Mid-Term Review

Multi-Year Tariff (MYT)

September 16, 2020

Mid-Term Review under MYT – Introduction

Introduction

- In MYT, NEPRA has included a mid-term review mechanism, 3.5 years into the tariff control period (December 2019), to reassess certain assumptions made in the tariff

- Accordingly, KE filed for adjustments in tariff to account for the following factors

  – **Significant PKR devaluation** (December 2019) – **PKR 159** actual vs **PKR 120** assumed

  – **Changing operational dynamics and service requirements** requiring revision in investment plan – these changes are due to factors **beyond KE's control** and **necessary for KE being a vertically integrated utility** to fulfill its **service obligations**

  – Other factors including **working capital requirements, sent-out growth, cost of debt etc. – beyond KE's control**

- Request NEPRA to allow **in accordance with MYT and under Section 31 of the NEPRA Act** to:

  – Ensure **recovery of prudent costs**;

  – Enable KE to make **investments required to meet service obligations** including managing the demand-supply situation and to strengthen safety and reliability of network

  – Ensure **viability and sustainability of the company**

1 Impact of Exchange Rate on Return on Equity (RoE)

NEPRA to consider the impact of PKR devaluation on allowed RoE if the variation is greater than +/- 5% from NEPRA assumed

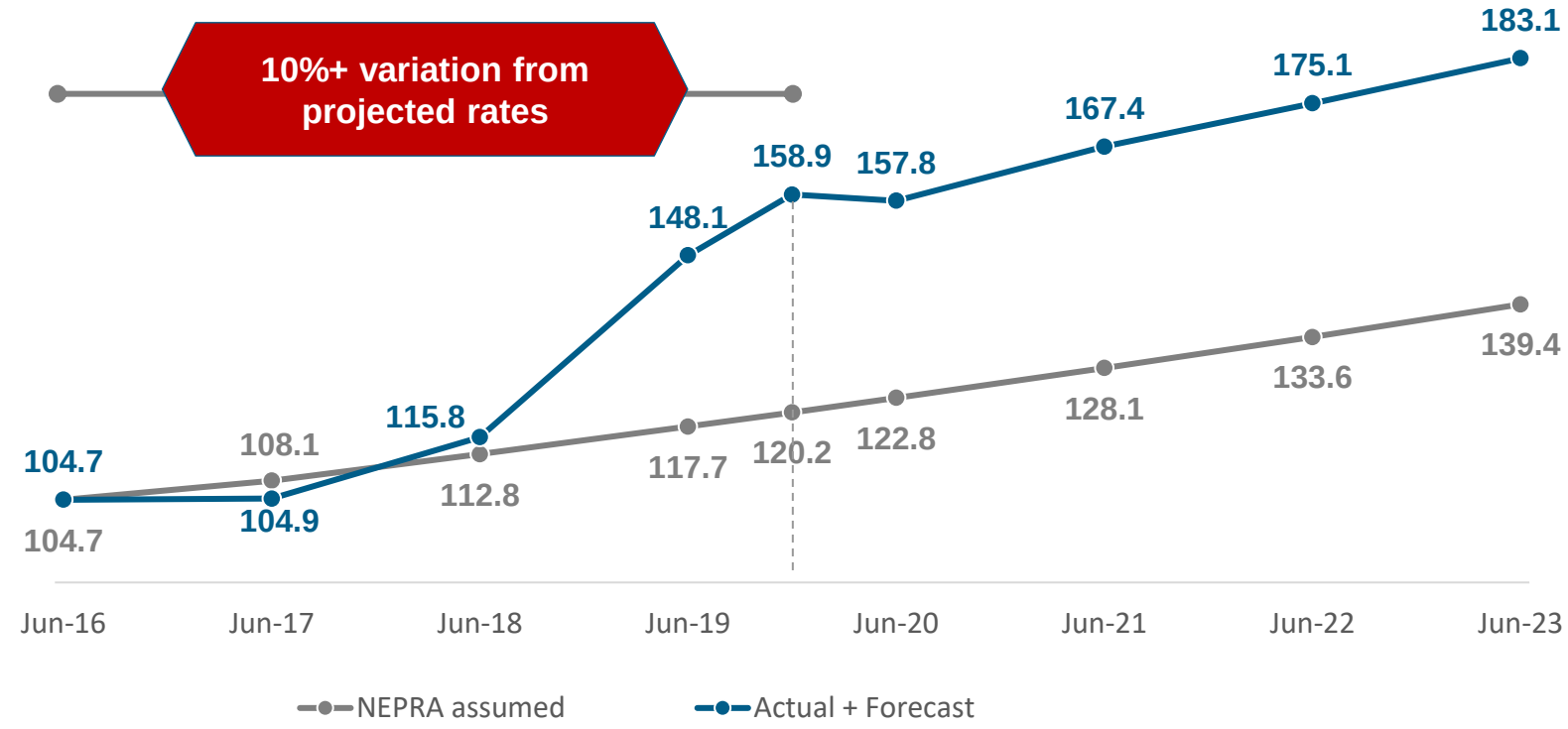
Exchange Rate Indexation allowed on RoE Component

> The Authority further considers that at the time of midterm review, if the actual PKR to US$ exchange rate variation turns out to be **more or less than 5%** of the projected exchange rate accounted for in the current MYT, the Authority may **review its accumulated impact on the allowed RoE component of KE**……**If the variation works out to be more or less than 5%, the Authority may review its accumulated impact on the allowed RoE component of RoE"**

Extract from Para 29.6 of MYT NEPRA reconsideration of July 05, 2018

PKR/USD[1]

Average of quarter-end exchange rates



Actual variation in exchange rates is higher than NEPRA's criteria of 5% – accordingly, KE would request NEPRA to consider the impact of rupee devaluation on the allowed RoE component and allow adjustment in tariff of PKR 0.17 / kWh[2]

1. Actual exchange rates as reported in Business Recorder
2. Revised impact after FY 20 actualization and updated assumptions is c. PKR 0.18/kWh

2 Investment – Allowed vs Actual

KE has overspent in non-project capex during the period July 2016 to December 2019 – has requested for an investment plan of PKR 443 Billion against NEPRA allowed PKR 299 Billion for the tariff control period

Comparison of investments – Capex excluding G&T Projects

PKR Million

	July 2016 to December 2019			January 2020 to June 2023			FY 17 to FY 23
Description	Allowed	Actual	Difference	Allowed	Forecast	Difference	Additional approval Requested
Generation (Existing Plants)	13,368	24,324	10,956	11,697	21,322	9,625	**20,581**
Transmission (Maintenance)	9,827	8,101	(1,726)	10,639	19,284	8,645	**6,919**
Distribution (including Others)	30,285	50,323	20,038	43,382	76,845	33,463	**53,501**
Total	**53,479**	**82,748**	**29,268**	**65,718**	**117,451**	**51,733**	**81,001**

- **Upto December 2019, additional Capex of PKR 10,956 Million incurred in Generation** to ensure
  - **Improved reliability and availability** of generation fleet
  - Improved efficiency as compared to 2016 – **captured in tariff through Heat Rate Performance test** conducted as per MYT requirement
- **Further, additional Capex of PKR 20,038 Million incurred in Distribution** to ensure
  - **Better reliability and safety of network keeping in view learnings of Monsoon 2019**
  - **Investment needs identified through improved visibility of network performance** as KE shifts to automated reporting
- In addition to the above, significant variation in exchange rate as assumed in MYT has also impacted the capex plan

Moving forward, KE also needs to incur additional investments as detailed in next slides alongside benefit for consumers. Accordingly, KE would request NEPRA to allow these necessary investments to enable KE to meet its service obligations

2 Investment – Allowed vs Actual

Project capex was delayed due to factors beyond KE's control, however, following tariff finalization and notification, projects are being pursued on fast track basis

Comparison of investments – G&T Projects

PKR Million

	July 2016 to December 2019			January 2020 to June 2023			FY 17 to FY 23
Description	Allowed	Actual	Difference	Allowed	Forecast	Difference	Additional Capex
900 MW plant	62,345	11,440	(50,905)	9,894	91,865	81,971	**31,066**
Allied transmission projects	11,600	1,836	(9,764)	570	14,427	13,857	**4,093**
TP-1000	45,101	41,419	(3,681)	-	11,337	11,337	**7,655**
TP-2 / New Interconnections	30,733	4,823	(25,910)	19,474	58,112	38,638	**12,728**
Hub - Bela project	-	-	-	-	7,325	7,325	**7,325**
Total	**149,779**	**59,519**	**(90,260)**	**29,938**	**183,066**	**151,128**	**62,867**

- Over 90% of TP – 1000 project completed – financing was secured in FY 2016 prior to expiry of the Previous MYT
- With over 1,250 MVAs added in transmission network, adequate Transmission capacity available to meet the peak demand. Accordingly, transmission project delays have **no consumer impact as adequate capacity is available to serve peak demand**
- However, **KE's ability to meet peak demand has been severely impacted and a shortfall of around 400 MW still exists** due to delays in:
  - MYT finalization impacting **900 MW project** – **MYT Reconsideration Decision issued in July 2018**
  - Notification of **700 MW Coal plant** – **yet to be notified and now not being pursued in view of available surplus in National Grid**
  - Approval of supply of additional base load power from **National grid** – **approval given in June 2020**

KE remains committed to compete the projects including 900 MW and interconnection grids for supply of additional power from National Grid, and requests support from NEPRA for approval of required additional investments as detailed in next slides

2 Investment – Revised v NEPRA Allowed

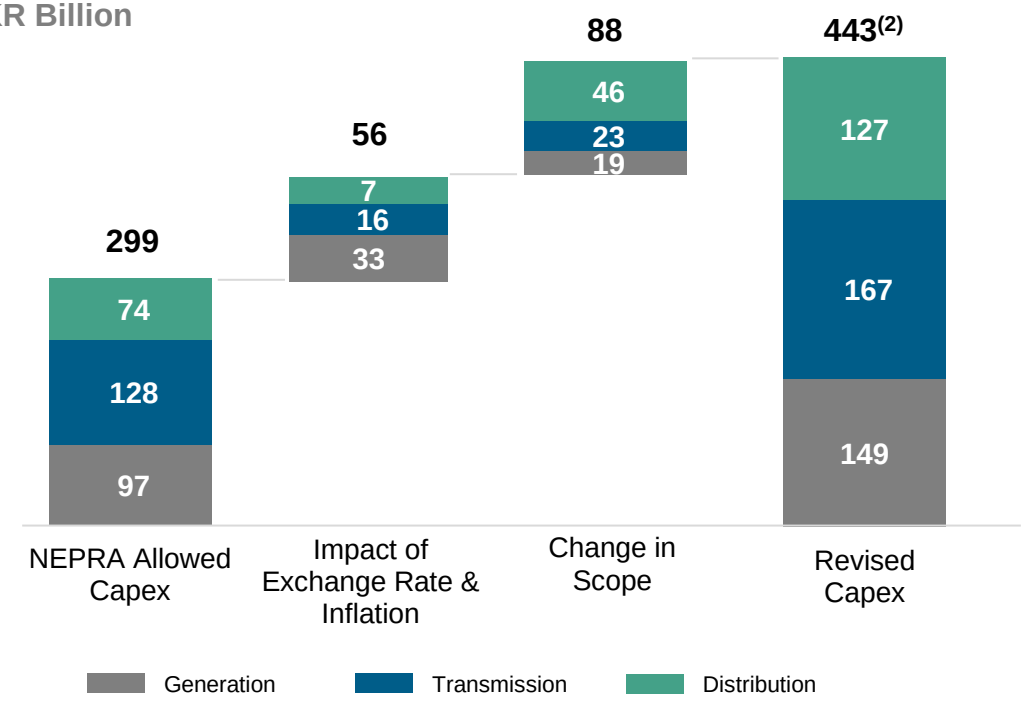
Revision in investment plan is requested to ensure fulfillment of service obligations and recovery of prudent cost

Increase in Capex due to Change in Scope and Rupee Devaluation

c. PKR 144 Billion

NEPRA Allowed v Revised Capex

PKR Billion



Additional Capex required mainly due to

- **Impact of Rupee Devaluation & Inflation** [c. PKR 56 Billion]
- **Interconnection Grids[3] & scope revisions** [c. PKR 10 Billion] – Net Impact
- **132kV Line & Grid in Balochistan Region** [c. PKR 7 Billion]
- **Maintenance & Improved Network Reliability** [c. PKR 27 Billion]
- **Safety & Protection of Network** [c. PKR 19 Billion]
- **GLTIP & Upgradation / Improvements** [c. PKR 19 Billion]

- Being a VIU with responsibility to serve the entire service territory, KE needs **flexibility in investment plan**
- Accordingly, while T&D loss reduction capex may be capped, there should be no restriction on capex needed to meet service obligations

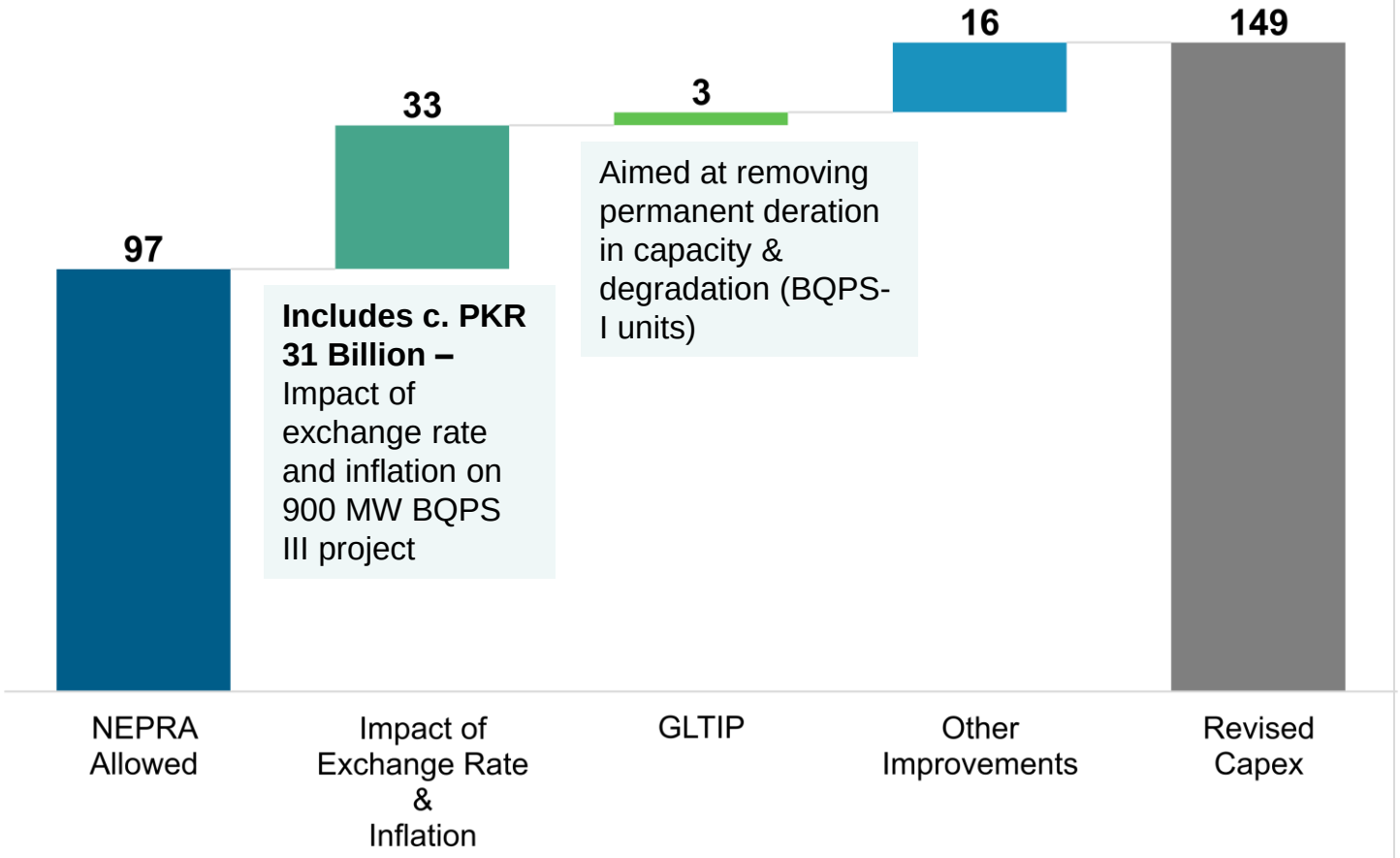
KE requests NEPRA to approve the additional investments in tariff along with incorporation of delays in investment in tariff – requiring an overall reduction of PKR 0.07 / kWh – details of each area are given in next slides

1. Generation Capex includes 900 MW plant and Transmission Capex includes 900 MW allied transmission projects;
2. Includes 900 MW and allied projects at c. USD 730.5 Million as allowed by NEPRA (actual project cost is estimated to be c. USD 658 Million); 3. Based on recent discussions with GoP and NTDC, KE is pursuing one 500 kV Grid

2 Capex Comparison – Generation

PKR Billion

c. PKR 19 Billion Additional Capex due to Change in Scope



Other Improvements – Major items

- Generator stator rewinding at Unit 2 (BQPS I) – made the unit available for >180MW with improved reliability and availability
- Additional expenditure on 60K maintenance at SGTPS and KGTPS based on OEM recommendation – reliable operations and avoid deration in capacity and efficiency
- Revision in estimates of major overhauls of GTs at KCCP
- Control system upgradation at BQPS – II and KCCP
- Overhauling of inlet chillers of KCCP GTs – reliable operations
- Upgradation and Improvement of Gas Turbine Components of BQPS II
- Rotor Replacement at BQPS-II GT 1 & 3 due to unserviceability owing to one off unwarranted sudden grounding
- BQPS-I Generator Overhaul for Unit-5 as per OEM recommendation – identified during 2019 annual outage
- Units 1, 2, 5 & 6 (BQPS – I) replacement of critical boiler parts due to aging for reliable operations

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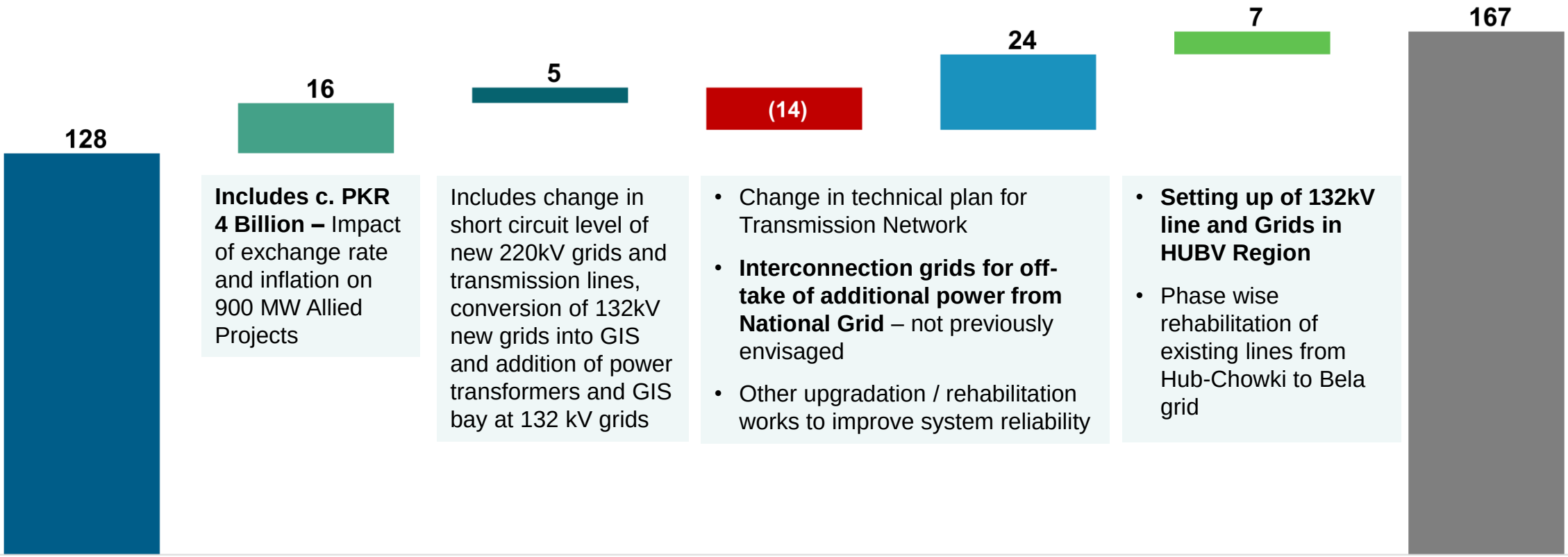
2 Capex Comparison – Transmission

PKR Billion

c. PKR 23 Billion Additional Capex due to Change in Scope



Includes c. PKR 4 Billion – Impact of exchange rate and inflation on 900 MW Allied Projects

Includes change in short circuit level of new 220kV grids and transmission lines, conversion of 132kV new grids into GIS and addition of power transformers and GIS bay at 132 kV grids

- Change in technical plan for Transmission Network
- **Interconnection grids for off-take of additional power from National Grid** – not previously envisaged
- Other upgradation / rehabilitation works to improve system reliability

- **Setting up of 132kV line and Grids in HUBV Region**
- Phase wise rehabilitation of existing lines from Hub-Chowki to Bela grid

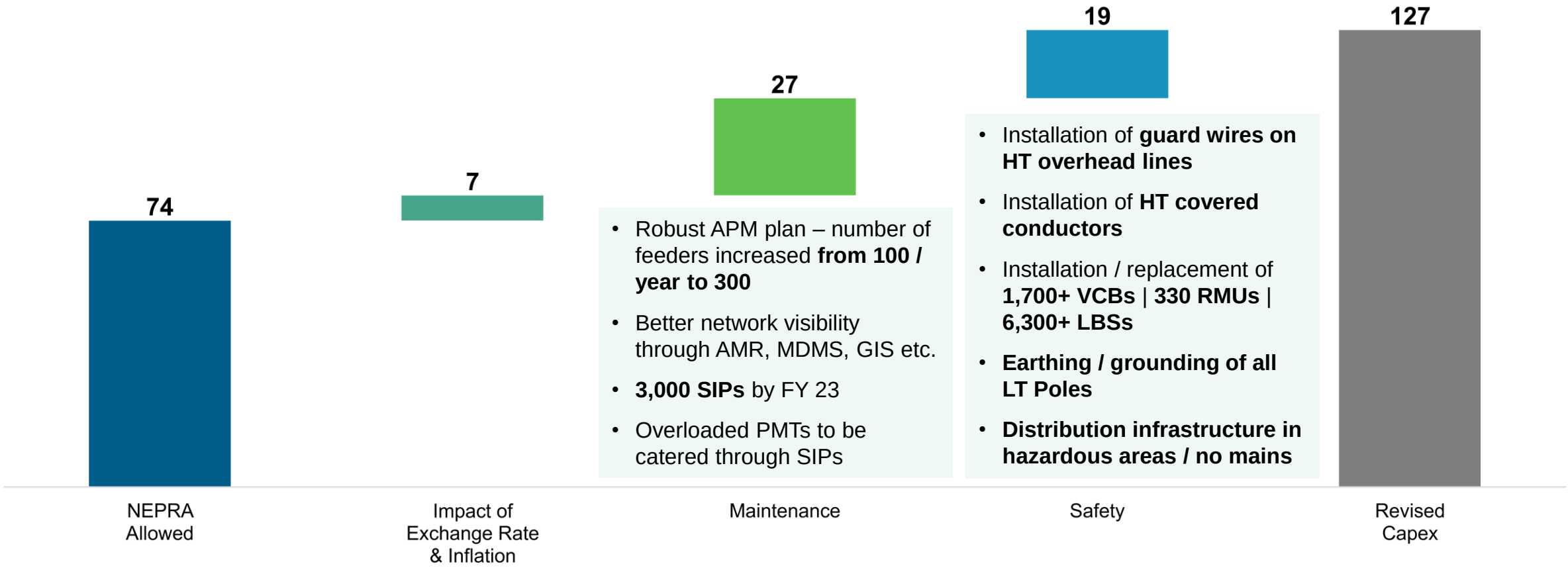
c. PKR 39 Billion Additional Capex due to Exchange Rate, Inflation & Change in Scope

HUBV = Hub, Uthal, Bela and Vinder

2 Capex Comparison – Distribution[1]

PKR Billion

c. PKR 46 Billion Additional Capex due to Change in Scope



- Robust APM plan – number of feeders increased **from 100 / year to 300**
- Better network visibility through AMR, MDMS, GIS etc.
- **3,000 SIPs** by FY 23
- Overloaded PMTs to be catered through SIPs

- Installation of **guard wires on HT overhead lines**
- Installation of **HT covered conductors**
- Installation / replacement of **1,700+ VCBs** | **330 RMUs** | **6,300+ LBSs**
- **Earthing / grounding of all LT Poles**
- **Distribution infrastructure in hazardous areas / no mains**

c. PKR 53 Billion Additional Capex due to Exchange Rate, Inflation & Change in Scope

1. Includes Others

2 Benefits of Investments – Generation Efficiency & Reliability

Investment in Generation plants resulted in efficiency improvement along with recoupment of lost capacity in BQPS I plant

Improvement in Efficiency & Reliability

- Investments in maintenance & rehabilitation of plants helped in maintaining the efficiency and resulted in better reliability
  - Fleet reliability increased from 95% to 98% (FY 16 vs 20)
  - Fleet availability increased from 81% to 91% (FY 16 vs 20)
- Generation Long Term Improvement Plan (GLTIP) for BQPS I plant resulted in recoupment of efficiency and lost capacity (Unit 1,2,5 and 6) – **otherwise efficiency would have been much lower**
- Third party Heat rate tests of BQPS I plant conducted in November 2019 (i.e. after GLTIP improvements) – **efficiency improvements resulting in lower fuel cost being passed in tariff**
- Had the cost been calculated on FY 2016 heat rates[1], cost of fuel passed through in tariff would have increased by **PKR 5.9 Billion** (FY 17 – 20) – **benefit already passed on to consumers**
- In addition, other plant's efficiencies in the heat rate test were also remained better than efficiencies in FY 16

Increase in Net Efficiency (HHV) by GLTIP captured in tariff through Heat rate test

BQPS I plant (Furnace Oil)	FY 2016(1)	Requested Heat Rate as per Third Party Test	Change
Unit 1	29.4%	31.5%	2.07%
Unit 2	29.9%	32.0%	2.12%
Unit 3	27.5%	26.6%	**-0.88%**
Unit 4	25.6%	26.2%	0.66%
Unit 5	31.0%	32.1%	1.17%
Unit 6	31.6%	31.6%	0.02%

Note: For comparison, FY 16 heat rates with estimated adjustment for part load level requested based on third party test assuming 100% Furnace Oil

Investments helped in efficiency improvements and recoupment of lost capacity – benefit passed on to consumers

1. For comparison, FY 16 Heat rates adjusted part load level requested based on third party test assuming 100% Furnace Oil

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2 Benefits of Investments – Demand & Supply Outlook

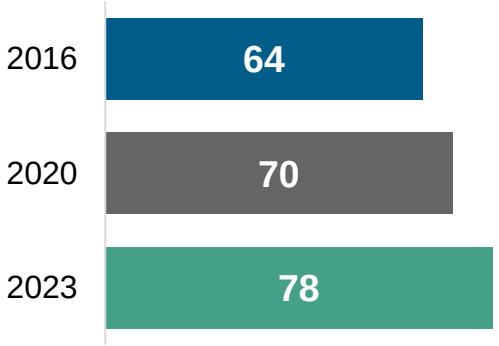
Set to take KE from Deficit to Surplus position by FY 22

- KE's planned projects including **900 MW and 700 MW coal plant were delayed due to reasons beyond control of KE** resulting in current shortfall of c. 400 MW
- KE is now pursuing **900 MW on fast track basis** and first unit (450 MW) is expected to be **online by summer of FY 21** and complete project by the end of calendar year 2021
- Additional supply from National Grid is being pursued as follows:
  - Temporary increase in supply from existing interconnection from 650 MW to 1,100 MW for summer of FY 2021 – approved by CCoE on August 27, 2020
  - Long term supply of **additional 1,400 MW**
    - New Dhabeji Interconnection (220 kV) by May 2022
    - New KKI Interconnection (500 kV) by May 2023
- In addition, renewable projects of **installed capacity of 350 MW** are planned to optimize cost of power for consumers

MW	FY 20 (Actual)	FY 21	FY 22	FY 23
KE – Own Plants	**1,926**	**1,580**	**1,400**	**1,220**
Existing IPPs – Maximum Supply				
Tapal	107	124	124	-
Gul Ahmed	113	128	128	-
KANUPP	57	54	-	-
Others	157	201	201	201
Total – IPPs	**434**	**506**	**452**	**201**
Additions				
900 MW RLNG Plant	-	442	884	884
New Renewable Projects	-	-	-	156
Total – Additions	**-**	**442**	**884**	**1,040**
Supply from National Grid				
NTDC – Existing Interconnection	726	650	650	650
Additional Supply – Short-term	-	450	250	-
220 kV Dhabeji	-	-	450	600
K2 / K3 Projects	-	-	-	800
150 MW Wind IPPs	116	54	54	-
Total – Supply from National Grid	**842**	**1,154**	**1,404**	**2,050**
Maximum Supply	**3,202**	**3,682**	**4,140**	**4,511**
Peak Demand	**3,604**	**3,856**	**4,049**	**4,252**
Gap	**(402)**	**(174)**	**91**	**259**

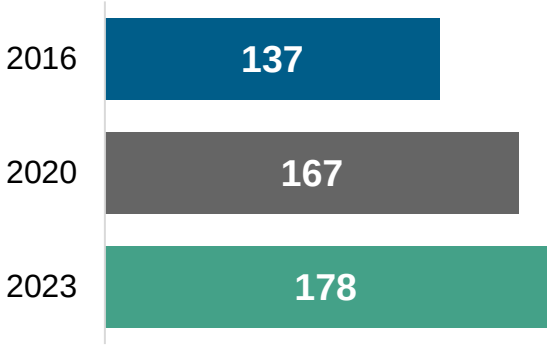
2 Benefits of Investments – Transmission

Grid Stations
No.



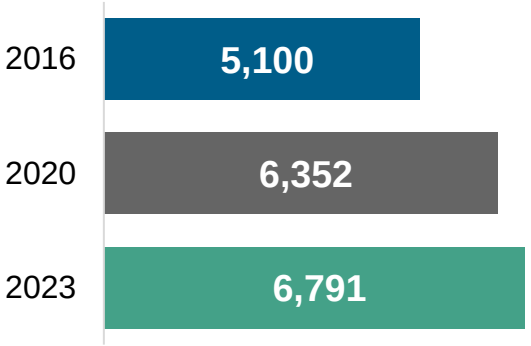
6 Grids
Added & another **8**
planned[(1)]

Power Trafos
No.



30 Power Trafos
Added & another **11**
planned

Transmission Capacity
Power transformers (132 & 66 kV)
MVAs



1,250+ MVAs
Added & another **440**
MVAs planned

Capacity of Auto Trafos will be around 8,000[1] MVAs at FY23 (FY 16 – 3,100 MVAs)

56% reduction in Power Trafo Tripping
(upto December 2019)

26% reduction in Trans. Line Tripping
(upto December 2019)

Over 60% reduction in **Unserved Energy** due to Transmission issues

1. Based on recent discussions with GoP and NTDC, KE is pursuing one 500 kV Grid (2023 target: 77)

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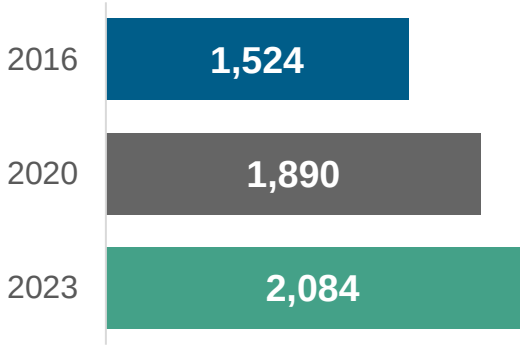
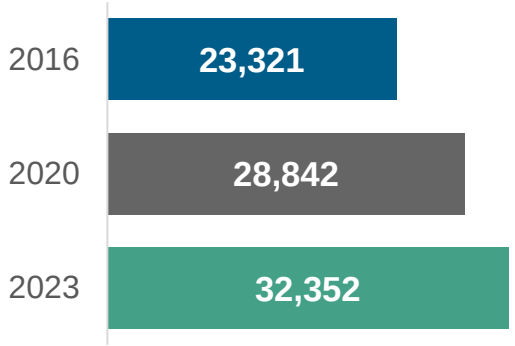
2 Benefits of Investments – Distribution

Feeders
No.



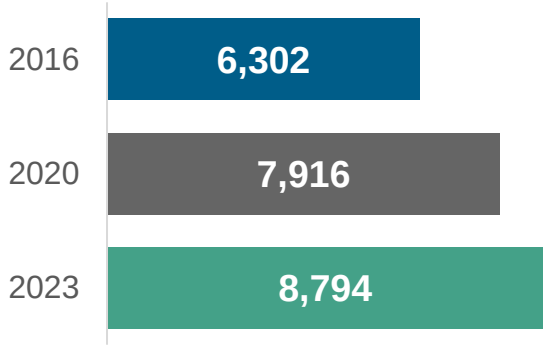
366 Feeders
Added & another **c. 200 planned**

PMTs
No.



Over 5,500 PMTs
Added & another **3,500 planned**

Distribution Capacity
MVAs



1,600+ MVAs
Added & another **880 MVAs planned**

9,000+ PMTs
converted onto ABC

Around **900 SIPs**
conducted

730,000+ customers added **(1,100+ MW)**

Revalidation of entire network (Earthing and Grounding)

Overloaded feeders (above 100%) reduced from 0.5% (FY 16) to **0.1%** (FY 20)

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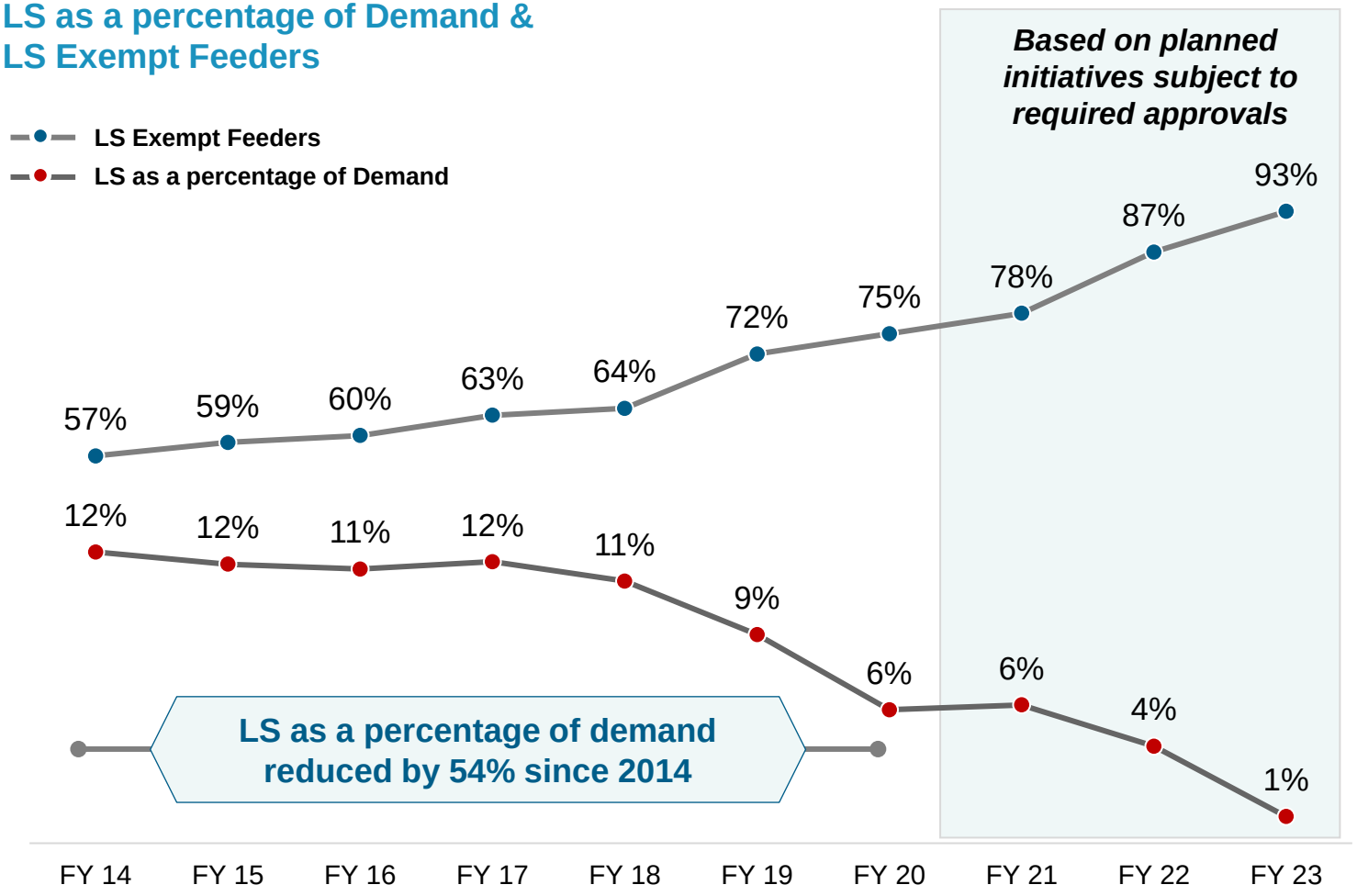
2 Benefits of Investments – Reduction in Load-shed

Through conversion of over 9,000 PMTs on to ABC and community engagement initiatives, KE has been able to exempt over 75% of feeders from load-shed and load-shed as a percentage of demand has halved in last 6 years

Load-shed Reduction

LS as a percentage of Demand & LS Exempt Feeders



Targeted investments resulting in conversion of high loss areas to low loss such as Gharo – **AT&C loss reduced from 68% to 25%**

Plan to exempt **around 93% of feeders by 2023** – support required to ensure **timely execution of planned initiatives** including grids for off-take of additional power from National Grid

3 Impact of Working Capital Requirements (Govt. related entities)

NEPRA to reassess the working capital requirements due to factors beyond KE's control and adjust the impact within the base tariff

Significant Increase in Working Capital Requirements – Non-payment by Government entities and stuck up TDS claims

PKR Million

Particulars	FY 16 (A)	FY 17 (A)	FY 18 (A)	FY 19 (A)	FY 20 (E)	FY 21 (E)	FY 22 (E)	FY 23 (E)
Tariff Differential Subsidy	30,098	30,047	49,566	129,994	225,805	291,874	351,258	401,185
Public Sector Consumers	47,430	46,694	45,742	48,207	52,139	54,703	57,714	61,080
Fuel Charge Adjustment	-	(206)	7,046	16,547	5,280	-	-	-
NTDC / CPPA – G	(30,822)	(42,601)	(57,641)	(97,732)	(157,313)	(219,691)	(283,954)	(350,159)
SSGC	(21,980)	(18,409)	(18,832)	(20,660)	(17,427)	(17,530)	(17,660)	(17,806)
Net Working Capital Requirement	**24,727**	**15,524**	**25,880**	**76,356**	**108,484**	**109,356**	**107,358**	**94,300**

Significant increase in working capital requirements – beyond KE's control

- Additional costs incurred in holding working capital to cover late payments by government entities and stuck up TDS receivables
- Public sector consumers include certain strategic installations such as KWSB
- Outstanding TDC includes c. PKR 122 Billion[2] on account of quarterly tariff variations for the period April 2019 to June 2020 pending determination
- Subsequent to March 2020 submission, PKR 25 Billion TDC received – already requested to actualize forecast amounts at the end of control period

Accordingly, NEPRA is requested to consider the impact of increase in working capital requirements, which is a genuine cost and is beyond company's control and allow adjustment in tariff of PKR 0.65 / kWh[3]

1. Actual numbers are taken from financial statements
2. TDC for the period July 2019 to July 2020
3. Revised impact after FY 20 actualization, updated assumptions and taking PKR 25 Billion TDC receipt is c. PKR 0.45/kWh

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4 Other Matters – Revision in Projected Sent-out Growth

KE has requested for revision in sent-out targets due to changes in macroeconomic factors and external factors beyond KE's control such as COVID-19

Sent-out Growth

KE achieved growth KPIs for last 4 years …

	Actual	Target
Number of Consumers Added	732,422	367,655
New Connections Added (MW)	1,136	1,151
Addition of 11kV Feeders	366	320
LS as % of Demand (FY 20)	5.5%	8.5%

…corresponding increase in energy consumed not witnessed, due to factors beyond KE's control

1 Lower than Projected GDP
- Actual GDP growth FY 16 to FY 20 | 3.4%; projected 5%
- Revised estimates FY 20 to FY 23 | 3.5%; previously assumed 5%

2 Impact of COVID-19
- Significant impact on sent-out growth in FY 2020 due to lockdown

3 Impact of Erratic Weather
- Erratic weather with extended winters

Sent-out (GWh)	FY 16 (A)	FY 20	FY 23	CAGR FY 16 to FY 20	CAGR FY 20 to FY 23	CAGR FY 16 to FY 23
Actual + Forecast	16,545	17,792	18,792	1.8%	1.8%	1.8%
NEPRA	16,545	19,761	22,435	4.5%	4.3%	4.4%

Request NEPRA to adjust sent-out growth in line with Section 31 (2)(c) and Section 31 (3)(a) of NEPRA Act, based on which prudent costs are to be allowed to ensure quality of service, and thus allow an adjustment of PKR 0.29 / kWh(1) in tariff

1. Impact calculated based on CAGR of 2.4% as submitted in March 2020. Updated impact based on CAGR of 1.8% is PKR 0.33/kWh

5 Other Matters – Revision in Cost of Debt

Considering significant changes in macroeconomic factors, KE has requested NEPRA to reassess KIBOR / LIBOR assumptions – beyond KE's control

Cost of Debt Assumptions

- Within the MYT, NEPRA has allowed weighted average cost of debt of c.12.51% based on certain KIBOR and LIBOR assumptions

Period	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	Average for the Control Period
NEPRA Assumed								
KIBOR	6.2%	7.0%	8.0%	9.2%	9.9%	10.2%	12.2%	**8.6%**
LIBOR	1.1%	1.7%	1.9%	2.2%	2.4%	2.6%	2.7%	**2.0%**
Actual + Forecast								
KIBOR	6.2%	6.3%	10.2%	13.3%	11.8%	11.1%	10.3%	**9.5%**
LIBOR	1.1%	1.8%	2.5%	1.9%	1.8%	1.9%	2.0%	**1.8%**

- Based on actualized numbers and revised forecast, **weighted average cost of debt works out to be 13.46%** (assuming no change in spreads / loan portfolio assumed by NEPRA in the MYT)

Accordingly, KE requests NEPRA to consider the impact of change in KIBOR & LIBOR, which is beyond company's control and make related adjustments in tariff amounting to PKR 0.10 / kWh[1]

1. Revised impact after FY 20 actualization and updated assumptions is negative c. PKR 0.03/kWh

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6 Impact of Normal cost of Working Capital

As per the assessment below, cost of working capital is significantly higher than LPS and therefore be allowed in allowed in tariff

Cost of working capital (Excluding Government related entities)

PKR Million

Particulars	FY 16 (A)	FY 17 (A)	FY 18 (A)	FY 19 (A)	FY 20 (E)	FY 21 (E)	FY 22 (E)	FY 23 (E)
Current Assets	120,109	137,547	158,400	169,948	171,885	174,337	177,100	177,089
Current Liabilities	(66,898)	(70,682)	(81,579)	(97,691)	(89,819)	(89,819)	(89,819)	(89,819)
Net Working capital	**53,221**	**66,865**	**76,821**	**72,257**	**82,066**	**84,518**	**87,281**	**87,269**
Cost of Working capital		5,193	6,354	9,484	12,225	11,869	11,704	11,128
Less: LPS		(2,479)	(2,318)	(2,327)	(2,281)	(2,235)	(2,190)	(2,146)
Net Working Capital Cost		**2,714**	**4,036**	**7,157**	**9,945**	**9,634**	**9,514**	**8,981**

- Assessment of cost to fund the working capital gap:
  - **Current Assets** (excluding cash and securities and receivables covered in government entities); and
  - **Current Liabilities** (excluding short-term borrowings, current maturity of long-term borrowings and payables relating to government entities)
- Important to note that the above assessment includes FO inventory levels at c. 20,000 MTon as normally maintained
- However, as directed by NEPRA, KE is reassessing the need for maintenance of FO inventory – request confirmation of NEPRA for corresponding adjustment in working capital so that an informed decision can be made

As shown above, LPS is not sufficient to cover the cost of working capital – accordingly, NEPRA is requested to consider the impact of cost of working capital, over and above LPS and allow an adjustment of PKR 0.50 / kWh in tariff[1]

1. Revised impact after FY 20 actualization and updated assumptions is c. PKR 0.40/kWh

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Mid-Term Review under MYT – Other Requests

KE would also request NEPRA to consider the following matters holistically and provide necessary adjustment / confirmation

- **Revision in New Connection Charges**
  - NEPRA has revised service connection charges of KE in line with charges collected by DISCOS – **annual impact of c. PKR 460 Million (c. PKR 0.03/kWh)**
  - These charges are transferred to consumers as they form part of other income and have been locked in MYT
  - KE requests that corresponding adjustment in tariff is made so that KE can implement the said revision in service connection charges
- **Revision in PTV License Fee Service Charges**
  - KE has agreement with PTV for collection of license fees from consumers
  - Against the collection, KE retains PKR 5 per bill as service charges
  - The service charges are transferred to consumers as they form part of other income and locked under MYT
  - PTV has asked KE to reduce charges to PKR 1 per bill as followed by DISCOs in accordance with SRO for DISCOs dated May 16, 2016
  - KE has requested NEPRA to revise other income component of tariff so that KE can implement the said revision in contract – **annual impact of c. PKR 120 Million (c. PKR 0.01/kWh)**
- **Confirmation of Investments for Commissioning of HSD at BQPS-II and KCCP**
  - As directed by NEPRA, KE is evaluating commissioning of HSD at KCCP – whereas on BQPS-II, alternative RLNG option in addition to SSGC is being explored
  - KE requests NEPRA's confirmation that additional investment, along with impact of HSD inventory in working capital, would be allowed in tariff so that an informed decision can be taken
- **Workings based on assumption of exclusivity**
  - The investment plan and projected operational improvements (Sent-out, T&D loss etc) within the Mid term review request are based on the assumption that KE has exclusive rights to sell / distribute power in its licensed territory for the control period (till FY 2023)

1. Based on FY 2020

Response to Issues Framed

1 Investments from July 2016 to December 2019 (1/2)

Issue no. 1: KEL has stated that its actual investment was lower than the allowed investment by NEPRA of PKR 203,258 million for the period July 2016 to December 2019. **KEL needs to justify its claim that reduction in investment was mainly due to delayed tariff notification. Actual efforts made by KEL specifically for implementing 900 MW and TP (1000 and TP2) be provided**

Tariff certainty critical to secure financing for 900 MW Project – following tariff finalization, project being pursued on fast track basis

March 2017
NEPRA's Determination on MYT

- 900 MW BQPS III project not part of NEPRA's determination dated March 20, 2017

October 2017
NEPRA's Decision on MYT Review

- Approved investment plan included 900 MW project, however, GoP filed Reconsideration Request – hence, **MYT was not effective** (no stay order on MYT review decision)

July 2018
NEPRA's Decision on GoP Reconsideration Request

- KE remained in engagement with relevant stakeholders including lenders, however, in the absence of MYT, it was impossible for KE to arrange such large-scale financing
- Following finalization of MYT, project is being pursued on fast track basis
- Based on PPIB guidelines and construction period allowed to RLNG IPPs, total time allowed for RLNG plant is 36 months

Project Status & Timeline – 900 MW Project

Contract Signing	✓
Pre-works Start	✓
Notice to Proceed	✓
Start of Construction	✓
Commissioning of Power (Unit 1)	**April / May 2021**
Commercial Operations of Unit 1	**July 2021**
Commissioning of Power (Unit 2)	**September 2021**
Project Transfer on Completion	**December 2021**

KE's MYT was finalized in July 2018 and notified in May 2019 – with expected power commissioning of first unit in summer of 2021, the planned 900 MW project is well within the timelines allowed to other IPPs

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1 Investments from July 2016 to December 2019 (2/2)

Over 90% of TP – 1000 project has been completed and despite delays in TP – 2, there are no capacity constraints on the transmission side – accordingly, no impact on consumers

Delays in Transmission Projects have no impact on consumers

1 TP – 1000 Project

- Financing arranged in FY 2016 – prior to expiry of previous MYT
- c. PKR 48 Billion incurred | FY 2017 to FY 2020
- Project progress delayed due to RoW issues

94%
Completed

- Addition of 900+ MVAs
- 6 grid stations added
- 26 Power and 4 Auto Trafos added

06%
Remaining

- Right of Way (RoW) issues
- Engagements for expeditious approval

2 TP – 2

- Project envisaged for further capacity enhancement through expansion of grids and addition of power trafos

Revision in Scope due to delays in approvals from GoP

- **Off-take of additional power from National Grid** in place of 700 MW coal and 450 MW RLNG projects requiring change in Transmission network planning including **500kV grid (not envisaged under MYT)**
- Significant delays in approvals for off-take of additional power from National Grid – **approvals given as late as June 2020**
- However, transmission capacity sufficient to carry c. 5,000 MW – accordingly, **no transmission constraints and no impact on consumers**

Significant Transmission capacity was added to meet the peak demand – accordingly, no impact of delays on consumers

2 Categorization of Investments

Issue no. 2: What is the criteria used by KEL to categorize investments required to meet regulatory targets or otherwise for reliability of supply.

Whether KEL was not required to meet its obligations under Applicable Documents for providing safe and reliable supply and NEPRA allowed investment already catered for that. Whether reliability and T&D losses are mutually exclusive?

Need for Flexibility in Investment Plan & Categorization of Investments

Investment Categorization

Investments linked with Financial KPIs

Loss Reduction

- ABC
- Meter replacement

Investments for Service Obligations – No impact on Financial KPIs

Capacity Enhancement

- Interconnection grids

Maintenance & Safety

- Earthing / Grounding / Protection
- Preventive and corrective maintenance needs
- SIPs / reduce overloading

Need for revisions in investment plan

- Investment plan submitted as part of MYT was **based on estimates and KE had highlighted that it needs to remain flexible** to enable KE to meet service obligations
- Impact on exchange rate is **beyond control of KE**
- Scope Revision
  - T&D **loss reduction capex can be locked and linked** with commercial decision making
  - **Other Investments** to meet service obligation **should remain flexible**
- KE has **already made additional investments of PKR 29,268 Million** (till December 2019) and the requested revision in overall investment plan is needed to enable KE to meet its service obligations

3 Revision in Targets

Issue no. 3: What is the incentive for KEL to make investments to outperform NEPRA regulatory targets as it failed to achieve NEPRA performance targets while it has claimed additional investments?

Additional Investments based on prudent costs and revisions required due to factors beyond control – critical for service obligations and have no commercial proposition

Revision in Investment Plan

- Change in operational dynamics – off-take of additional power from National Grid instead of planned projects including 700 MW coal project
- Additional investments required to strengthen network safety and reliability

Capacity Addition in T&D

- Target for addition of grids, Transmission capacity and feeders met
- Adequate capacity in T&D to meet demand and further additions planned
- Overloaded feeders (above 100%) reduced from 0.5% (FY 16) to 0.1% (FY 20)

No Revision in Loss Reduction

- KE has incentive to invest in loss reduction projects – however, has not requested for any additional capex in loss reduction
- Committed to meet the regulatory target of T&D loss by end of control period

Accordingly, NEPRA is requested to consider the additional investment requested which would enable provision of safe and reliable supply of power and thus is in consumer interest

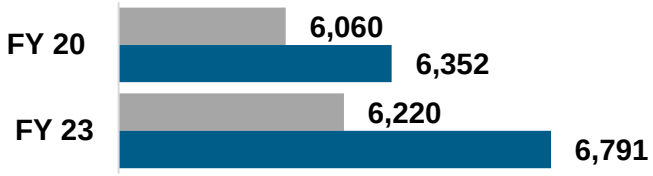
4 Comparison with NEPRA Targets (1/2)

Issue no. 4: KEL has also claimed revision in the future targets whereas it has not met the milestones targets up to the Mid-Term. Whether its claims for future adjustments are justified under Mid-Term review petition and whether the Mid-Term Review has been filed as per the scope defined in the MYT determination or otherwise?

Details of T&D Regulatory Targets

Targets for capacity addition in T&D met – plan for Transmission lines and 11kV feeders and lines revised

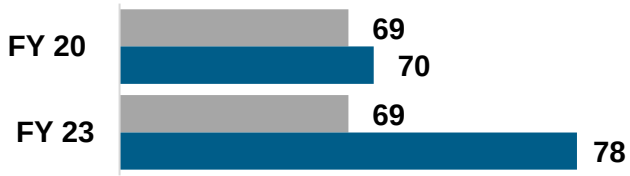
Transmission Capacity (MVAs)



Length of Transmission Lines (km)

- Change in planned projects – off-take of additional power from National Grid in place of 700 MW coal and 450 MW RLNG projects
- **Capacity additions significantly higher** than NEPRA targets

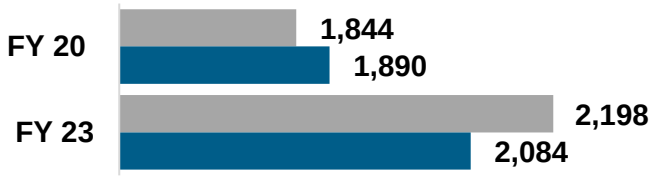
Transmission Grid Stations



11 kV HT Lines (km)

- Under revised plan, **114 less feeders to be laid resulting in lesser HT length** – will also help optimize HT/LT ratio

Number of Feeders



KE Actual + Forecast NEPRA Target

Benefits to Consumers

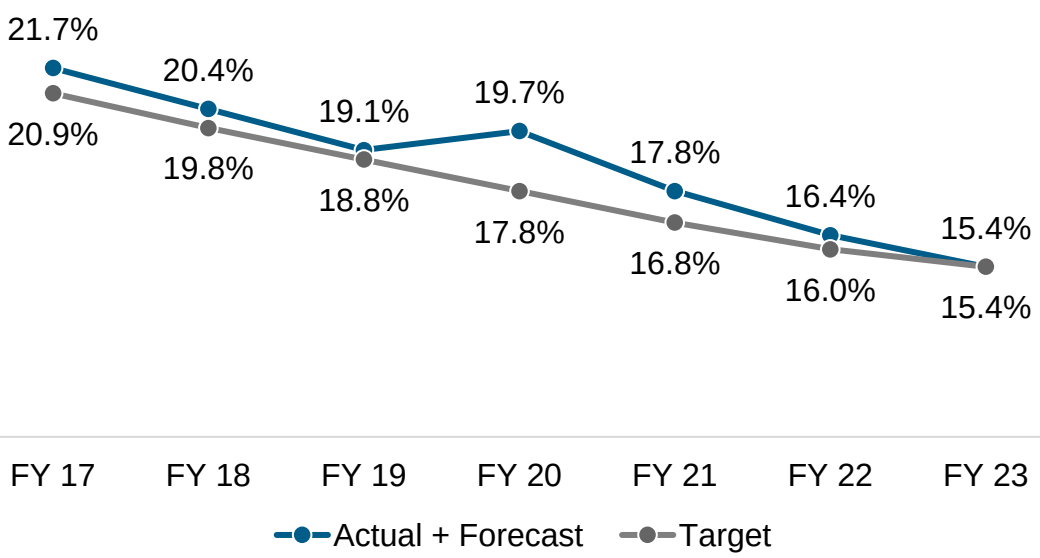
- LS exempt feeders increased from 60% in FY 16 to over 75% in FY 20 – **further expected to increase to 93% by FY 2023**
- Overloaded feeders (above 100%) **reduced from 0.5% (FY 16) to 0.1% (FY 20**

Slide 12 Slide 13

4 Comparison with NEPRA Targets (2/2)

KE had targeted reduction of T&D loss to 17.8% in FY 20 (in line with NEPRA target), however, the same could not be achieved due to COVID-19 which was beyond KE's control

Transmission & Distribution Losses



In view of learnings from ABC Project, KE has revised the scope and execution strategy and is committed to meet the regulatory target of 15.4% by 2023

Request for Revision in Targets for FY 2020, 2021 & FY 2022

Execution of Aerial Bundled Cable (ABC) Project

- Slower than expected results of ABC – going forward, execution strategy has been revised
  - Ring fencing entire feeder to convert all PMTs to ABC
  - Change of service cables and individual meters, along with PMT mains to avoid theft
  - Ring fencing adjacent feeders to eliminate 'kunda'

Impact of COVID-19

- COVID-19 (beyond KE's control) resulted in increase in losses from initial target of 17.8% to 19.7% (FY 2020)
  - Restricted theft detection activities | 0.5%
  - Load-shed exemption to HL and VHL areas | 0.6%
  - Loss of Industrial and Commercial sent-out | 0.2%
  - Delayed execution of loss reduction projects | 0.6%

No compensation requested for underachievement of T&D losses – request NEPRA to adjust targets for FY 2020 to FY 2022 due to COVID-19 (beyond KE's control)

5, 8 &17 Additional Supply & related Transmission Infrastructure

Issue no. 5: What will be the impact of CCOE decisions dated 19 June 2020 on the Midterm review petition?

Issue no. 8: Considering the planned additional power supply from national grid to KEL by 2021 and request of KEL to Ministry of Energy for long-term solutions/supply from national grid what will be the fate of the proposed 700 MW imported coal project? Further, what is the exact quantum and timeline of the additional power proposed to be supplied to KEL from the national grid to justify the additional links proposed in the mid-term review petition?

Issue no. 17: Whether the request of KEL for additional investment of PKR 24,055 Million for 500kV Grids to off take power from national grid is justified bearing in mind that it has not signed any formal agreement for the same?

Planned 700 MW Project & Additional Supply from National Grid

Status Update – 700 MW Project

- KE had planned its own additions including **700 MW coal project – delayed due to tariff notification**
- To bridge the gap, additional power from National Grid will be evacuated – **not envisaged in initial MYT estimates**

CCoE Meeting – June 2019

- CCoE directed KE to **set up 500 kV grids** for off-take additional of power from National Grid – included in the revised investment plan (incremental capex of c. PKR 10 Billion on net basis)
- However, based on discussions with NTDC, currently, KE is pursuing one 220kV Dhabeji & one 500 kV KKI Grid

Expected Timelines

- Timeline for additional power
  - 450 MW Dhabeji (May 2022)
  - 800 MW KKI (May 2023)
  - 150 MW 220kV Gharo-Dhabeji (December 2022)
- Finalization of contractual modalities – by December 2020

Approval of additional investments required to off-take additional power from National grid is critical for timely off-take of additional power and to manage the power demand-supply situation – service obligation

6 Evidence of Investments

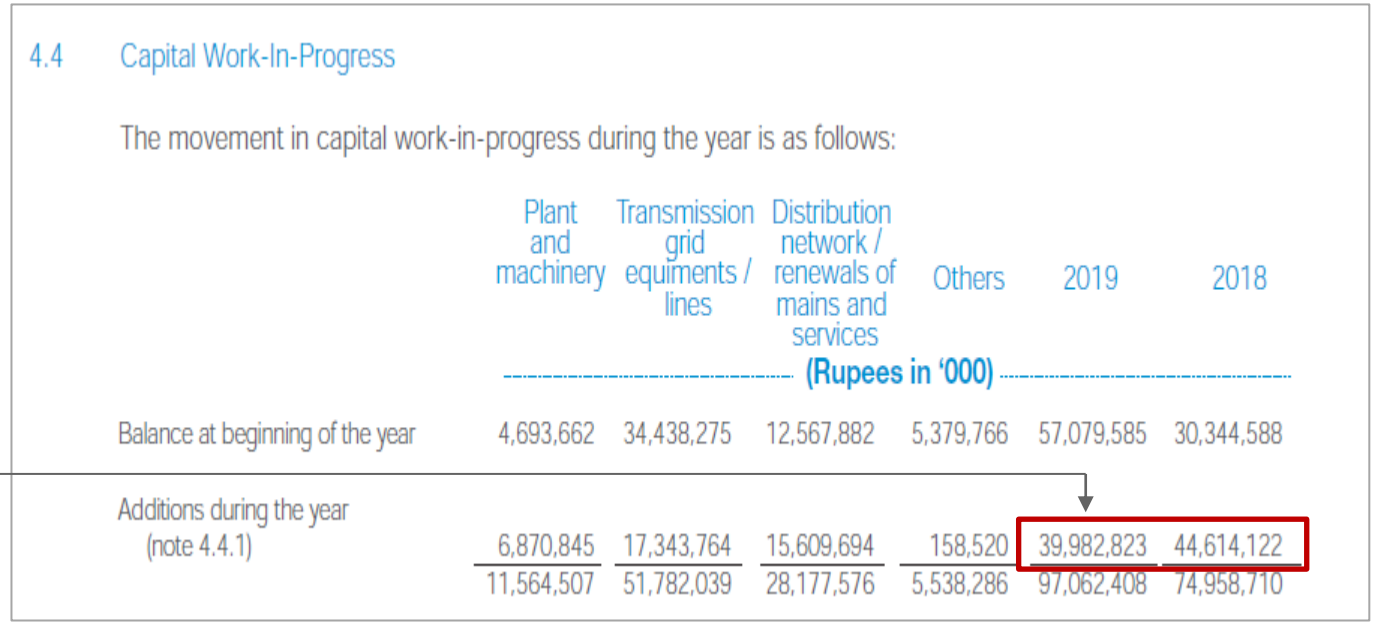
Issue no. 6: How can KEL prove that investment has been actually made?

Investments incurred can be verified from the Audited Financial Statements

Reconciliation of investment amount for FY 2017 to 2019 with audit financial statements is presented below:

PKR Million

Particulars	FY 17	FY 18	FY 19
Capex as requested	27,700	44,614	39,983
Capex as per Financial Statements	27,700	44,614	39,983



4.4 Capital Work-In-Progress

The movement in capital work-in-progress during the year is as follows:

	Plant and machinery	Transmission grid equiments / lines	Distribution network / renewals of mains and services	Others	2019	2018
	(Rupees in '000)					
Balance at beginning of the year	4,693,662	34,438,275	12,567,882	5,379,766	57,079,585	30,344,588
Additions during the year (note 4.4.1)	6,870,845	17,343,764	15,609,694	158,520	39,982,823	44,614,122
	11,564,507	51,782,039	28,177,576	5,538,286	97,062,408	74,958,710

Above investments have been made towards capacity enhancement, improving safety and reliability of network and loss reduction, and the amount spent can be verified from published annual reports

7 Details of Addition in Capacity

Issue no. 7: The petitioner has stated increase in generation capacity through own and external resources to the tune of 420 MW. Exact details of the said addition in capacity are required to be provided as the same are not traceable from the petition of KEL

The increase in generation capacity is achieved through following projects

		Capacity in MW	Date of Availability
1	Steam turbines at Korangi Gas Turbine Power Station and SITE Gas Turbine Power Station	20	January 2017
2	FFBL Power Company – Coal based power plant	52	May 2017
3	Sindh Nooriabad (IPP)	101	January 2018
4	Oursun Pakistan – Solar Power Project	50	November 2018
5	National Grid – 150 MW Wind Power Plants	150	June 2019
6	Gharo Solar (Private) Limited	50	December 2019
	Total	423	

9 Generation Long-Term Improvement Plan (GLTIP)

Issue no. 9: Whether the request of KEL to allow additional investment of PKR 2721 Million in terms of Generation Long Term Investment plan is justified bearing in mind the fact that the Authority in its earlier Determinations dated March 20, 2017 and October 09, 2017 disallowed it considering the same unjustified and declared it KEL's commercial decision to be done through its own resources and allowed it to retain the benefits of the improved efficiencies of BQPS-I?

GLTIP & Benefits

Need for GLTIP

- Expenditure incurred on BQPS I units – quite old and major overhauling required along with repairs and replacement of parts
- Considering the demand-supply gap, availability and reliability of BQPS I units is critical

Benefits

- Helped remove permanent deration in capacity and degradation in terms of efficiency of the units
- Had these not been made, would have adversely impacted BQPS I reliability and availability – further widening of demand-supply gap
- Heat rate tests carried out after GLTIP **– efficiency improvements resulting in lower fuel cost being passed in tariff – impact of c. PKR 5.9 Billion (FY 17 to FY 20)**

Recoupment of capacity and efficiency

BQPS I	Net Efficiency	Capacity (MW)
Unit 1	1.8%	28.7
Unit 2	0.4%	13.5
Unit 5	3.9%	21.3
Unit 6	0.8%	13.3

For efficiency comparison, please refer to slide 10

10 Additional Investment for Existing Generation Plants

Issue no. 10: Whether the request of KEL to allow additional investment of PKR 16,016 Million for O&M purposes is justified bearing in mind that during its MYT petition KEL itself requested PKR 25,066 Million for the same and the Authority approved it without any changes? How can KEL justify its request for such substantial increase in the O&M investment?

Additional Investment for Existing Generation Plants – Important to maintain performance levels including reliability and availability

- Generation plants require maintenance expenditure to maintain their performance level. This expenditure, based upon running hours, is required for:
  - Maintaining and enhancing despatch capacity of each generating unit,
  - Maintaining efficiency of generation units
- Capex plan submitted and approved at the time of MYT was based on certain assumptions & forecasted business requirements which are subject to change
- Increased investment in maintenance and overhaul of existing generation facilities was necessary to ensure continuity of supply
- These have no impact on the financial KPIs and hence make no commercial proposition for KE to invest, however, these are **necessary for KE to meet its regulated obligations and is in the interest of consumers, and therefore should be allowed in accordance with Section 31 (2) (c) and 31 (3) (a) of the NEPRA Act**
- For detailed analysis of investment in generation plants along with associated benefits, please refer slides 7 and 10

11, 18 & 27 Justification of Impact of Exchange Rate and Inflation

Issue no. 11 (Generation): Whether the request of KEL to allow additional investment of PKR 1844 Million in terms of "Impact of Exchange Rate & Inflation is justified?

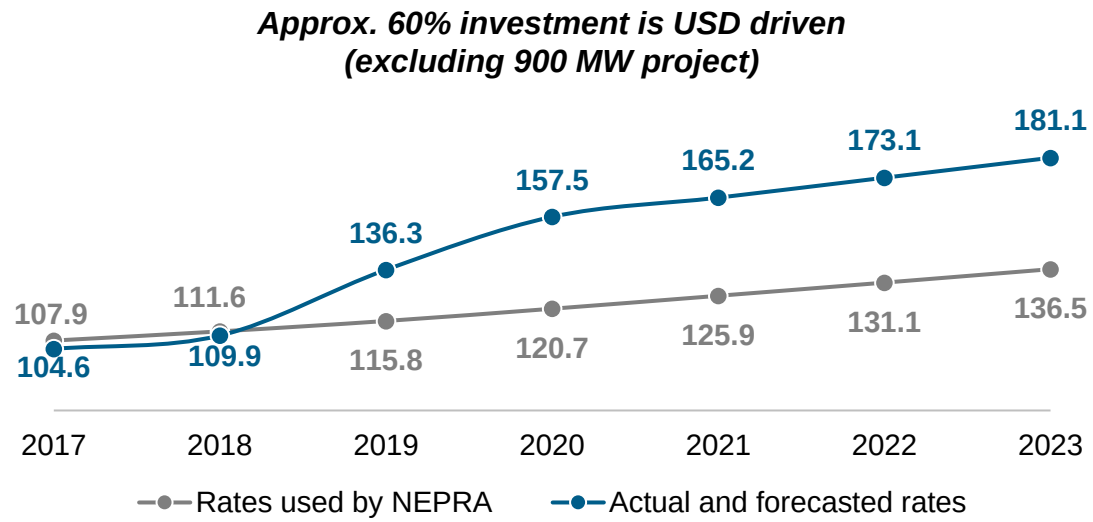
Issue no. 18 (Transmission): Whether the request of KEL to allow additional investment of PKR 11, 799 Million in terms of "Impact of Exchange Rate & Inflation is justified?

Issue no. 27 (Distribution): Whether the request of KEL to allow additional investment of PKR 7,754 Million in terms of "Impact of Exchange Rate & Inflation is justified?

PKR Devaluation and Inflation higher than NEPRA assumed

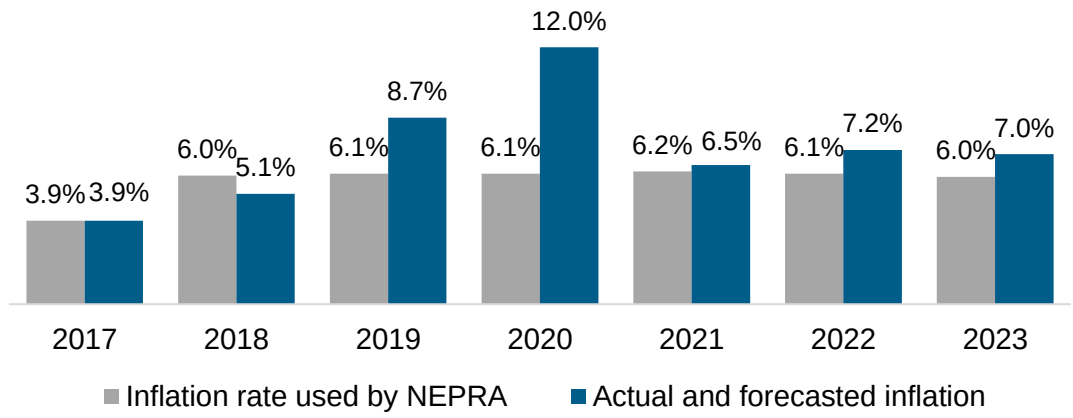
Comparison of Exchange Rate (Actual v NEPRA)

PKR/USD[1]



Comparison of Inflation (Actual v NEPRA)

Change in CPI



PKR devaluation and inflation has been significantly higher than NEPRA assumed – beyond control of KE, and therefore the impact of the same should be allowed in line with Section 31 (3) (a) of NEPRA Act to ensure that all prudent costs are allowed

1. Average exchange rates

12 & 15 Impact of delay in 900 MW BQPS – III

Issue no. 12: Whether the submission of KEL that delay in tariff finalization resulted in the consequential delay in the implementation of 900 MW BQPS-III project, which resulted in the increased project cost due to impact of Exchange Rate and Inflation is justified? It is pertinent to mention here that KEL itself vide its letter dated September 18, 2017 during MYT submitted the deadlines for commercial operations of BQPS-III. However the plant is still not operational resulting in unscheduled load shedding. Foregoing in view, whether the Base Rate Adjustment Component needs to be revised? KEL must provide details of additional amount collected due to inclusion of BQPS-III in the MYT

Issue no. 15: In terms of MYT KEL was required to invest PKR 87,028 Million till Mid-term of MYT. However, it has invested PKR 11,926 Million only. Does it attract the Para-34.1(XXIII)(vii) of the Determination of the Authority dated July 05, 2018 reproduced as under?:-"In case of under investment /performance by K-Electric, the base rate adjustment component may be adjusted, keeping in view the amount of Investment allowed vis a vis actual investment made by K-Electric during the period, after thorough analysis and review by the Authority."

Delayed Investments in 900 MW BQPS III Project

- As discussed on slide 21, **tariff certainty was critical for project financing – beyond KE's control**
  - **Concerns over tariff certainty and viability were also raised by lenders during the MYT proceedings** citing that the same will have a consequential impact on timely execution of planned investments
- Following tariff finalization in July 2018 and notification in May 2019, KE is **pursuing its 900 MW project on fast track basis**
  - Work is being pursued on expeditious basis and first unit of 900 MW project is planned to come online in summer of 2021
  - However, clarity on cost allowed in tariff will be critical to achieve **timely financial close**
- Impact of delay in 900 MW project, PKR 0.21/kWh in the base tariff – **already accounted for in the overall impact of revision in investment plan**

13 & 14 900 MW Cost Benchmarked with HBS IPP

Issue no. 13: The allowed project cost of USD 730.5 Million for BQPS-III was benchmarked with Haveli Bahadur Shah (HBS) an IPP with H Class gas Turbines having net LHV efficiency of 62.445%. However, KEL has opted for the cheaper F Class Gas Turbines of lower efficiency of 59.23% (which is 3.215% lower than the efficiency of benchmarked IPP of HBS) for the project cost of USD 658 Million. In this scenario, can the claim of KEL that differential of cost allowed by the Authority i.e. USD 730.5 (benchmarked with 62.445% efficient IPP) and actual cost incurred by KEL i.e. USD 658 Million (for 59.23% efficient project) cannot be adjusted in the base rate component of its MYT is justified?

Issue no. 14: Whether the claim of KEL to allow exchange rate variation for BQPS-III on the allowed cost of USD 730.5 Million instead of on the actual cost of USD 658 Million is justified?

Benchmarking of 900 MW cost

Plant Configuration

- Submitted configuration of 2 x 450 MW units as part of MYT and LPM, and there was **no direction by the Authority for any specific class of machine**
- Minimum capacity of **H class machine is 700 MW – not suitable for KE's network** due to required operational flexibility
- **Efficiency of 'F class' machine at 450 MW load is higher than 'H' class**

Efficiency Comparison at 450 MW load	
'F' Class	59.2%
'H' Class	58.7%

Savings on Project Cost to be retained by KE

- Within the MYT, cost of 900 MW has been benchmarked with Haveli Bahadur Shah IPP and USD 730.5 Million has been allowed
- **Further, NEPRA has stated that savings in project cost are to be retained by KE**

> "In case, KE manages to build BQPS – III power plant at a cost less than the cost allowed by the authority, then **KE shall be allowed to retain the savings** by not adjusting the base rate component"

Para 34.1 of MYT Reconsideration Request Decision dated July 05, 2018

16 Decommissioning of Units 3 & 4 of BQPS I

Issue no. 16: What are the planned deadlines of KEL for de-commissioning of Units 3 & 4 of the BQPS-I?

Expected Timeline of Decommissioning of Units 3 & 4 of BQPS I Plant

September 2020

Decommissioning of Unit 4 of BQPS I

01.

September 2020

Decommissioning of Unit 3 of BQPS I

02.

Decommissioning of Units 3 & 4 of BQPS I as per the planned timeline is critical for the timely commissioning of power from 900 MW BQPS – III

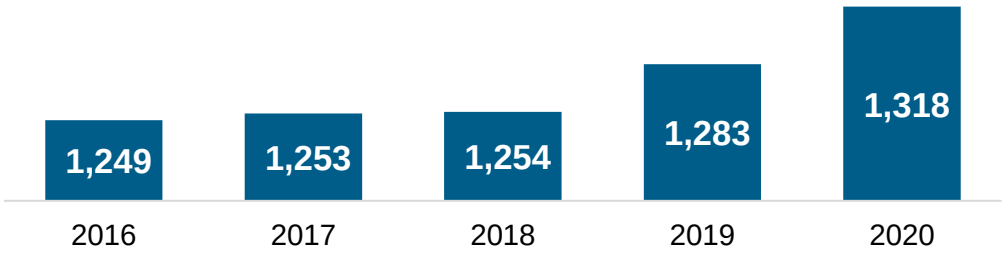
19 Transmission Capacity Additions

Issue no. 19: The exact time-line of investment and progress made in the transmission capacity (i.e. increase of 1,200 MVA, through addition of 5 new grid stations, 29 power transformers, and 38 km lines) is required to be provided to justify its claim in this regard.

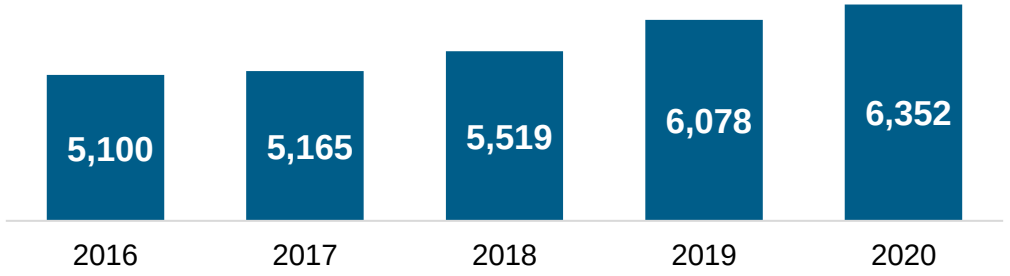
Year wise timeline of capacity additions is tabulated below

PKR Million	FY 2017	FY 2018	FY 2019	FY 2020[1]	Total
Investment in Transmission segment	5,782	25,150	17,247	18,643	**66,822**

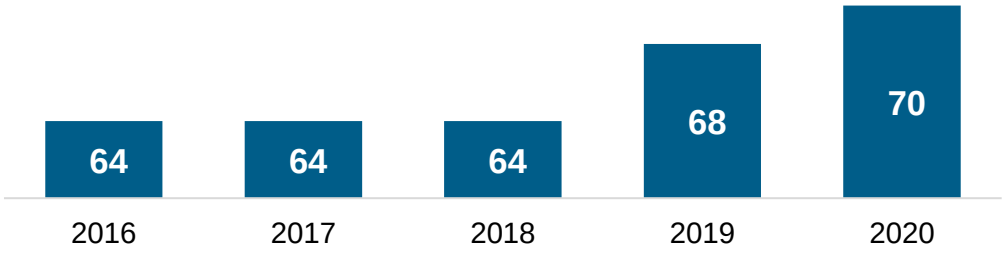
69km of Transmission Lines added



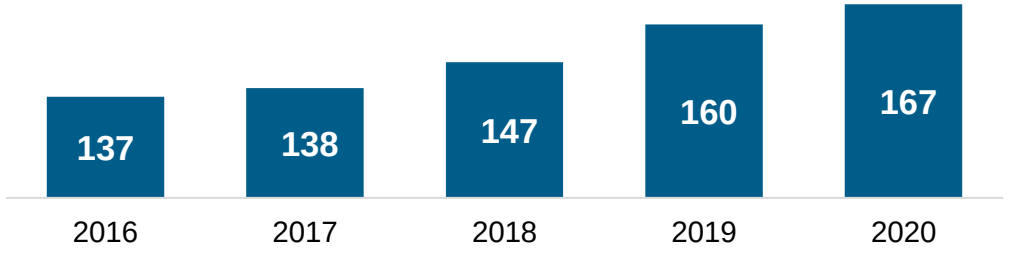
Capacity enhancement by 1,253 MVAs (25% increase)



Addition of 6 Grid Stations



Addition of 30 Power Trafos



1. Includes 900 MW Allied

20 Impact of Delay in Investment – Transmission

Issue no. 20: In terms of MYT KEL was required to invest PKR 105,759 Million till Mid-term of MYT. However, it has invested PKR 54,343 Million only and failed to achieve the corresponding targets. Does it attract the Para-34(vii) of the Determination of the Authority dated July 05, 2018 reproduced as under?:- “In case KEL does not carry out committed investment and does not meet the regulatory benchmarks set in transmission and distribution segment then the base rate adjustment component would be revised accordingly to reflect the under investment made by KEL”.

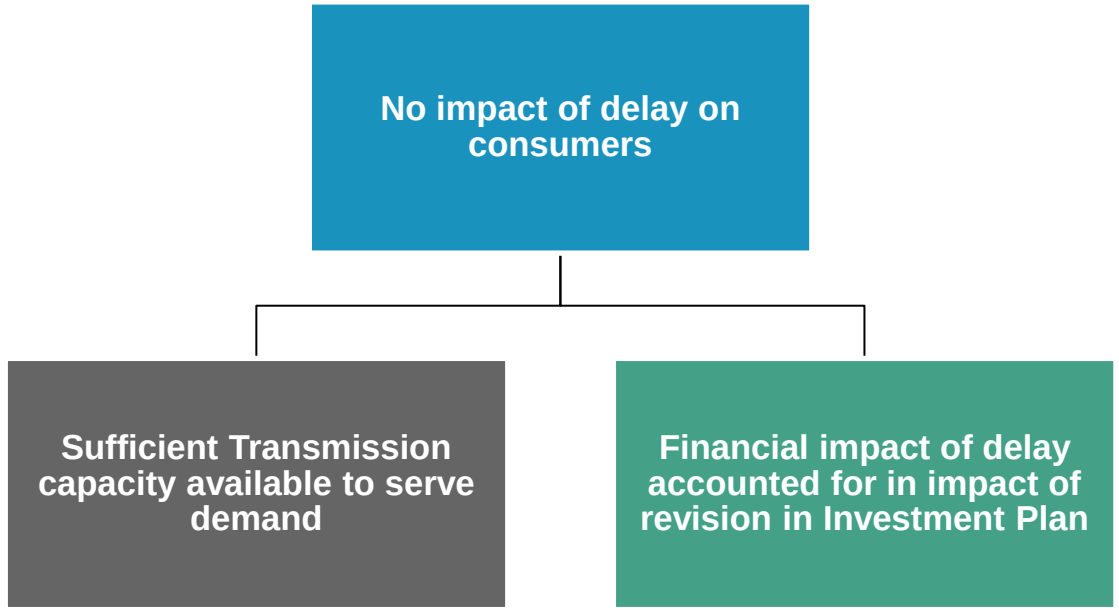
No capacity constraints on transmission side, accordingly, there was no impact of project delays on consumers

TP – 1000 Project

- Over 90% project completed
- 900+ MVAs added
- Remaining delayed due to Right of Way issues

TP – 2 Project

- Sufficient transmission capacity available and no transmission constraints – accordingly, no impact on consumers
- Change in scope due to additional supply of 1,400 MW from national grid – includes 500 kV grid
- Delays in approvals from GoP for off-take of additional power from National Grid



With TP – 1000 project over 90% completed, there is sufficient Transmission Capacity on the transmission side. Further, financial impact of delay in investments has been accounted for in the revised investment plan

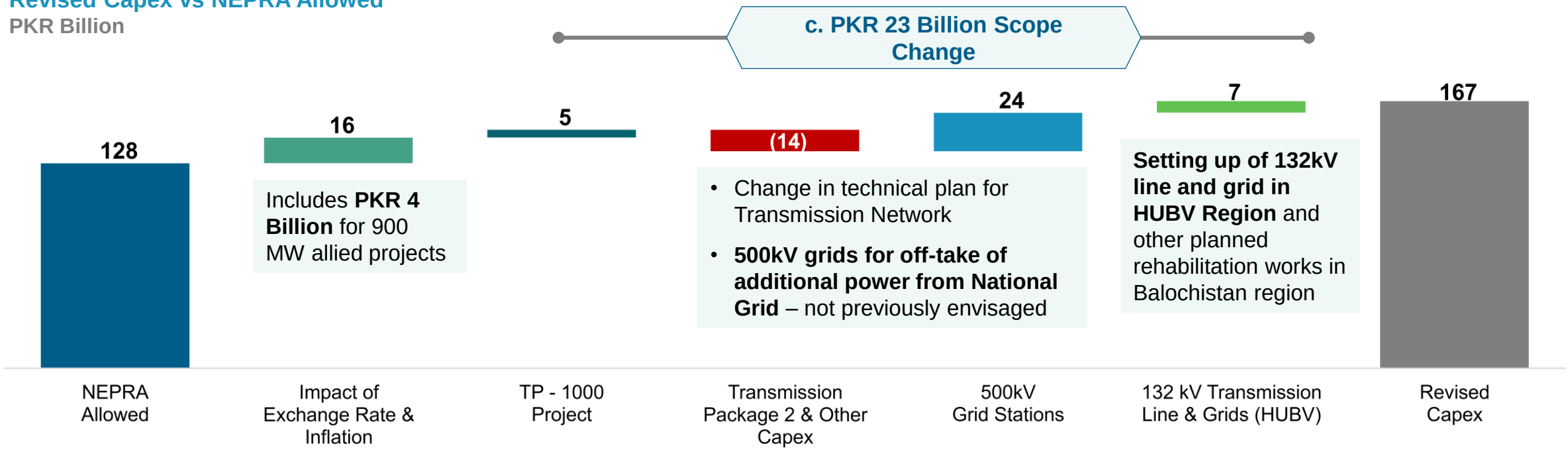
21 Justification of Additional Investment in Transmission

Issue no. 21: In consideration of the above scenario of under investment by KEL, whether the request of KEL to allow additional investment of PKR 7,325 Million for upgrade and rehabilitation of 66kV line in Baluchistan and overall additional investment of 22,828 in the name of "Necessary Revision in Scope" is justified bearing in mind that during its MYT petition KEL itself requested total investment of PKR 115,773 Million (including PKR 95,307 Million for network growth and PKR 20,466 Million for overhaul/rehabilitation of the existing network) and the Authority approved it without any changes? How can KEL justify its request for such substantial increase in its proposed investment?

Additional Investment of PKR 39 Billion in Transmission

Revised Capex vs NEPRA Allowed

PKR Billion



Revision in Capex is mainly due to PKR devaluation and inflation along with change in operational requirements due to factors beyond KE's control – prudent cost and requested to be allowed in line with Section 31 (3) (a) of the NEPRA Act

22 Additional Investment in Distribution Segment

Issue no. 22: In terms of MYT KEL was allowed to invest PKR 35,132 Million till Mid-term of MYT. However, it has invested PKR 50,323 Million and failed to achieve the corresponding targets. Does it attract the Para-34(vii) of the Determination of the Authority dated July 05, 2018 reproduced as under?:- "In case, KEL does not meet the T&D segments targets and still end up making additional investment then such additional investment would be construed as inefficient for which again no adjustment shall be made in the base rate adjustment component. Thus consumers would be protected from any such decisions with non-attainment of required targets".

Additional Capex critical for Network Maintenance & Safety

"In case KE wants to bring more investment to outperform the regulatory targets in Transmission & Distribution (T&D) segments then KE shall be allowed to **retain the gains over and above the approved T&D loss target**. Hence there shall be **no revision in the T&D losses benchmarks** and base rate adjustment component, implying that no cost of funds/WACC shall be allowed for that additional investment. Accordingly, it would be **KE's own commercial decision for these additional investments**"

Para 27.13.1 – MYT Reconsideration Decision July 05, 2018

No Additional Capex requested for Loss Reduction

- NEPRA has linked additional Capex with loss reduction
- KE has not requested for any revision in loss reduction capex as the same is linked with financial KPIs
- No compensation requested for underachievement of T&D loss
- Committed to meet the T&D loss target by end of control period

Additional Investments in Safety & Maintenance

- Scope of maintenance and safety projects enhanced – c. PKR 16 Billion additional investments made till FY 2020
- No commercial proposition or financial benefit to KE – direct impact on consumers and critical for service obligations

Accordingly, it is requested that while NEPRA may link loss reduction with commercial proposition, investments required for maintenance and safety are critical to ensure service obligations and therefore they must be allowed

23 Improvement in SAIFI & SAIDI and Additional Investment

Issue no. 23: In terms of MYT KEL requested the Authority an investment of PKR 73,667 Million till Mid-term of MYT quoting its certain benefits including secure & uninterrupted supply of power and increase in the quality and reliability of supply by reduction in the SAIFI (from 22.21 to 8.03) and SAIDI (from 1330 to 481) around 64%. However, in Mid-term review Petition it has submitted to reduce it to just 45% with a total additional investment of PKR 45,747 Million in the name of "Necessary Revision in Scope". How can KEL justify it?

Technological Advancements Providing Greater Network Visibility and Separate Proceedings in the Matter of SAIFI / SAIDI Reporting

Technological Advancements

- Installation of AMRs and implementation of MDMS has provided greater network visibility and transparency
- Improvement in SAIFI / SAIDI reporting due to greater fault coverage as a result of above technological advancements
- Technological advancements would also help make targeted investments in the network, thus improving reliability indices

Separate Proceedings for reporting SAIFI / SAIDI

- NEPRA has initiated separate proceedings for revision in SAIFI / SAIDI reporting mechanism
- Request NEPRA that targets be set based on automated data and revised mechanism which is being deliberated upon in separate proceedings as well

Technological advancements have provided greater network visibility and it is requested that NEPRA should set SAIFI / SAIDI targets based on automated data reporting for which NEPRA has also initiated separate proceedings

24 Rationale behind Revision in Scope

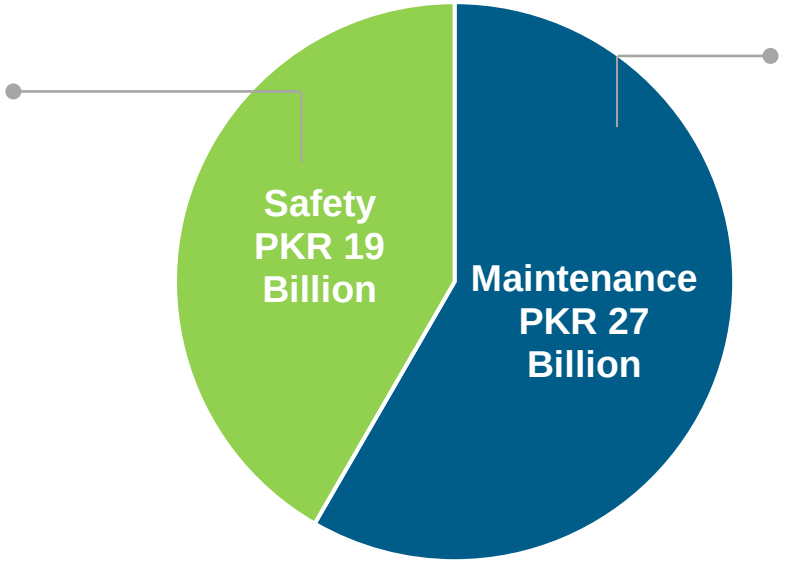
Issue no. 24: KEL has requested for additional Capex due to (a). Necessary revision in scope of safety and protection projects (e.g. Earthing & grounding, replacement of bare conductors etc.) and (b). Necessary revision in scope of maintenance projects (e.g. Corrective and preventive maintenance, Rehabilitation of ABC Projects etc.). In this regard, it is considered that the said aspects of safety, protection and maintenance fall in the scope of routine matters and should be covered within the allowed cost. Foregoing in view, whether the request of KEL to allow additional investment of PKR 45,747 Million in the name of "Necessary Revision in Scope" for Distribution Segment is justified bearing in mind that during its MYT petition KEL itself requested PKR 73,667 Million against certain improvements mentioned Para-26.23 of the Determination of the Authority dated March 20, 2017 and the Authority approved it without any changes? How can KEL justify its request for such substantial increase in the investment against the same improvements? What is the rationale for such revision of scope?

Revision in Scope of Distribution Projects

Capex plan approved at the time of MYT was based on certain assumptions and initial estimates, subject to change

Revision in Scope includes

- **Regularization of c. 800 schemes** – 1,000 additional PMTs and allied materials
- Installation / replacement of **1,700 VCBs, 330 RMUs, and 6,300 LBS**
- **3,000 km of guard wires**
- Replacement of bare conductors with covered conductors – HT network



Revision in Scope includes

- Installation of AMRs resulting in better network visibility
- Preventive Maintenance scope enhanced to **c. 300 feeders annually**
- Scope of SIPs increased from **1,600 PMTs to 4,500 PMTs** over the control period
- **2,500 PMTS – ABC rehab**

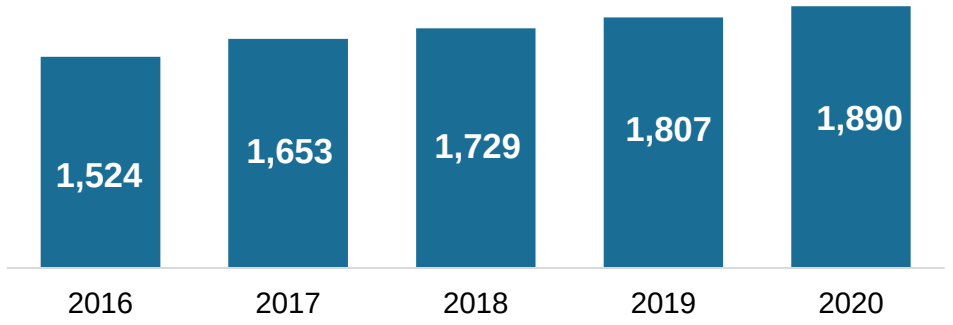
Additional investments are requested to ensure service obligation of safe and reliable supply of power – direct impact on consumers, and no commercial benefit to KE

25 Distribution Capacity Addition

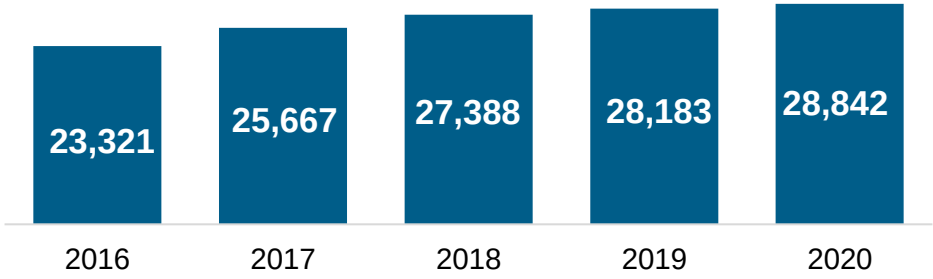
Issue no. 25: In the distribution segment KEL has stated that 750 km of HT lines over 300 feeders and 5,400 PMTs have been deployed in its distribution system. Year Page 6 of 6 wise progress details of the same is required to be provided to justify the said claim to be considered. Further, KEL has mentioned 56% reduction in transformer tripping from June 2016 to December 2019. How this claim can be justified as during the said period KEL has been penalized for frequent tripping of the system including failure of transformers?

Year wise timeline of capacity additions tabulated below

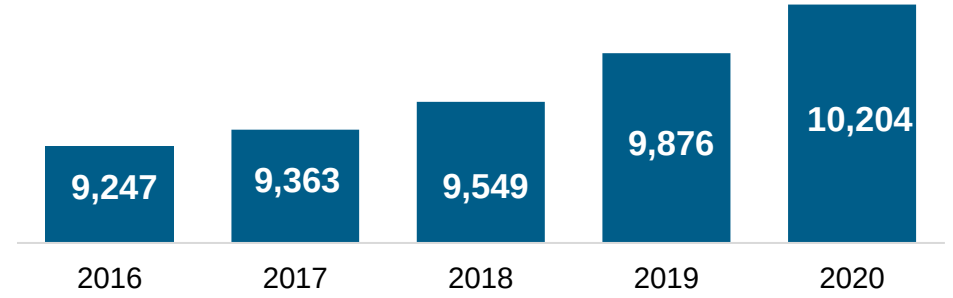
366 Feeders added



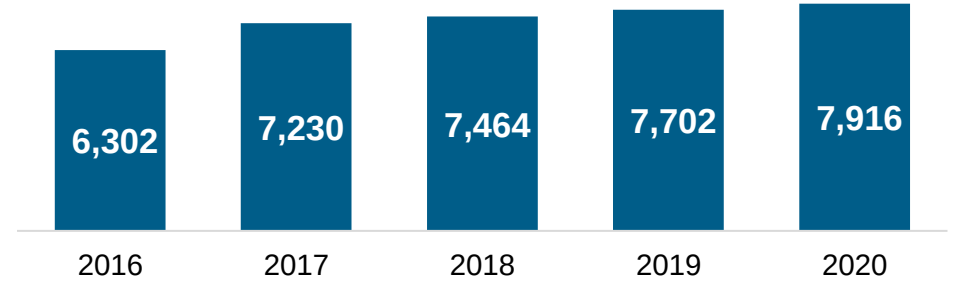
5,521 PMTs added



957km HT lines added



1,613 MVAs added



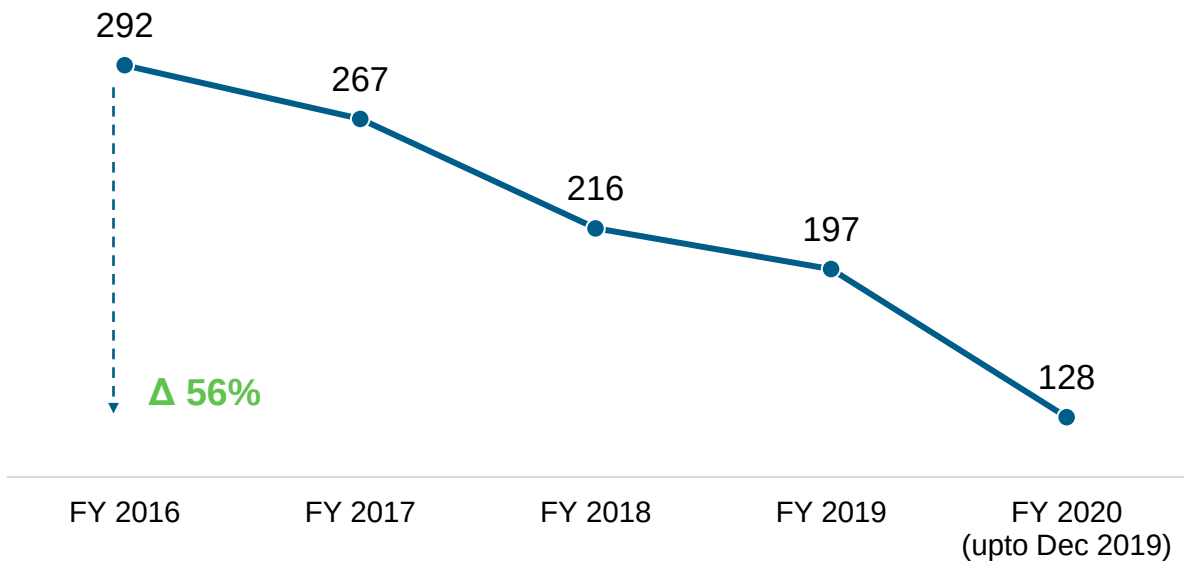
25 Power Transformer Trips

Issue no. 25: In the distribution segment KEL has stated that 750 km of HT lines over 300 feeders and 5,400 PMTs have been deployed in its distribution system. Year Page 6 of 6 wise progress details of the same is required to be provided to justify the said claim to be considered. Further, KEL has mentioned 56% reduction in transformer tripping from June 2016 to December 2019. How this claim can be justified as during the said period KEL has been penalized for frequent tripping of the system including failure of transformers?

Reduction in Power Trafo Trips

Number of Power Trafo Trips

FY 2016 v December 2019



- Tripping of power transformers is on a declining trend
- Penalties imposed on KE are for shortage in generation due to fuel constraints, demand and supply gap as well as network performance during monsoon rains
- As demonstrated in earlier slides, load shed as a percentage of demand and unserved energy due to transmission constraints have reduced substantially
- With planned generation projects / addition of power from National Grid now on track, consumer would benefit further from the capacity additions made in T&D network

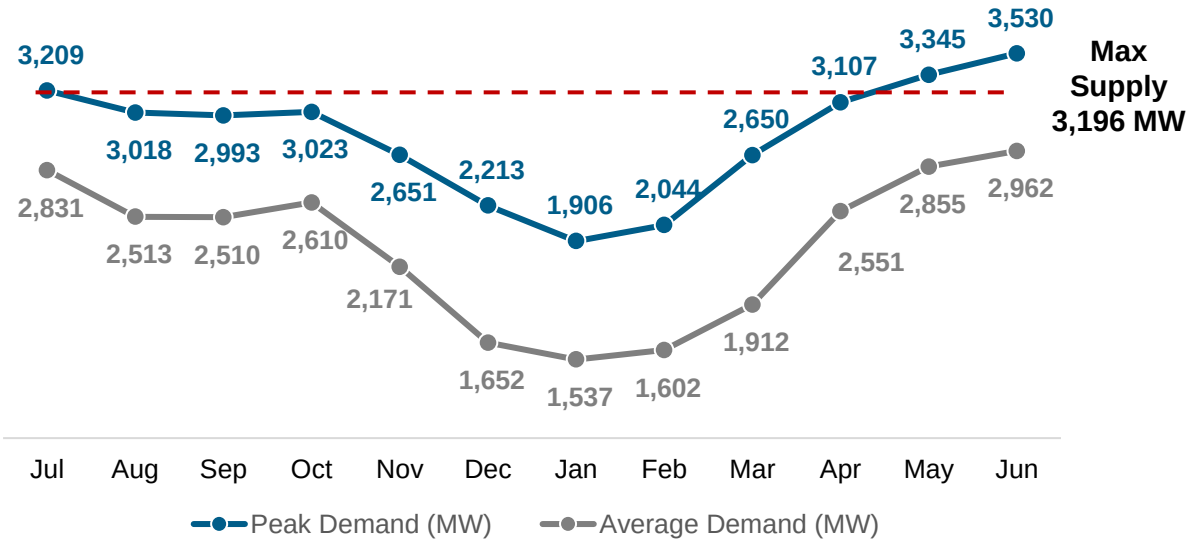
26 Increase in Customers and Capacity

Issue no. 26: At one end KEL has claimed adding 677,735 new consumers resulting in additional requirement of 996 MW on the other hand it claims 24% reduction in unserved energy. How this claim can be correlated considering the lack in required addition in capacity and the obvious load shedding in KEL area?

Consumer Addition and Load-shed due to Supply shortfall only in Peak Summer Months

- Since the start of the tariff control period and upto December 2019, KE added over 677,000 consumers – this includes new connection as well as conversion of around 450,000 hook connections (450 MW)
  - Conversion of hook connections has no impact on system demand as these consumers were previously illegally consuming from the system
- Further, the addition of c. 650 MW of load has been provided to industrial, commercial and residential consumers
  - Addition of 650 MW is based on load sanctioned which translates into peak demand with their respective load and diversity factor (based on load and diversity factor, translates into c. 130 MW in peak demand)
- As detailed on previous slides, KE has sufficient capacity in T&D network, and supply shortfall is only during peak summer period hence for most part of the year, KE has the generation capability to meet full demand
- LS reduction has been driven through conversion of high loss areas into low loss – increase in LS exempt low loss areas to over 75% number of feeders which has helped reduce total unserved energy by 24%

Demand & Supply
(MW)



As depicted by demand-supply (FY 19) above, supply shortfall is only experienced in peak summer months

28 Receivables from Govt. Entities & Additional Working Capital

Issue no. 28: KEL claims considerable (4.1%) improvement in recovery ratio of its receivable and at the same time it is asking for more in the head of working capital. How the said facts are correlated? Whether receivables from Government entities can be termed as 'uncontrollable'. Consequently, whether KEL request for additional working capital is justified?

Recovery from Government Entities – Uncontrollable

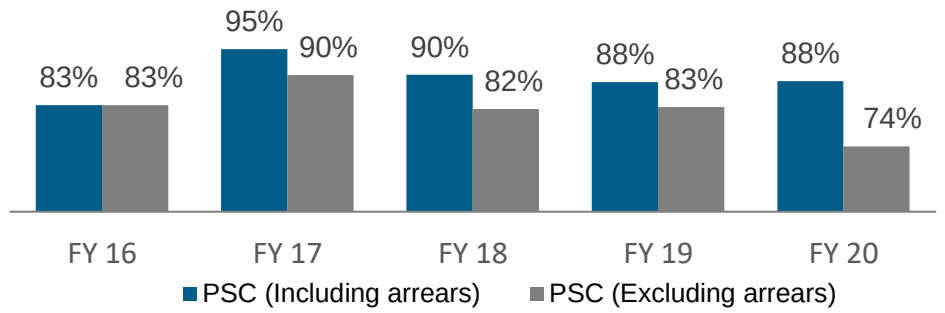
- Working capital for government related entities – includes impact of accumulated Tariff Differential Claims, along with PSC receivables – *Netted off with NTDC and SSGC payables*
- TDC balance increased significantly, despite regular engagements with GoP for release
- Even after arrears payment – PSC Recovery ratio stands at 88% (FY 2020) – receivables increasing
- PSC entities – strategic consumers; power supply cannot be disconnected
- KE has already requested that NEPRA may actualize the amounts at the end of control period

Uncontrollable

Receivables from Government related entitles are beyond KE's control – critical that the impact is allowed in tariff

> "However, during the midterm review, the Authority may review the working capital needs of KE....During that review, if there is an **increase in working capital requirement due to factors beyond KE's control**, the Authority may consider the extent to which working capital requirement needs to be revisited."
>
> **Para 26.20 – MYT Reconsideration Decision July 05, 2018**

PSC Recovery Ratio



Receivable on account of (PKR Million)	FY 16 (Actual)		FY 20
Tariff Differential Claim	30,098	→	225,805
Public Sector Companies	47,430	→	52,139

Slide 15

29 Growth in Peak Demand & Capacity Planning

Issue no. 29: Whether actualization of fixed charges compared to projected fixed charges by NEPRA as part of quarterly tariff adjustment for the July 2016 to December 2019, may be linked to KEL's request for revision in sent out growth projections? Justification may be provided with a view that KEL made presentation to a Committee constituted by CCOE on a rationalized growth rate of 4.7%?

Growth in Peak Demand and Generation Capacity Planning

- Growth in peak demand from **FY 2016 to FY 2020 on CAGR basis has been around 3.1% whereas sent-out growth has remained around 1.8%**
- **Peak demand** occurs at a particular instance during the year, therefore, cannot be linked with sent-out
- Further, with a rising share of climate control in electricity consumption, sensitivity to weather has increased with a corresponding increase in peak demand levels in the summer relative to average levels for the year
- Accordingly, sent-out growth has remained lower than peak demand as evident above
- **Moving forward, peak demand growth has been projected in line with GDP forecast and on a conservative basis so as to ensure that incase of slightly higher growth than projected, available capacity is there**
  - Accordingly, planning for capacity addition is done keeping in view the peak demand projections
- Whereas, sent-out growth has been projected keeping in view past trend as it does not have any impact on power planning

30 Debt to Equity Ratio

Issue no. 30: Does the KEL's request for adjustment in the assumed Debt/Equity ratio merits consideration, keeping in view that the Authority already decided this issue in the MYT?

Justification for actual Debt to Equity ratio

- At the time of privatization, KE was a loss-making entity resulting in borrowing constraints
- Recognizing this, RAB under previous MYT was defined as **sum of share capital, reserves and debt less cash and securities** – *No condition for any specific D:E ratio*
- Accordingly, investment plan was primarily financed through injection of equity and reinvestments of profits – no dividend out taken since privatization
  - Resultantly, KE's Debt to Invested Equity Ratio of FY 16 – **24:76**
- With sudden change to notional D:E ratio of 70:30 in the current MYT, KE is being penalized for injecting equity and investment decisions made under previous MYT on the basis of tariff structure
  - KE is being forced to take out equity – will not be possible without impacting KE's ability to execute the investment plan
- KE being a brownfield company, cannot be benchmarked with the debt / equity structure of greenfield projects

Considering the above factors, KE's cost of capital should be considered based on actual debt / equity ratio at the start of the tariff control period

31 Revision in Cost of Debt and Normal Cost of Working Capital

Issue no. 31: Whether request for revision in cost of debt and Normal cost of working capital are justified?

Revision in Cost of Debt

- Cost of debt for RoRB under the MYT was calculated based on certain assumptions for KIBOR and LIBOR – cost of debt 12.51%
- Significant changes in macro-economic indicators – beyond KE's control
- IPPs' tariff is also adjusted with actual KIBOR / LIBOR indicators
- Accordingly, it is requested that cost of debt should be updated on actualized numbers & revised forecast for KIBOR / LIBOR – **updated cost of debt 13.46%**
- For comparison of original and updated KIBOR / LIBOR indicators, please see slide 17

Cost of Normal Working Capital

- Within the MYT, NEPRA has not allowed any working capital cost – stated that Late Payment Surcharge (LPS) is sufficient to cover the cost of working capital
- However, as explained on slide 18, LPS is not sufficient to cover the cost of working capital (excluding the cost related to Government related entities)
- Accordingly, it is requested that the impact of normal working capital cost, net of LPS income, should be allowed in tariff

Critical to consider revision in cost of debt and cost of normal working capital to enable KE legitimate returns on its investments

Thank You

Disclaimer

The projections and forecasts contained in this petition for Mid-term Review ("Mid-term Review") are intended for the purposes of Mid-term review of K-Electric Limited's Multi-Year Tariff for the period FY 2017 to FY 2023. The business plan contained in Mid-term Review is based on expectations, estimates and projections that involve various economic and business risks and uncertainties which could cause actual results or events to differ materially from those presently anticipated.

Further, figures for Half year ended December 2019 and FY 2020 included in this mid-term review are provisional and unaudited and are being shared with NEPRA solely for the purpose of this Mid Term Review.

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