main features and key assumptions forming the basis to develop revised Tariff Petitions as summarized below:

- Filing of separate revised petitions for each of Transmission, Distribution (Network) & Supply segments for a control period of 07 years till June 30, 2030, along with request for immediate application of the proposed tariff under NEPRA Rules till the final determination of the Authority.
- Salient features of each of the segment petition are as follows:
 - **Transmission:**
 - Tariff for a period of 07 years applicable with effect from FY2024 till FY2030 is being requested.
 - The structure is aligned as per the prevailing tariff structure i.e. based on RoRB (Return on Regulatory Asset Base), and Depreciation with USD RoE (Return on Equity) levels as allowed under previous MYT. However, instead of base rate adjustment, year on year investment allowance will be requested.
 - Mechanism for quarterly indexation for cost of debt (local), cost of equity and working capital tariff components.
 - Mechanism for recovery of O&M costs including annual adjustment of CPI.
 - Mechanism for recovery of Other Expense / Income including annual adjustment
 - Mechanism for recovery of Working Capital Costs.



- Investment plan of PKR 238,345 million (on reference macroeconomic factors) and carryover of FY 2023 projects with appropriate indexation and revision mechanism on annual (Annual Investment Update) basis.
 - Indexation mechanism to account for quarterly and annual variations in Pak CPI, US CPI, KIBOR & Exchange Rate.
 - Annual adjustment mechanism of Cost of Foreign debt along with currency depreciation coverage.
 - Annual adjustments relating to under / over recovery on account of actualization of units served, working capital component, impact of updated RoE and cost of debt.
 - Other asks to ensure continuity of operations and recovery of prudent costs as included in revised petition.
- **Distribution:**
 - Tariff for a period of 07 years applicable with effect from FY2024 till FY2030 is being requested.
 - The structure is aligned as per the prevailing tariff structure i.e. based on RoRB (Return on Regulatory Asset Base), and Depreciation with USD RoE (Return on Equity) levels as allowed under previous MYT. However, instead of base rate adjustment, year on year investment allowance will be requested.
 - Mechanism for quarterly indexation for cost of debt (local), cost of equity and working capital tariff components.
 - Mechanism for recovery of O&M costs including annual adjustment of CPI.
 - Mechanism for recovery of Other Expense / Income including annual adjustment.
 - Mechanism for recovery of Working Capital Costs.
 - Investment plan of PKR 136,765 million for Distribution, PKR 17,506 million for support functions (on reference macroeconomic factors) and carryover of FY 2023 projects along with appropriate indexation and revision mechanism on Annual (Annual Investment Update) basis.
 - Indexation mechanism to account for quarterly and annual variations in Pak CPI, US CPI, KIBOR & Exchange Rate.
 - Annual adjustment mechanism of Cost of Foreign debt along with currency depreciation coverage.
 - Annual adjustments relating to under / over recovery on account of actualization of units billed, adjustment of distribution losses due to sales mix impact, working capital component, impact of updated RoE and cost of debt.
 - Other asks to ensure continuity of operations and recovery of prudent costs as included in revised petition.
 - **Supply:**
 - Tariff for a period of 07 years applicable with effect from FY2024 till FY2030 is being requested.
 - Supply Tariff to include Pass through of Costs of Generation, Transmission, Distribution and external power purchase along with Supply Tariff components including O&M, Retail Margin, Recovery Loss Allowance & Working Capital Components.
 - Request of working capital on closing receivables of June 30, 2023 is being requested which will be actualized at each year end.



- Recovery loss for ordinary consumers being requested based on an improvement curve with adjustment for sales mix and floor and cap mechanism.
- Monthly & quarterly adjustments to account for changes in Costs of Power (including Power Purchase), Transmission & Distribution including any pass-through items allowed within respective tariffs.
- Quarterly adjustment for recovery of costs from BPC consumers under open market including open access cost and cross subsidy.
- Annual adjustment mechanism for actualization of Supply Tariff components including working capital, Retail Margin and Recovery Losses requirement.
- Annual adjustments relating to sales mix on T&D Losses and Recovery Loss Target Revision.
- Annual adjustments relating to under / over recovery on account of actualization of units billed.
- Other asks to ensure continuity of operations and recovery of prudent costs as included in revised petition.

IT IS HEREBY FURTHER RESOLVED THAT the authority given to the company/ CEO in respect of submission of tariff petitions vide resolution dated November 29, 2022, is still in place and remains valid without any modification.


RIZWAN PESNANI
Chief Risk Officer & Company Secretary



**Certified True Copy (CTC) of Resolution dated 29 November 2022
Passed by K-Electric Board of Directors**

**Approval of Tariff Petitions to be filed with
National Electric Power Regulatory Authority (NEPRA)**

IT IS HEREBY RESOLVED THAT the Board agrees to and confirms the main features and key assumptions forming the basis to develop Tariff Petitions as summarized below:

- ☐ Filing of separate petitions for each of Transmission, Distribution (Network) & Supply segments for a control period of 7 years till June 30, 2030. Furthermore, Generation Tariff will include separate tariff table at the individual plant level till the end of plant's expected useful life.
- ☐ Salient features of each of the segment application are as follows:
 - **Generation:**
 - Tariff till the end of each plant life and O&M Costs to cover Revex and Capex nature expenses, is being requested similar to that allowed to other IPPs
 - Take or Pay tariff including Energy Purchase Price, Capacity Purchase Price and other pass through items
 - Capacity Payment & Return structure is aligned as per the existing tariff structure based on Fixed O&M, RoRB & Depreciation and Working Capital added in line with allowed to IPPs.
 - Indexation mechanism for adjustment of Fuel Cost Component with part load and degradation adjustments.
 - Indexation mechanism to account for quarterly variations in Pak CPI, US CPI, Exchange Rate, KIBOR, LIBOR
 - Annual adjustment for Insurance Cost
 - **Transmission:**
 - Tariff for the next 7 years after the end of current tariff period in FY23 i.e. from FY24 till FY30 is being requested.
 - The structure is aligned as per the existing tariff structure i.e. based on RoRB (Return on Regulatory Asset Base), and Depreciation with RoE (Return on Equity) levels as allowed under current MYT. However, instead of base rate adjustment, year on year investment allowance will be requested.
 - O&M costs to be requested based on per unit basis
 - Mechanism for recovery of Working Capital Costs
 - Investment plan of PKR 281 billion (on reference macroeconomic factors) with appropriate indexation and revision mechanism on Annual (Annual Investment Update) & Biennial (Complete Investment Review) basis.
 - Indexation mechanism to account for quarterly variations in Pak CPI, US CPI, KIBOR, LIBOR & Exchange Rate.
 - Annual adjustments relating to Working Capital Balances, Transmission Losses, revision in Units Sent-Out (excluding O&M).


K-Electric Limited

39-B KE House Sunset Boulevard, DHA- Phase 2, Karachi, Pakistan



▪ **Distribution:**

- Tariff for the next 7 years after the end of current tariff period in FY23 i.e. from FY24 till FY30 is being requested.
- The structure is aligned as per the existing tariff structure i.e. based on RoRB (Return on Regulatory Asset Base), and Depreciation with RoE (Return on Equity) levels as allowed under current MYT. However, instead of base rate adjustment, year on year investment allowance will be requested.
- O&M costs to be requested based on per unit basis
- Mechanism for recovery of Working Capital Costs.
- Investment plan of PKR 185 billion for Distribution, along with PKR 18.5 billion for support functions based on reference macro-economic factors with appropriate indexation and revision mechanism on both Annual (Annual Investment Update) & Biennial (Complete Investment Review) basis.
- Indexation mechanism to account for quarterly variations in Pak CPI, US CPI, KIBOR, LIBOR & Exchange Rate.
- Annual adjustments relating to Working Capital Balances, Distribution Losses, Revision in Units Served (excluding O&M)

▪ **Supply:**

- Tariff for the next 7 years after the end of current tariff period in FY23 i.e. from FY24 till FY30 is being requested.
- Supply Tariff to include Pass through of Costs of Generation, Transmission, Distribution and external power purchase along with Supply Tariff components including O&M, Retail Margin, Recovery Loss Allowance & Working Capital Components
- Recovery loss for non-public sector consumers being requested based on an improvement curve
- Monthly & Quarterly adjustments to account for changes in Costs of Power (including Power Purchase), Transmission & Distribution including any pass-through items allowed within respective tariffs.
- Annual adjustment mechanism for Supply Tariff components including Working Capital, Retail Margin, T&D Losses & Over/ Under Recovery of Units Billed.
- Annual adjustments relating to opening of market i.e., Cost of Open Access, Cross Subsidization, Distribution Losses & Recovery Loss Target Revision and O&M under recovery

IT IS HEREBY FURTHER RESOLVED THAT K-Electric be and is authorized to file Tariff Petitions before the National Electric Power Regulatory Authority ("Authority") for its Generation, Transmission, Distribution and Supply businesses, and in relation thereto, enter into and execute any and all required documents, make all filings, perform any act and pay all applicable fees, whatever it may be in each case, of any nature whatsoever as may be required.

IT IS HEREBY FURTHER RESOLVED THAT in respect of Tariff Petitions and applications etc. to be submitted before the Authority, Chief Executive Officer (CEO), KE is duly authorized and empowered for and on behalf of the Company to:

hll

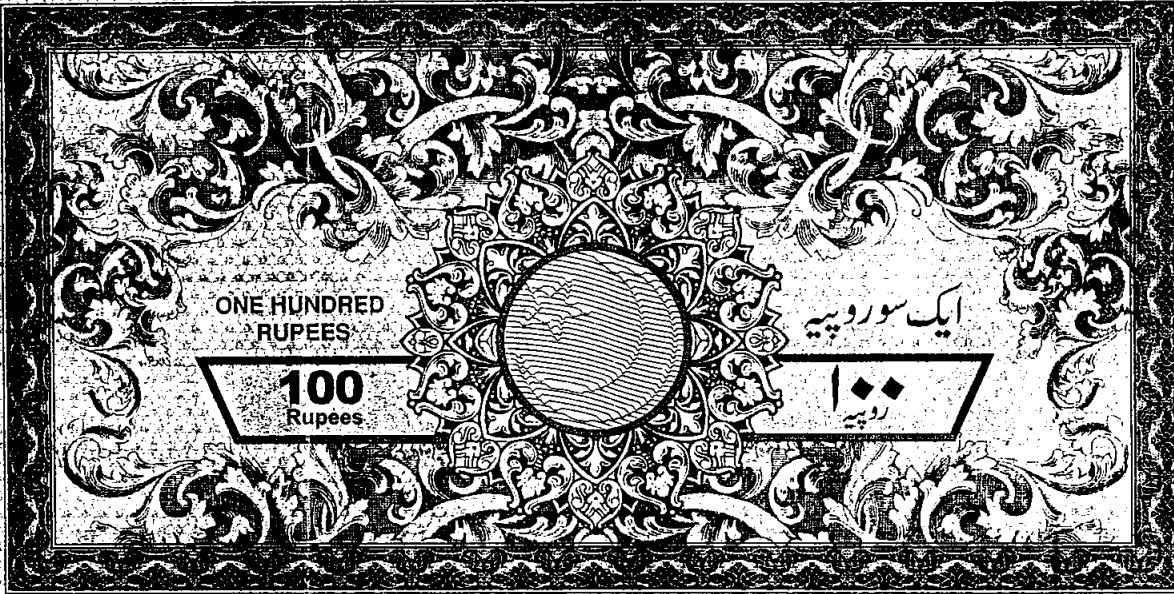


- a. *review, execute, submit and deliver the Tariff Petitions (including any modification to the Tariff Petitions) and related documentation required by the Authority, including any consents, documents, power of attorney, affidavit, statements, letters, forms, applications, deeds, guarantees, notices, certificates, request, statements and any other instruments of any nature whatsoever;*
- b. *sign and execute necessary documentation, pay necessary fees, filing request, for confidentiality, if required, with NEPRA for maintaining confidentiality of any price sensitive information, appear before the Authority as required, and do all acts necessary for the issuance of tariff;*
- c. *represent and respond on behalf of the Company, in public hearings and in writing, to all queries by the Authority, stakeholders etc. and to attend pre and post hearings and meetings; and*
- d. *do all such acts, matters and things as may be necessary for carrying out the purposes aforesaid and giving full effect to the aforementioned resolutions.*

IT IS HEREBY FURTHER RESOLVED THAT Chief Executive Officer (CEO), KE be and is hereby authorized to delegate all or any of the above powers in respect of the foregoing to any other official of the Company.

Rizwan Pesnani
Chief Risk Officer & Company Secretary

AD396065



NAWAZ ALI STAMP VENDOR
 Licence # 10, Shop # 20, New Ruby Centre
 Talpur Road, Baitan Market, Karachi
 S.No. 78351 DATE.....
 ISSUED WITH ADDRESS.....
 THROUGH WITH ADDRESS.....
 PURPOSE.....
 VALUERS.....
 STAMP VENDOR'S SIGNATURE.....
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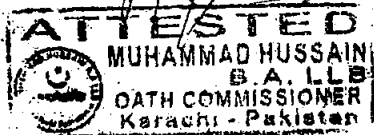
18 DEC 2023



BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)

AFFIDAVIT of Mr. Syed Moonis Abdullah Alvi s/o Syed Riazuddin Alvi having CNIC No. 42201-6886191-3 Chief Executive Officer, K-Electric Limited (the "Company"), a company incorporated under the laws of the Islamic Republic of Pakistan, having its registered office at KE House, 39-B, Sunset Boulevard, Phase II, Defence Housing Authority, Karachi.

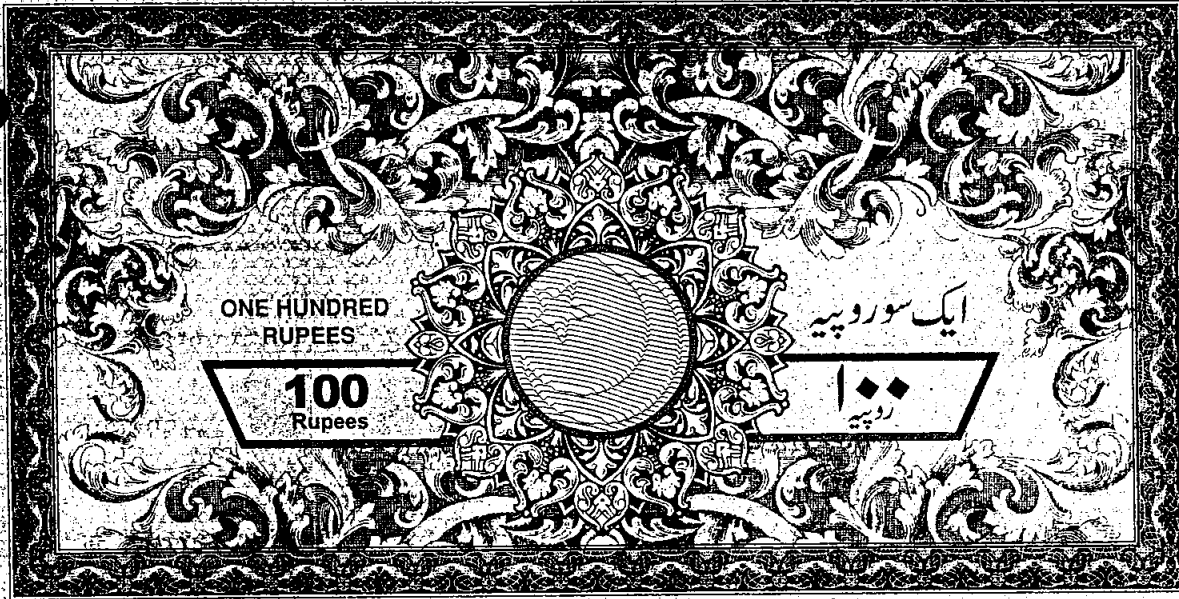
I, the above named deponent, being the duly authorized representative of the Company solemnly affirm and declare that the contents of Tariff Petition submitted vide Letter Ref No. KE/BPR/NEPRA/2023/320 dated December 27, 2023, including all supporting documents are true to the best of my knowledge and belief and that nothing has been concealed.



[Signature]
 SYED MOONIS ABDULLAH ALVI

Karachi dated December 27, 2023

AD396067



NAWAZ ALI STAMP VENDOR
 Licence # 10, Shop # 20, New Ruby Centre
 Talpur Road, Baitan Market, Karachi
 S.No. DATE
 ISSUED WITH ADDRESS
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 PURPOSE
 VALUE RS
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 This Stamp paper is not valid for Divorce and Free Will purposes

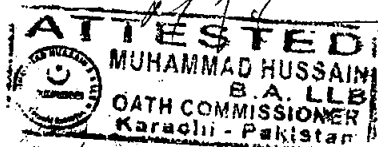
18 DEC 2023



BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)

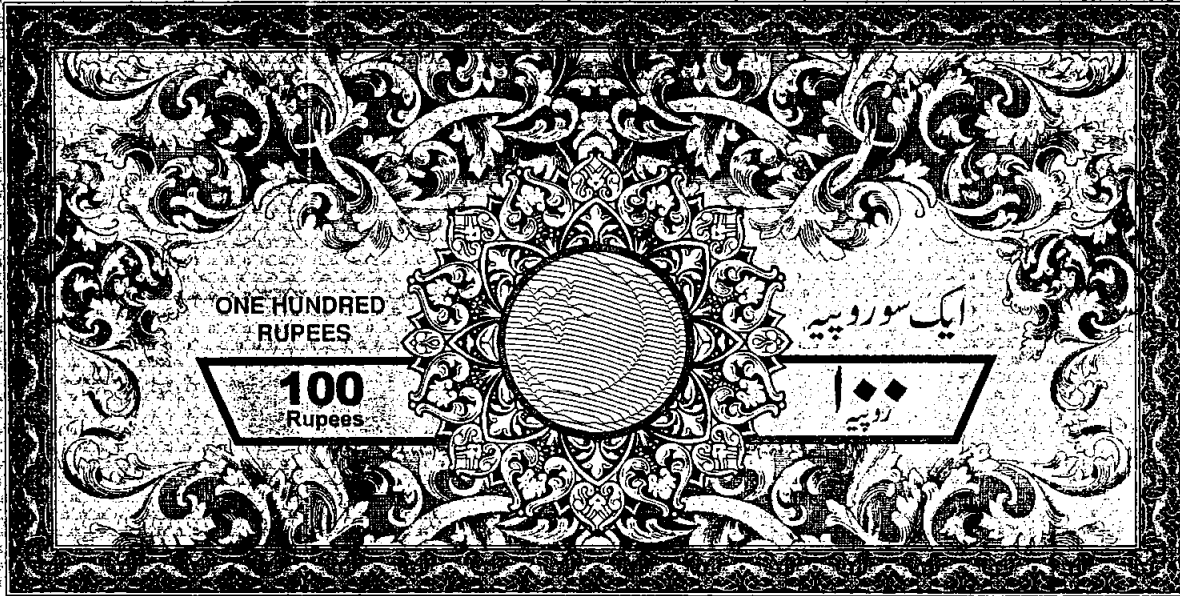
AFFIDAVIT of Mr. Abbas Husain Siahiwala s/o Mazhar Husain Siahiwala having CNIC No. 42301-8514978-9 Chief Generation & Transmission Officer, K-Electric Limited (the "Company"), a company incorporated under the laws of the Islamic Republic of Pakistan, having its registered office at KE House, 39-B, Sunset Boulevard, Phase II, Defence Housing Authority, Karachi.

I, the above named deponent, being the duly authorized representative of the Company solemnly affirm and declare that the contents of Tariff Petition submitted vide Letter Ref No. KE/BPR/NEPRA/2023/320 dated December 27, 2023, including all supporting documents are true to the best of my knowledge and belief and that nothing has been concealed.



Abbas
 ABBAS HUSAIN SIAHIWALA

Karachi dated December 27, 2023

**NAWAZ ALI STAMP VENDOR**

Licence # 10, Shop # 20, New Ruby Centre
Talpur Road, Boulton Market, Karachi

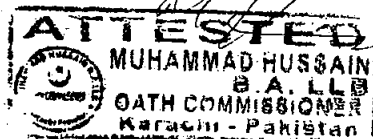
S.No. 73352 DATE.....
ISSUED WITH ADDRESS.....
THROUGH WITH ADDRESS.....
PURPOSE.....
VALUE RS..... (ATTACHED)
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18 DEC 2023

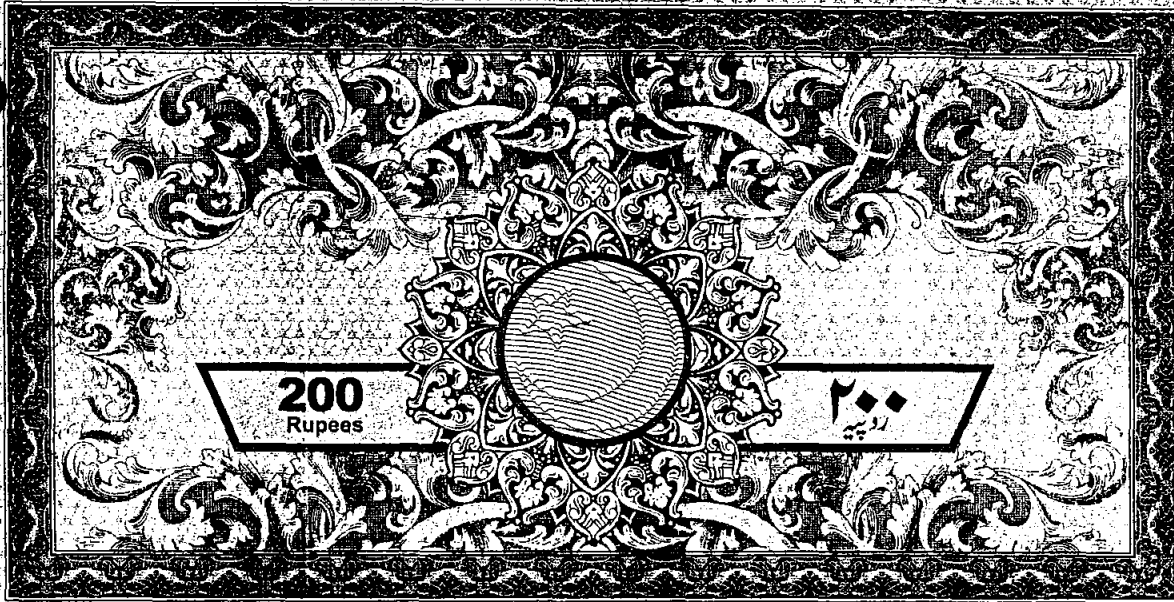
**BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY (NEPRA)**

AFFIDAVIT of Mr. Muhammad Aamir s/o Muhammad Anwar having CNIC No. 42301-1189331-3 Chief Financial Officer, K-Electric Limited (the "Company"), a company incorporated under the laws of the Islamic Republic of Pakistan, having its registered office at KE House, 39-B, Sunset Boulevard, Phase II, Defence Housing Authority, Karachi.

I, the above named deponent, being the duly authorized representative of the Company solemnly affirm and declare that the contents of Tariff Petition submitted vide Letter Ref No. KE/BPR/NEPRA/2023/320 dated December 27, 2023, including all supporting documents are true to the best of my knowledge and belief and that nothing has been concealed.



C. A. Ghazala
Muhammad Aamir Ghazala
Chief Financial Officer
K-ELECTRIC LIMITED
MUHAMMAD AMIR



18 DEC 2023



WARDAR ALL STAMP VENDOR
 Licence # 18, SITE KARACHI
 No. DATE
 ISSUED WITH ADDRESS..... TAMA SIDDIQUE
 BROUCH WITH ADDRESS..... Advocate
 PURPOSE..... 15128/LC/KHI
 VALUE RS..... ATTACHED..... ?
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K-ELECTRIC LIMITED

POWER OF ATTORNEY


1. **TO ALL WHOM PRESENT**, by virtue of the powers conferred upon them by Article 77 of the Company's Articles of Association, the Board of Directors of the K-Electric Limited (referred to as the "Company" or "KE") have conferred upon me, **Syed Moonis Abdullah Alvi s/o Syed Riazuddin Alvi**, Muslim, adult, holder of CNIC No. **42201-6886191-3**, the **Chief Executive Officer** of the Company, having its registered office at 3rd Floor, KE House, 39-B, Sunset Boulevard, DHA, Phase-II, Karachi, through a General Power of Attorney dated June 11, 2018, to act in the name and on behalf of the Company to exercise and perform certain powers and actions.
2. **WHEREAS**, pursuant to clause thirteen (13) of my General Power of Attorney, I am empowered to sign for and on behalf of the Company all agreements, contracts, assurances, deeds, matters or things in or about the business of the Company and pursuant to clause twenty six (26) of my General Power of Attorney, I am empowered to delegate any of my powers to any person deemed appropriate by me and to revoke the same at my discretion.
3. **WHEREAS**, pursuant to Resolution dated December 22, 2023 (CTC attached), KE Board of Directors authorized me to sign and file, for and on behalf of the Company, Tariff Petitions before the National Electric Power Regulatory Authority ("Authority") for KE's Transmission, Distribution and Supply businesses and in relation thereto, enter into and execute any and all required documents, make all filings, perform any act and pay all applicable fees, whatever it may be in each case, of any nature whatsoever as may be required. The Board, in respect of the said tariff petitions and applications etc., has further authorized and empowered me to

MUHAMMAD HUSSAIN
 Chief Financial Officer
 K-ELECTRIC LIMITED

ATTESTED
 MUHAMMAD HUSSAIN
 B.A. LLB
 OATH COMMISSIONER
 Karachi - Pakistan

4721178
S. No.
ISSUED WITH ADDRESS TAHA SIDDIQUE
THROUGH WITH ADDRESS Advocate
PURPOSE 15120/16/KH
VALUE RS: ATTACHED
STAMP VENDOR'S SIGNATURE
~~This Stamp Paper is not valid for Divorce & Free Will Purpose~~

Muhammad Amir Ghaziani
Chief Financial Officer
K-ELECTRIC LIMITED


ATTESTED

MUHAMMAD HUSSAIN
B.A. LLB
OATH COMMISSIONER
Karachi - Pakistan




18 DEC 2023

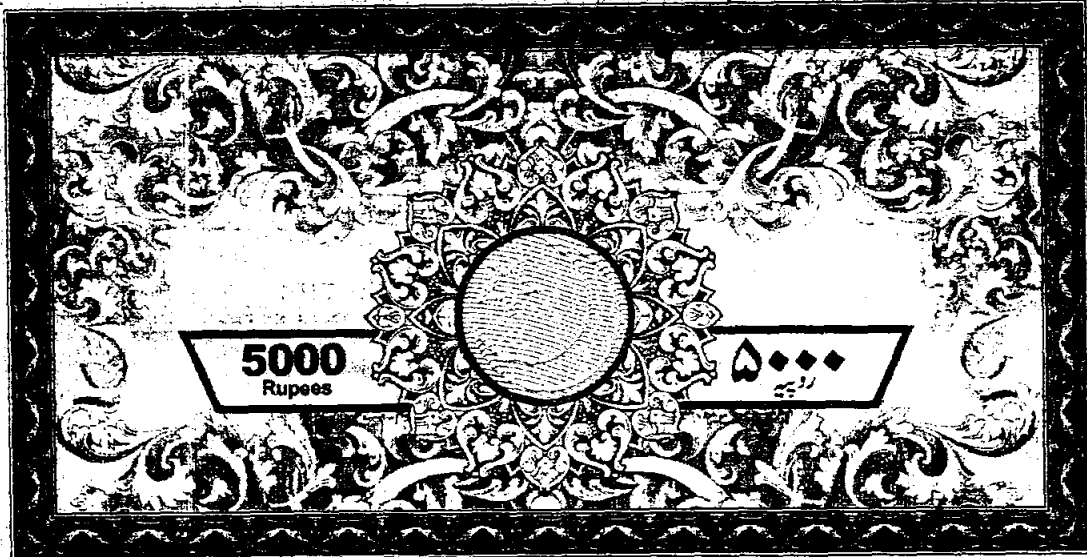
5. This delegated Power of Attorney does not empower the said Mr. Muhammad Aamir and Mr. **Abbas Husain Sihiwala** to enter, sign and/or execute, for and on behalf of the company, any other and all agreements/ documents, except for the documents referred above.
6. This delegated Power of Attorney shall be valid till the execution of the above documents and completion of the said process unless earlier revoked.

[Handwritten signature]
Muhammad Aamir Ghazir
Chief Financial Officer
K-ELECTRIC LIMITED

ATTESTED
 **MUHAMMAD HUSSAIN**
B. A. LLB
OATH COMMISSIONER
Karachi - Pakistan

2. 
Ghayuran Ahmed
42000-7712715-7

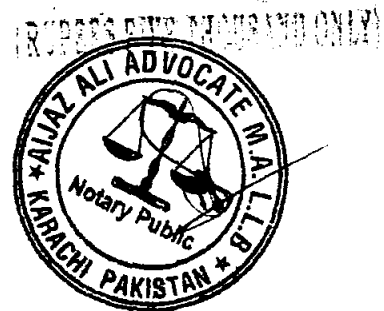
254887



STAMP OFFICE CITY COURT KARACHI

Issued to K. Electric.
CNIC/LEG No. 42101-6298941-9
Vide D.S.R. No. 02 Dt. 11-6-18
On behalf of Chaitan No. 21 Dt. 11-6-18
for the purpose of ATTN.
Entry No. 02 Dt. 11-6-18

[Signature]
16/10



GENERAL POWER OF ATTORNEY

TO ALL TO WHOM these presents shall come, K-ELECTRIC LIMITED (KE), having its registered office at KE House, 39-B, Sunset Boulevard, Phase-II, DHA, Karachi (hereinafter called the "Company") send greetings.

WHEREAS the Company was incorporated under the Companies Act 1882 as a company limited by shares and continues to operate as such under the Companies Act, 2017.

AND WHEREAS by virtue of the powers conferred upon them by Article 77 of the Company's Articles of Association, the Board of Directors of the Company have passed the resolution dated 07 June 2018 and entrusted to and conferred upon Syed Moonis Abdullah Alvi, the Chief Executive Officer of the Company, the following powers which shall be exercisable by him from the date that a Power of Attorney enumerating the same is executed in his favor by any two (2) Directors of the Company.

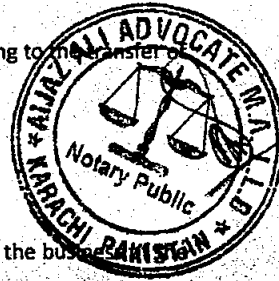
NOW THESE PRESENTS WITNESS THAT Syed Moonis Abdullah Alvi son of Syed Riazuddin Alvi CNIC # 42201-6886191-3, the Chief Executive Officer of the Company, is hereby appointed Attorney of the Company to act in the name and on behalf of the Company to do and perform the following acts and things only:

- 1) To purchase, sell, endorse, transfer, negotiate, encash, receive interest or otherwise deal in securities of all kinds including Government of Pakistan securities and securities of the Provincial Governments of Pakistan;
- 2) To sign all registers, reports and returns and others documents as may be required by law to be signed or filed with any Federal, Provincial or Local Governmental authority including but not limited to the Securities and Exchange Commission of Pakistan, Stock Exchanges, Registrar Joint Stock Companies, State Bank of Pakistan and Income Tax, Customs and other authorities;

[Signature]

[Signature]

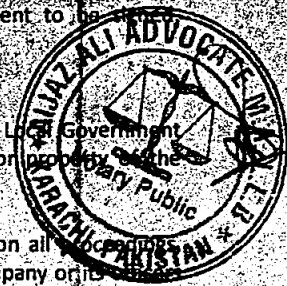
- 3) To sign all acceptances and endorsements on bills of exchanges, hundies, securities and cheques drawn on behalf of the Company and to receive the amount of bills, hundies, securities and cheques and to give receipts and discharge for the same and to sign all documents drawn on or by the Company to which the signature of the Company as agents is required;
- 4) To sign for and on behalf of the Company all documents, assurances, deeds, and matters or things in or about the business of the Company as fully and effectively as the Company could do if personally present, to present such documents and deeds to the registering authority and admit execution thereof;
- 5) To process certificates of shares of the Company and to sign all papers relating to the transfer of shares including temporary receipts thereof;
- 6) To process Dividend Warrants and their revalidation;
- 7) To authenticate and or cancel the registration of Debentures;
- 8) To sign all correspondence that may be necessary in the ordinary course of the business of the Company;
- 9) To sign all deeds of sale, purchase, lease, mortgage, redemption, re-conveyance and present them before the registering authority and admit execution thereof;
- 10) To execute all bonds, deeds and documents and give such security as may be required now or at any future time by the Government of Pakistan or by any person, corporate body, company or firm to enable the Company to carry on its business;
- 11) To appoint and authorize any officer of the Company as his agent or agents to admit execution of deeds and documents of whatsoever nature before the registering authority and to revoke such appointment or appointments;
- 12) To sign, execute, determine or terminate and negotiate terms and conditions thereto agreements/appointment for employment and training with employees and trainees, in line with requirements of the Companies Act 2017 and Code of Corporate Governance Regulations 2017 as applicable;
- 13) To sign for and on behalf of the Company all documents, agreements, contracts, assurances, deeds, matters or things in or about the business of the Company as fully and effectively as the Company could do personally and to present such documents, agreements, contracts, assurances, deeds, matters or things to the registering authorities and appear before such authorities and admit execution thereof and to do all such other things and acts that may be necessary for registration;
- 14) To make and sign applications to appropriate Federal, Provincial or Local Government departments, authorities or other competent authority for all and any licenses, filing of any and all applications, petitions with NEPRA which include Licensee Proposed Modifications (LPMs) and others, permissions and consents required by any order, statutory instrument, regulation, byelaw or otherwise in connection with the business, management and affairs of the Company;
- 15) To obtain securities from any person, corporate body, company or firm for the due performance of any contract in respect of rendering any service or supplying any material to the Company and to accept the same on such terms as may be deemed proper or expedient by the Attorney;
- 16) To realize debts due to the Company and to receive any money due to the Company from any person, corporate body, company or firm and to grant receipts and discharges for the same;
- 17) To make payments to any person, corporate body, company or firm for any service rendered to the Company and for such other purposes of the Company and for carrying on of the Company's business and to sign and deliver all receipts, charges and drafts on the bank and other accounts of the Company or on the customers of the Company and to endorse all bills and bills of



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exchange received by the Company which may be necessary or expedient to be endorsed or given for the purpose of carrying on of the Company's business;



- 18) To represent the Company before any Court of law, Federal, Provincial or Local Government authority or any other authority in all matters concerning the business or property of the Company;
- 19) To commence, institute, prosecute, and to defend, compound and abandon all proceedings, actions, suits, petitions, appeals, claims and demands by or against the Company or its officers in relation to the business or property of the Company or otherwise and for such purpose to sign, verify and present any document, pleading, complaint, writ, affidavit application or other instrument in writing and to appear and make statements on oath or otherwise in relation to the affairs of the Company and to appoint and remunerate any barrister, solicitor, advocate, pleader, vakil, mukhtar, or any legal practitioner or any revenue agent, accountants, valuers or surveyors for the said purpose and to obtain legal advice on behalf of the Company on any matter, contentious or otherwise, affecting the Company;
- 20) To write off amounts as approved by the Board of Directors arising as a result of correction / cancellation / adjustment of electricity bills in the normal course of business of the Company. To approve formula for write offs, adjustment and settlement of electricity bills based on prudent business practices / judgement and within the policy framework approved by the Board of Directors. To sub-delegate such of the powers as he deems fit to the concerned executives / officers of the Company, to fix authority limits, thereof, and to revoke the same at his discretion.
- 21) To obtain refund of stamp duty or repayment of court fees;
- 22) To appear and act in the offices of the District Registrar and Sub-Registrar of Deeds and Assurances for registration of documents and in any other office of the Federal, Provincial and local Government, including without prejudice to the generality of the foregoing, City District Government Karachi, any Union Council, District Council, Cantonment Board, Municipal Corporation, any Co-operative Society, State Bank of Pakistan, Collector of Customs, Excise & Taxation Offices and the Chief Controller of Imports and Exports in all matters concerning the business or property of the Company;
- 23) To file and receive back documents, to deposit and withdraw money and to grant receipts therefore;
- 24) To negotiate and to enter into and complete contracts with any person, corporate body, company or firm for the lease or purchase of any lands and buildings and to alter, repair, add to, and improve any building or structure and to let or sub-let any immovable property held by the Company and to submit plans of buildings relating to the Company's properties or lands on the Company's behalf before any competent authority and to obtain receipts therefor;
- 25) To use, sign and attest the name and style of the Company in any transaction, deed, document or muniment of title on all such occasions as may be necessary or expedient for conducting the business of the Company or for the due and proper management of the lands and buildings leased or purchased or to be leased or purchased by the Company and to execute and sign all such deeds and documents as may be required or proper for or in relation to all or any of the matters or purposes aforesaid;
- 26) To delegate to any person such of the powers as he deems fit and revoke the same at his discretion.
- 27) Generally to do all other acts and things incidental to the exercise of the aforesaid powers; and
- 28) The Company hereby agrees to ratify and confirm all and whatever the said Attorney shall lawfully do or cause to be done by virtue of this Power of Attorney.

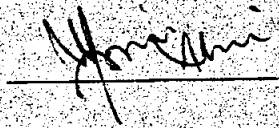
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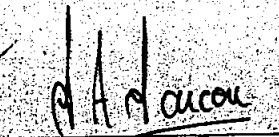
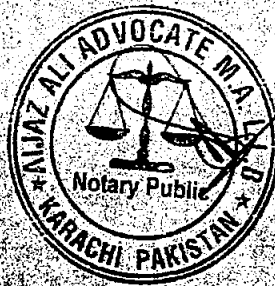
The Power of Attorney executed in favor of Mr. Muhammad Tayyab Tareen pursuant to the Resolution of the Board of Directors passed on 27 November 2014 is hereby revoked. This Power of Attorney will be valid till the time Syed Moonis Abdullah Alvi holds the position of Chief Executive Officer of KE.

IN WITNESS WHEREOF the Common Seal of the Company has been affixed hereto at Karachi on this the 11 day of June 2018 by the undersigned Directors of the Company pursuant to the resolution dated 07 June 2018 passed by the Board of Directors of the Company.

Signature of Syed Moonis Abdullah Alvi
Attorney




THE COMMON SEAL of
the Company is hereunto
affixed in the presence of




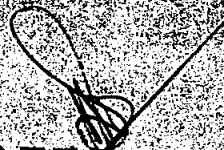
Director

Director

WITNESSES:

1. 
Amjad Mustafa
42201-7393750-3

2. 
MUHAMMAD ARIF
41401-1568587-3



ATTESTED
ALJAZ ALI ADVOCATE M.A. L.L.B
Advocate & Notary
Public Karachi.


12 JUN 2018



CERTIFIED TRUE COPY (CTC) OF THE
MINUTES OF 1233RD MEETING OF K-ELECTRIC LIMITED BOARD OF DIRECTORS (BOD)
HELD ON THURSDAY, 11 AUGUST 2022 AT 10:30 HOURS (PST) IN KE BOARD ROOM
3RD FLOOR, KE HOUSE, 39-B SUNSET BOULEVARD, PHASE-II, DHA, KARACHI

RE-APPOINTMENT OF CHIEF EXECUTIVE OFFICER

RESOLVED THAT Syed Moonis Abdullah Alvi be and is hereby appointed as Chief Executive Officer of the Company for a term of three (3) years with effect from 30 July 2022.


Rizwan Pesnani
Chief Risk Officer & Company Secretary



Certified True Copy (CTC) of Resolution dated 31 July 2019
Passed by K-Electric Board of Directors

Election of Directors – Appointment of Chairman and Chief Executive Officer

RESOLVED FURTHER THAT Syed Moonis Abdullah Alvi be and is hereby appointed as Chief Executive Officer of the Company for a three (3) year term effective from 30 July 2019. The terms & conditions of appointment of Syed Moonis Abdullah Alvi for the position of CEO, as already approved by the Board, shall remain unchanged.


Rizwan Pesnani
Company Secretary




Certified True Copy (CTC) of Resolution(s)
passed by K-Electric Board of Directors at its Meeting No. 1198
held on Thursday, 07 June 2018 at 11:00 hours in KE's Board Room,
3RD Floor, KE House, 39-B, Sunset Boulevard, Phase-II, DHA, Karachi

Re: **Appointment of Chief Executive Officer (CEO)**

RESOLVED THAT in exercise of powers vested through section 187 and 188 of Companies Act, 2017 and Article 76(ii) and (vi) of K-Electric (KE) Articles of Association, Syed Moonis Abdullah Alvi be and is hereby appointed as interim Chief Executive Officer of the Company in place of Mr. Muhammad Tayyab Tareen with effect from 07 June 2018.

RESOLVED THAT a General Power of Attorney as per draft set out in Appendix "A" be and is hereby given to Syed Moonis Abdullah Alvi, CEO, K-Electric and any two (2) Directors of the Company be and are hereby jointly authorized to sign, on behalf of the Board of Directors, the General Power of Attorney for Syed Moonis Abdullah Alvi and affix common seal of the Company on the instrument.


Muhammad Rizwan Dalia
Company Secretary
MUHAMMAD RIZWAN DALIA
Company Secretary
K-ELECTRIC LIMITED