National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-362/K-ELECTRIC-2016/3304-3306
March 1, 2022

Subject: **Decision of the Authority in the matter of Mid Term Review (MTR) Petition filed by K-Electric Ltd. under Multi-Year Tariff for the FY 2017-23** (Case No. NEPRA/TRF-362/K-ELECTRIC-2016)

Dear Sir,

Please find enclosed herewith the subject decision of the Authority along with Annexures (96 Pages) in Case No. NEPRA/TRF-362/K-ELECTRIC-2016.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 within 30 days from the intimation of this Decision. In the event the Federal Government fails to notify the subject tariff Decision or refer the matter to the Authority for reconsideration, within the time period specified in Section 31(7), then the Authority shall notify the same in the official Gazette pursuant to Section 31(7) of NEPRA Act.

3. The Decision of the Authority along-with Order part and Annexures attached with the Decision are to be notified in the official Gazette.

Enclosure: As above

01 03 22
(Syed Safeer Hussain)

Secretary,
Ministry of Energy (Power Division),
Government of Pakistan
Islamabad.

CC:
1. Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
2. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad.

DECISION OF THE AUTHORITY IN THE MATTER OF MID-TERM REVIEW (MTR) PETITION FILED BY K-ELECTRIC UNDER MULTIYEAR TARIFF FOR THE FY 2017-23

1. **Background**

1.1 K-Electric Limited (hereinafter referred to as K-Electric or KE or KEL) filed its Integrated Multi Year Tariff ("I-MYT") petition on March 31, 2016, in accordance with Rule 3 (1) of the NEPRA Tariff (Standards and Procedure) Rules, 1998, requesting determination of Multi-Year Tariff ("MYT") for a period of ten (10) years commencing from July 01, 2016 to June 30, 2026.

1.2 The said petition was decided by the Authority, vide decision No. NEPRA/TRF-362/K-Electric- 2016/3760-3762 dated March 20, 2017 (the Determination), with a MYT awarded to KE for a tariff control period of seven (7) years from July 2016 to June 2023. The same was communicated to the Federal Government, under Section 31(4) of the NEPRA Act, for notification in the official Gazette.

1.3 K-Electric, being aggrieved with the Determination, filed a Motion for Leave for Review (MLR), which was accordingly decided by the Authority vide decision dated October 09, 2017. The same was also intimated to the Federal Government, under Section 31(4) of the NEPRA Act, for notification in the official Gazette.

1.4 Subsequently, K-Electric, vide their letter dated Oct. 12, 2017, requested the Ministry of Energy (MOE), Power Division, Government of Pakistan to file a reconsideration request with NEPRA to reconsider anew the determined MYT. The said request was decided by the Authority vide decision dated July 05, 2018, whereby K-Electric was awarded a consumer end tariff of Rs.12.8172/kWh.

1.5 K-Electric filed civil suit in honourable High Court of Sindh at Karachi against the Authority's determined MYT decision dated July 05, 2018 and the honourable Court through order dated 26.07.2018 directed that no coercive action shall be taken by Federal Government and NEPRA against K-Electric.

1.6 Afterwards, K-Electric withdrew its civil suit from the SHC. Pursuant to the withdrawal of Civil Suit by K-Electric, the Federal Government notified the new MYT of K-Electric vide SRO dated May 22, 2019.

1.7 The determination of the Authority dated 5 July 2018 included a mechanism for mid-term review to the extent of allowed investment only, exchange rate variations on Return on Equity (RoE) if applicable, and working capital requirements if any. The relevant extracts of the decision are reproduced hereunder:-

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Para-34 "Order"

"XXIII -A midterm review to the extent of allowed Investments only shall be carried out, after completion of three and a half (3.5) years of the tariff control period.

(i) In case of under investment/performance by KE, the base rate adjustment component may be adjusted, keeping in view the amount of Investment allowed vis a vis actual investment made by KEL during the period, after thorough analysis and review by the Authority. Similarly, for the last three and a half (3.5) years of the tariff control period, adjustment of base rate adjustment component, may be made in the next tariff determination, Keeping in view the amount of Investment allowed vis a vis actual investment made by KEL during the period, after thorough analysis and review by the Authority. For clarity purpose, a self-explanatory adjustment mechanism has been attached as Exhibit-I.

(ii) In case KE wants to bring more investment to outperform the regulatory targets in Transmission & Distribution (T&D) segments then KEL 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 KEL's own commercial decision for these additional investments.

(iii) In case, KE achieves Authority's given T&D segments targets with additional investment then that additional investment wouldn't be allowed cost of funds/WACC. Meaning thereby no revision shall be made in the base rate adjustment component.

(iv) In case, KE 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.

(v) Any additional investment in the generation sector would be allowed, keeping in view the prudent cost, changing technology and regional and international comparable benchmarks. Therefore, prior approval of new investment in generation segment other than the allowed 450X2 MW RLNG plant (BQPS-III) shall have to be obtained from the Authority. The Authority would accordingly decide on the issue and if allowed, would adjust the base rate adjustment component to the extent of that additional investment. Pertinent to mention that unlike past, KEL shall not be allowed to retain the generation efficiency gains in this regard.

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(vi) To the contrary, if the regulatory targets in T&D segment are met with by employing resources efficiently and diligently and hence meeting the regulatory targets at a cost less than the allowed limit, then no revision shall be done in the base rate adjustment component. Thus KEL shall be allowed to keep the savings.

(vii) In case KE does not carry out committed investment (as mentioned in para 28.30.19 of the Determination) 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.

(viii) In case, KE manages to build the BQPS-III power plant at a cost less than the cost allowed by the Authority then KEL shall be allowed to retain the savings by not adjusting the base rate component; and

(ix) In case KE abandon its plan to setup BQPS-III, then base rate adjustment component will be adjusted downward accordingly."

Para-29.6

"…..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 projected exchange rate accounted for in the current MYT, the Authority may review its accumulated impact on the allowed RoE component of KE. For the purpose of calculating aforementioned exchange rate variation, the Authority shall take simple average of actual exchange rates as on the last day of each quarter from July 2016 to December 2019, (midterm review) vis a vis simple average of the exchange rates projected by the Authority in its assessment for the same period. 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 KE."

Para-26.20

"However, during the midterm review, the Authority may review the working capital needs of KE if there are significant changes in working capital needs which cannot be foreseen at this stage but could impair KE's ability as a going concern entity in this MYT's control period. 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. Likewise, in case if KE's working capital requirements are significantly altered / reduced, the resultant impact may be addressed in the tariff at that stage."

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1.8 In pursuance to the above decisions of the Authority, K-Electric vide letter No.KE/BPR/NEPRA/2020/286 dated March 11, 2020, filed its petition of Mid-Term Review (MTR) for the period from July 2016 to December 2019, under its MYT 2017 allowed for the control period of FY 2017 to FY 2023.

2. Processing of the Mid Term Review (MTR) Petition

2.1 The Authority admitted the MTR petition for further processing. Based on the submissions made by KE in its MTR Petition, certain queries were raised vide letter No. NEPRA/SA(Tech.)/KEL/2020/314 dated May 21, 2020. KE submitted its response against the same vide letter dated June 22, 2020. Since the impact of any adjustment has to be made part of the consumer end tariff, therefore, the Authority, in order to provide an opportunity of hearing to all the concerned and meet the ends of natural justice, decided to conduct a public hearing in the matter. Accordingly, on the basis of the MTR Petition, and subsequent responses of KE, the Authority framed the following issues to be deliberated through the hearing.

ISSUE # 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.

ISSUE # 2: The Authority did not allow KEL additional investment, if it out-performs the regulatory targets in T&D segments. KEL has however stated that it is not claiming additional investment on account of T&D losses and sent-out growth. According to KEL, it's claimed additional investments, are required for safe and reliable supply to its consumers, necessitating a revised overall investment requirement of Rupees 442,783 million (against NEPRA allowed investment of Rupees 298,915 million). 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?

ISSUE # 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?

ISSUE # 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?

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ISSUE # 5: What will be the impact of CCOE decisions dated 19 June 2020 on the Mid-term review petition?

ISSUE # 6: How can KEL prove that investment has been actually made?

<u>**Generation**</u>

ISSUE # 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;

ISSUE # 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 # 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?

ISSUE # 10: Whether the request of KEL to allow additional investment of PKR 16016 Million for maintenance of existing plants is justified bearing in mind that during its MYT petition KEL itself requested PKR 25066 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?

ISSUE # 11: Whether the request of KEL to allow additional investment of PKR 1844 Million in terms of "Impact of Exchange Rate & Inflation is justified?

ISSUE # 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 following deadlines for commercial operations of BQPS-III;

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Unit	Simple Cycle	Combined Cycle
Unit-I	July, 2018	July, 2019
Unit-II	April, 2019	December, 2019

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 # 13: The allowed project cost of USD 730 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 # 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?

ISSUE # 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(i) 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."

ISSUE # 16: What are the planned deadlines of KEL for de-commissioning of Units-3&4 of the BQPS-I?

Transmission

ISSUE # 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?

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ISSUE # 18: 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 # 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;

ISSUE # 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".

ISSUE # 21: In consideration of the above scenario of under investment by KEL, whether the request of KEL to allow additional investment of PKR 7325 Million for upgrade and rehabilitation of 66kV line in Baluchistan and overall additional investment of 22828 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 115773 Million (including PKR 95307 Million for network growth and PKR 20466 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?

<u>**Distribution**</u>

ISSUE # 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".

ISSUE # 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

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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?

ISSUE # 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?

ISSUE # 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 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?

ISSUE # 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?

ISSUE # 27: Whether the request of KEL to allow additional investment of PKR 7,754 Million in terms of "Impact of Exchange Rate & Inflation is justified?

<u>**Working Capital**</u>

ISSUE # 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?

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Other Factors beyond KEL control

ISSUE # 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%?

ISSUE # 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?

ISSUE # 31: Whether request for revision in cost of debt and Normal cost of working capital are justified?

3. **Hearing**

3.1 The Hearing was held on September 16 & 17, 2020 at NEPRA Tower, Islamabad through Zoom and was attended by the representatives of KEL, relevant stakeholders and general public. During the hearing, the participants were also directed to submit their written views/comments in the matter. K-Electric in addition to the submissions made during the hearing, also submitted its issue wise written response vide letter dated October 01, 2020, which has been discussed under each issue.

3.2 On the basis of the pleadings, available record, evidence produced during the course of hearing and afterwards, the issue-wise findings are as under. The connected issues wherever relevant have been combined together to avoid repetition.

4. **ISSUE # 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.**

Submissions of KEL:

4.1 KE submitted comments on overall investments made in all the three segments i.e. generation, transmission and distributions, as well as gave comments about its investment pattern separately for each sector. KE argued that it actually made two kind of investments; project related investments and non-project investments. KE submitted that it was allowed investments of PKR 203,258 million from July 2016 to December 2019, which included PKR 149,779 million on projects.

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4.2 With regard to actual investments made against the allowed amount, KE stated that during the period July 2016 to December 2019, to meet the service obligations, required investments were made across the power value chain, as a result of which, KEL invested PKR 30,882 million over and above NEPRA allowed in non-project CAPEX, resulting in improved reliability and efficiency of KEL's generation fleet along with significant improvements in the T&D network. However, delays in project related CAPEX were due to factors beyond KEL's control, including delays in finalization of tariff due to which financing for large projects including 900 MW RLNG project was not possible.

4.3 KE further mentioned that for the period July 2016 to December 2019, it spent PKR 84,362 million on Generation (existing plants), Transmission (maintenance) and Distribution, against allowed investment of PKR 53,479 million, thus, resulting in PKR 30,882 million, invested over and above the NEPRA allowed amount. But certain projects were delayed due to reasons beyond KE's control, including delays in tariff finalization.

4.4 It was also stated that KE's original MYT Determination was issued in March 2017, however, 900 MW project was not part of the initial determination. Considering that the determined MYT was not reflective of ground realities and was detrimental to the long-term investment plan and operations, KE filed a review motion in April 2017. Along with other requests, KEL also requested NEPRA to include 900 MW project as part of its investment plan. NEPRA issued its decision on KE's Review motion on October 09, 2017, wherein, it included 900 MW project in the investment plan, however, NEPRA largely maintained its earlier decision on other key assumptions made within the tariff. Subsequently, Government of Pakistan (GoP), in the greater public interest, to ensure KE's sustainability and provision of smooth and reliable supply of power to consumers through continuous investment in infrastructure, filed a reconsideration request on October 26, 2017 (within three weeks), and therefore, the MYT Review Decision was not effective. Moreover, it must be noted that there was no stay order on the MYT Review Decision issued on October 09, 2017.

4.5 KE further submitted that NEPRA issued its decision on the GoP Reconsideration Request on July 05, 2018. Although the MYT Reconsideration Decision included certain changes from the MYT Review Decision, including revision in criteria to claim write-offs, however, it still did not consider recovery loss, actual equity invested and assumed notional capital structure. As a result, KE approached the Appellate Tribunal under Section-12(G) of the NEPRA Ac and filed an appeal with the Ministry of Energy (Power Division) in lieu of the Appellate Tribunal. As the Tribunal was not formed, having left with no alternate remedy, KE filed Civil Suit No. 1467 of 2018 before the Honourable High Court of Sindh, wherein the Honourable High Court vide Order dated July 26, 2018, suspended the operation of

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Reconsideration Decision dated July 05, 2018. Subsequently, KE withdrew the said Suit vide order dated April 03, 2019 and decided to pursue the case before the Appellate Tribunal. The MYT was then notified by the Ministry of Energy (Power Division) in May 2019. Accordingly, both the Review Motion as well as the Reconsideration Request were filed in accordance with the legal remedies available to KEL under NEPRA's relevant rules and regulations, and such exercise of lawful right cannot be made basis to impose penalty/disallow any legitimate cost which will be violation of basic principles of law.

4.6 Providing details about investment on projects, KE submitted that after the Reconsideration Decision dated July 05, 2018, it is pursing the 900 MW project on fast track basis and in this regard, project contracts were signed with Siemens AG and Harbin Electric International in October 2019, followed by Notice to Proceed (NTP) for commencement of work issued in December 2019. Construction works are in progress and it is planned that the first unit of 900 MW plant will achieve commissioning of power in summer of 2021, with full completion of the project expected by the end of 2021. The total time taken by KE for 900 MW plant, post July 2018 Reconsideration Decision, is in line with the time allowed to IPPs, and hence, there has been no delay on the part of KEL.

4.7 Regarding TP-1000 project KEL submitted that it was initiated before the expiry of the Previous MYT and the financing was arranged in FY 2016. The delay in execution of project was due to revision in scope in line with operational and revised load requirements including change in short circuit level of new 220kV grids and transmission lines and conversion of 132kV new grid station into GIS from AIS, along with significant Right of Way (RoW) issues. However, significant progress has been made on the project and around 94% of the project has been completed with investments of PKR 47,970 Million (FY 2017 – FY 2020). Under this project, 6 new grid stations have been added, along with energization of 26 power transformers resulting in capacity addition of over 900 MVAs, and addition of 4 auto transformers, which has helped improve KEL's transmission network. With regard to project completion, it is submitted that KEL is in continuous engagement to resolve RoW issues for the remaining works, and it is expected that the project will be completed within FY 2021.

4.8 Regarding TP – 2 project, KEL submitted that the Authority had allowed PKR 50,207 Million for the said project as part of the investment plan allowed under MYT, based on initial estimates submitted in March 2016. TP-2 project was planned keeping in view the planned additions on supply side, including 900 MW RLNG based power plant and 700 MW Coal Project (under an IPP arrangement). Both these projects were conceived at a time when even the existing supply from the National Grid was uncertain, and accordingly, as a private vertically integrated

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utility, responsible for planning of the entire value chain, KEL had to plan for its own additions.

4.9 Now, keeping in view the surplus capacity in the National Grid and projected shortfall within KEL's service area, based on discussions with relevant stakeholders including GoP, KEL is being asked to pursue additional supply of up to 1,400 MW from the National Grid to bridge the projected shortfall, instead of planned projects envisaged earlier. Here, it is important to highlight that despite continued pursuance by KEL for approval of off-take of additional power from the National Grid as mentioned above, principle approval for the same was received as late as June 2020. Considering this significant change in supply side planning, the transmission network enhancement plan has been revised accordingly to include interconnection grids to off-take additional power from the National Grid, and KEL has requested NEPRA to approve the same. Accordingly, the delay in the execution of TP-2 project was due to factors beyond KEL's control including GoP policy decisions, and delays in approval for off-take of additional power from the National Grid.

Submissions of Stakeholders:

4.10 No comments were received from any stakeholder on this issue.

Analysis & decision of the Authority:

4.11 Regarding submissions of KEL and actual investment claimed, it is important to explain that the MYT determination of the Authority dated March 20, 2017 included a provision of mid-term review of investment after 4 years implying that the relevant period for mid-term was considered up to June 2020. The Authority's decision on the Motion for leave for review (MLR) filed by KEL, dated October 9, 2017 maintained the same 4 year period for mid-term review i.e. from July 2016 to June 2020. Accordingly investments were aligned with the financial years. However in the Decision of Reconsideration request by the Federal government, the time period for the Mid-term review was set at 3.5 years, i.e. July 2016 to December 2019.

4.12 The following table provides details in terms of NEPRA allowed investments to KEL as per EXHIBIT-I of the Decision of the Authority dated October 9, 2017 in the matter of Motion for Leave of Review filed by KEL, which were subsequently ratified in the Authority's decision dated July 05, 2018 in the matter of Reconsideration Requests filed by the Federal Government.

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Rs. in Millions

Allowed Investment	FY-17	FY-18	FY-19	FY-20	Allowed till June 2020	FY-21	FY-22	FY-23	Total
Generation	4,605	29,726	30,812	21,885	**87,028**	2,880	3,694	3,703	**97,305**
Transmission	25,029	28,118	33,786	18,826	**105,759**	15,350	3,145	3,690	**127,942**
Distribution	8,307	8,387	8,744	9,694	**35,132**	11,966	13,477	13,094	**73,668**
Total Allowed Investment	**37,940**	**66,230**	**73,341**	**50,404**	**227,915**	**30,196**	**20,316**	**20,487**	**298,915**

4.13 As explained above, the MTR period was reduced to 3.5 years in the Authority's decision dated July 05, 2018, from the initial period of 4 years. Accordingly, the investments allowed to KE, from July 2016 to June 2020 (4 Years), have also been adjusted to work out the amount of investments allowed till MTR period i.e. from July 2016 to December 2019, as under;

Rs. in Mln

Description	FY 17	FY18	FY19	FY 20	Till Mid Term Dec 2019	FY 21	FY 22	FY 23	Total Allowed in MYT
Genration	4,605	29,726	30,812	21,885	**85,606**	2,880	3,694	3,703	**97,305**
Transmission	25,029	28,118	33,786	18,826	**97,628**	15,350	3,145	3,690	**127,942**
Distribution	8,307	8,387	8,744	9,694	**30,284**	11,966	13,477	13,094	**73,668**
Total	**37,940**	**66,230**	**73,341**	**50,404**	**213,518**	**30,196**	**20,316**	**20,487**	**298,915**

4.14 KE however submitted the following break-up of the allowed investments till Mid Term Period;

Rs. in Million

Description	Jul. 2016 to Dec. 2019 Allowed
Generation (Existing Plants)	13,368
Transmission (Maintenance)	9,827
Distribution (incl. Others)	30,285
Total	**53,479**
BQPS-III 900 MW	62,345
Allied Transmission projects	11,600
Total BQPS-III	**73,946**
TP-1000	45,101
TP-2	30,733
Total	**149,779**
Total Allowed	**203,258**

4.15 The Authority, while analysing the breakup of the allowed investments provided by KE, observed that KE has included cost of BQPS-III Power Plant as Rs.74 billion,

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contrary to the allowed investment of around Rs.84 billion till December 2019. Accordingly, the amount of investments allowed to KE till MTR period i.e. December 2019, has been considered as Rs.213.5 billion as mentioned in the table above.

4.16 KE provided the following segment wise details in terms of actual investments made during the period from July 2016 to December 31, 2019.

Rs. in Millions

Actual Investment	FY-17	FY-18	FY-19	Jul-19 to Dec-19	Total till Dec. 2019	% age of Investment allowed till Dec. 2019
Generation	8,418	6,367	5,345	*14,074	**34,204**	39.96%
Transmission	5,907	25,348	15,580	7,508	**54,343**	55.66%
Distribution	13,145	12,664	15,217	9,297	**50,323**	166.17%
Total	**27,470**	**44,379**	**36,142**	**30,879**	**138,870**	**65.04%**

**Excluding GLTIP of PKR 2,046 Million*

4.17 The Authority noted that as per the MYT 2017 determination, KEL was required to invest an amount of Rs.213,518 million till December 2019, which included Rs.85,606 million in Generation, Rs.97,628 million in Transmission and Rs.30,284 million in the Distribution Segment. However, KEL has invested a total amount of Rs.138,870 million till the Mid-Term period i.e. December 31, 2019. The amount invested by KE includes Rs.34,204 million in Generation (excluding Rs.2,046 million in terms of GLTIP), Rs.54,343 million in Transmission and Rs.50,323 million in the Distribution segment. On an overall basis KEL has been able to invest around 65.04% of the amount allowed till the mid-term period, which is significantly lower than the required investment. On segment basis, in Generation, transmission and distribution, KEL has invested 39.96%, 55.66% and 166.17% of the investment allowed in the respective segments.

4.18 The Authority observed that the overarching criteria for analysing the investments has been provided in Paragraph 28.30.19 of the MYT Determination dated March 20, 2017, reproduced hereunder:

"28.30.19 .... Since the component of Rs. 0.5507/kWh over and above the base case is exclusively allowed for the purpose of ensuring a WACC of 13.27% for the allowed future investments during the seven years tariff control period, therefore, the Authority has decided to carry out a midterm review, after completion of four years of the tariff control period, to the extent of allowed investments only. If at the mid-term review it is observed that although the Petitioner has substantially (75% of the works) completed the allowed investments, however, has failed to complete a portion or a component of the promised investments in time, then the Petitioner would be bound to justify/ substantiate that delay with evidence and come up with firm deadline of completion of the remaining

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portion of the investment. If it is found at the mid-term review that the Petitioner has not completed substantial portion of the allowed investment then the base rate adjustment component of Rs.0.5507/kWh shall be adjusted after thorough analysis and review by the Authority, at the midterm review. In addition, the Authority would initiate proceedings against the Petitioner as per the law."

4.19 As mentioned above, under para 7 of the instant decision, further principles have been defined in the para 34.1 (XXIII) of the Authority's decision dated July 5, 2018, in the matter of Reconsideration Request filed by the Federal Government.

4.20 Paragraph 34.1 (XXIII) contains nine clauses to elaborate on how the investment in the three segments would be analysed in the Mid-term review. Sub clause (i) of the said para provides that in case of under investment/performance by KE, the base rate adjustment component may be adjusted, keeping in view the amount of Investment allowed vis a vis actual investment made by KEL during the period, after thorough analysis and review by the Authority. Sub clauses v, viii and ix deal with the investments for new power plants under the generation segment and sub clauses ii, iii, iv, vi and vii provide for processing of investments under the T&D segments.

4.21 The Authority noted that KE, in response to the issue which primarily relates to investments for the 900 MW BQPS-III Project, TP 1000 and TP-2, has taken the stance that under-investment in these projects is mainly due to delay in the notification of the determined MYT. The Authority observed that determination of the MYT of KE was made on March 20, 2017, which was communicated to the Federal Government for notification. However, KE challenged the said determination in the Honourable Sindh High Court (SHC) and obtained a Stay Order dated March 24, 2017, restraining the Federal Government from notifying the same. Subsequently, KE filed its Motion for Leave for Review against the above determination of the Authority, which was decided by the Authority on October 09, 2017 and was intimated to the Federal Government for notification. Meanwhile, the Federal Government on the request of KE, filed reconsideration request against the above mentioned determinations of the Authority, which was decided by the Authority on July 05, 2018. However, again KE challenged the said decision in the Honourable SHC and obtained Stay Order on July 26, 2018. Later, KE itself withdrew the said Suit from the Honourable Court and consequently the MYT of KEL was notified by the Federal Government on May 22, 2019, with effect from July 01, 2016 (retrospectively). In view of the above, it is clear that KE itself challenged the decisions of the Authority in the Honourable SHC, which resulted in delay in notification of the MYT.

4.22 KE has also submitted that it is pursuing the 900 MW project on fast track basis after Authority's Decision dated July 05, 2018, for which it has signed project contracts with Siemens AG and Harbin Electric International in October 2019. Notice to

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Proceed (NTP) in this regard has been issued in December 2019 and construction works are in progress. The Authority considers KE stance contradictory to its earlier submissions, as on one hand it is arguing that it could not implement the Authority's directions as it had filed review motion and approached Appellate Tribunal and sought other available remedies. Similarly after the decision of July 05, 2018, KE again filed a Civil Suit on Jul 26, 2018, which continued till notification of MYT Tariff in May 22, 2019 and also went to the Appellate Tribunal. However on the other hand, in case of BQPS III, in spite of its above mentioned efforts against the Authority's decisions, KE has claimed to have pursued the BQPS-III Power Plant on fast track basis right after July 5, 2018 decision of the Authority. Therefore, KE's arguments of otherwise defending its delays cannot be accepted.

4.23 In addition to the above observations on the submissions of KE, the Authority has observed that approval of BQPS-III project was given by the Authority in the MLR Decision dated October 9, 2017. Therefore, KE could have easily pursued the project after that date, thus saving more than seven months. It is felt that, that is the minimum time KEL could have saved, had it made serious efforts to implement the Authority's decision about future investments in generation sector. Therefore, the submission of KEL that the under-investment was caused by delay in notification of the MYT is not correct. Moreover, as mentioned above, KE's Tariff was notified on retrospective basis i.e. from July 01, 2016, hence, KE's claim is not justified. It is also important to highlight that if for the sake of arguments only, KE's justification is accepted, the tariff that remained applicable for a significant portion of the period under consideration was higher than the determined Tariff for that period.

4.24 Regarding submission of KEL for significant change in supply side planning to include interconnection grids to off-take additional power from the National Grid. the same has been addressed in detail under issue 20

4.25 In view of the above discussion and while referring to the Para-34 (XXIII) (i) of the MYT Determination of the Authority dated 05.07.201, which states that in case of under investment/performance by KE, the base rate adjustment component may be adjusted, keeping in view the amount of investment allowed vis a vis actual investment made by KEL during the period, and accordingly after thorough analysis and review, the Authority is of the considered view to adjust the Base Rate adjustment component, allowed in the MYT, downward.

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5. **<u>ISSUE # 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?</u>**

<u>Submissions of KEL:</u>

5.1 KEL submitted that its MYT includes a Mid-Term Review mechanism wherein NEPRA would review/reassess certain assumptions made in the tariff, as also explained in detail in paras 26.20, 29.6, and 34.1 (xxiii) of the MYT Reconsideration Decision. Accordingly, as part of the mid-term review, KEL has carried out its assessment with respect to (i). Impact of exchange rate on the allowed Return on Equity (RoE) component; (ii). Assessment of allowed investments vs actual /revised investments; (iii). Impact of working capital requirements beyond KEL's control; and (iv). Other factors beyond KEL's control including change in KIBOR and LIBOR rates and actual sent-out growth being lower than the growth assumed within tariff projections and requested the Authority to consider the same.

5.2 Regarding Impact of exchange rate on the allowed (RoE) KEL submitted that under Para-29.6 of the MYT Reconsideration Decision, NEPRA has stated that in case the variation in actual exchange rates against NEPRA assumed turns out to be more or less than 5%, the Authority may review its accumulated impact on the allowed RoE component of KEL. Accordingly, as explained in Mid-Term review submission and during the public hearing, the variation in exchange rates (actual v NEPRA assumed) for the period July 2016 to December 2019 turned out to be 10.4%, which is higher than the criteria set by NEPRA under the MYT. Therefore, related adjustments for the same should be allowed in KEL's tariff.

5.3 Regarding Revision in Investment Plan it was submitted that the investment plan submitted at the time of MYT petition in March 2016 was based on certain assumptions and forecasted business requirements, which were subject to change. NEPRA under the MYT has stated that additional investments in T&D would be a commercial decision of KEL, accordingly, KEL has not requested for revision in investments on which commercial decision can be taken, that are loss reduction investments, and has only requested for additional investments that are needed to meet KEL's service obligation. In view of the business requirements and KEL's commitment to provide safe and reliable supply of power to consumers, as per the latest estimates, KEL's approved investment plan for the tariff control period needs to be revised to PKR 448,033 Million. Important to note that the revisions sought within the investment plan are critical for KEL to meet its service obligations of providing safe and reliable supply of power to the consumers, and therefore, the requested investments are in the greater consumer interest and be allowed in

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accordance with the MYT and the principles enshrined in Section-31 of the NEPRA Act.

5.4 Regarding Working Capital Requirements due to factors beyond KEL's control KEL submitted that in para 26.20 of the MYT Reconsideration Decision, NEPRA has stated that the Authority at the time of Mid-Term Review, may consider working capital needs of KEL and if there is an increase in working capital requirement due to factors beyond KEL's control, the Authority may consider the extent to which working capital requirement needs to be revisited. As explained in mid-term review submission in March 2020 and also during the public hearing, due to delays/non-payment of dues by government entities and departments, despite continued pursuance of the matter, as of June 30, 2020, KEL's net receivable from Government entities (after off-setting payable to Government entities) has increased from PKR 24,727 Million (June 2016) to PKR 72,177 Million (on principal basis). Further, KEL's normal working capital requirement has also increased from PKR 53,211 Million (June 2016) to PKR 69,712 Million and the same is necessary to enable KEL to serve its obligation and hence is beyond control. Both, working capital due to government entities and normal business requirement have resulted in significant increase in company's working capital requirements which is beyond KEL's control and accordingly the same shall be allowed by NEPRA in accordance with the MYT and the principles enshrined in Section-31 of the NEPRA Act.

5.5 Through the mid-term review application, KE has also requested to (i). Revise the yearly sent-out targets; and (ii). Revision in cost of debt; on the premise that these are beyond KEL's control, and have an impact on KEL's tariff, for which necessary adjustments should be made in the tariff. KEL submitted that given the significant changes at macro level including lower than projected economic growth and the unprecedented COVID-19, sent-out growth and cost of debt up to June 2020 and estimates for the remaining tariff control period significantly vary from NEPRA assumed levels. Accordingly, NEPRA is requested to allow related adjustments in KEL's base tariff in accordance with principles enshrined in Section-31 of the NEPRA Act.

Submissions of Stakeholders:

5.6 Mr. Arif Bilvani and K-Electric Consumers Forum (KECF) in their comments stated that the Authority in Clause-XXIII of its determination dated July 5, 2018 has clearly defined/fixed the scope of the Mid-Term Review by stating as under:-

"A midterm review to the extent of allowed Investments only shall be carried out, after completion of three and a half (3.5) years of the tariff control period".

5.7 In consideration of the above, Mr. Bilvani and KECF submitted that in view of the clear cut and unambiguous order, all the reliefs sought by KEL under one pretext or

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the other, are beyond the scope of the Mid-Term Review and therefore, not allowable.

Analysis & decision of the Authority:

5.8 The Authority noted that observations of Mr. Bilvani and KECF, are essentially based on Para-34.1(XXIII) of Authority's Determination dated July 05, 2020, which defines the scope of the Mid-Term Review by envisaging that a Mid-Term review to the extent of allowed Investments only shall be carried out, after completion of three and a half (3.5) years of the tariff control period. Regarding additional investments requested by KE in generation, transmission and distribution is concerned, the Authority considers that the same has to be analysed in two phases i.e. investments made till the Mid-Term (first phase) and investments proposed during the 2nd half of the control period (second phase). Similarly, for other requests claimed by KEL in terms of other parameters including impact of exchange rate, working capital requirements and projection of sent-out units etc. have been analysed under the relevant issues, keeping in view the determination of the Authority.

6. **ISSUE # 13: The allowed project cost of USD 730 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?**

7. **ISSUE # 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?**

8. **ISSUE # 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(i) 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."

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Submissions by KEL:

8.1 The Authority noted that most of the submissions made by KE are the same as already discussed under issue # 1 of the instant decision, however, certain additional submissions made by KE in this regard are here under;

8.2 KEL submitted that with respect to class of machine chosen for 900 MW plant, please note that KEL had submitted configuration of 2 x 450 MW units for 900 MW since beginning as part of MYT and Licensee Proposed Modification (LPM) submitted in 2019. It is notable that H class machine is not available in the configuration mentioned above, as minimum capacity of 'H-Class' machine is 630 MW. Further, KEL had chosen F class machine after detailed deliberations based on which it was concluded that H class machine will not be suitable for KEL's network due to required operational flexibility. In addition to network suitability, efficiency of 'F-Class' machine at 450 MW load is higher than 'H-Class'. Moreover, while NEPRA has benchmarked the cost of 900 MW plant with Haveli Bahadur Shah IPP, there was no direction by the Authority for any specific class of machine, and accordingly, KEL decided to pursue 'F-Class' machine for its 900 MW plant considering network suitability and higher efficiency levels at 450 MW load.

8.3 As discussed above, within the MYT, the project cost for 900 MW has been benchmarked with Haveli Bahadur Shah IPP and a total cost of USD 730.5 Million (including allied transmission projects) has been allowed in tariff. Further, the allowed cost was translated into PKR using forecasted exchange rates at the time of tariff determination, which translated into an average exchange rate of PKR 115/USD for the project. However, since the tariff finalization, there has been significant rupee devaluation which is beyond KEL's control and therefore the actual exchange rate variation on the project cost should be adjusted in the tariff, in accordance with the Power Generation Policy 2015. This is also in line with the process followed for Independent Power Producers (IPPs) where the risk of exchange rate variation on project cost is compensated by actualizing the same at the time of Commercial Operations Date (COD). Accordingly, the impact of exchange rate variation, on project cost of USD 730.5 Million allowed under the MYT, works out to be PKR 40,585 million (including allied transmission projects) and the same should be included in the allowed investments within the tariff, to ensure that all prudent costs are allowed, in accordance with Section-31(3)(a) of the NEPRA Act.

8.4 Moreover, within the MYT Decision, NEPRA has stated that the base rate component will not be adjusted in case KEL manages to build the 900MW BQPS III power plant at a cost less than allowed by the Authority and the savings from the project would be retained by KEL without any adjustment. In this regard, post conclusion of the bidding process, the revised cost of 900 MW RLNG Project is

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estimated to be USD 658 Million (including allied transmission projects). However, in view of the above referred paragraph, no adjustment in the allowed cost of USD 730.5 million is to be made, and accordingly KEL has calculated the impact of exchange rate variation based on allowed cost of USD 730.5 Million. Further, NEPRA may update the forecasted exchange rates used to convert the allowed cost of USD 730.5 Million into PKR as per the actual and adjust the related impact in tariff at the end of the control period.

Comments of Stakeholders:

8.5 The stakeholder generally insisted to keep the midterm review as per the spirits of the Authority's MYT decisions, however, specific comments of Mr. Arif Bilvani and KECF on the issue are as under;

8.6 Mr. Arif Bilvani and K-Electric Consumers Forum (KECF) submitted that Petitioner KE now intends to add low efficiency & outdated technology (F Class) based 900MW RLNG based power plant in its generation Fleet instead of bigger capacity, & technologically more efficient plant of H Class on the pretext that H Class plant is not available in the requisite capacity despite the fact that it is constantly facing capacity shortage. It is still not known from where the petitioner will arrange its fuel requirement of RLNG. To-date SSGC is not in a position to supply the need of petitioner's RLNG requirement for its new power plant and there is no other supplier in the market for that matter. What will happen if the plant is there & fuel is not available?

Analysis & decision of the Authority:

8.7 The Authority has considered both point of views i.e. of the Commentators and KE on the issue of selecting F class machine over H Class in terms of efficiency and capacity for BQPS-III. The Authority is of the view that the arguments put forward by KE on account of operational flexibility and higher efficiency at 450 MW load are on merit. As far as availability of fuel is concerned, it is the responsibility of KE to ensure the required quantity of fuel for the smooth operation of its plants.

900 MW BQPS-III Including Allied Transmission Project:

8.8 For BQPS III Power Plant, the Authority allowed an investment of PKR 84,410 million spread over from FY 2018 to December 2019. In the remaining part of the control period, no investment on account of BQPS-III was envisaged. However at the Mid-Term review till December 2019 (completion of 3.5 years), KEL has only invested PKR 11,926 million, whereas from January 2020 to June 2022 it has claimed to invest Rs.72,273 million. The detailed breakup is shown in the following Table.

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Rs. in Million

BQPS-III Power Plant	FY 2017	FY 2018	FY 2019	Jul-Dec 2019	Upto Dec. 19	Jan-Jun. 2020	FY 2021	FY 2022	FY 2023	2nd Half of MYT	Total for the MYT period (FY 17-2023)
Allowed by the Authority	-	30,965	31,795	21,650	84,410		-	-	-	-	84,410
Actual claimed by KE					11,926	5,976	56,826	9,471		72,273	84,199

**In addition to above, KE has requested an amount of Rs.35,159 million on account of exchange rate devaluation pertaining to BQPS-III and allied projects, thus making an overall request of Rs.119,569 million. Here it is pertinent to mention that subsequently KE vide its letter dated October 01, 2020 submitted that impact of exchange rate variation is around Rs.40,585 million.*

Investment till 31 December 2019

8.9 The Authority noted that issue at hand relates to the under investment by KEL till the Mid Term. As evident from the above table, against allowed amount of Rs.84,410 million, KE has only invested Rs.11,296 million till the Midterm Period, which attracts Paragraph 28.30.19 of the MYT Determination dated 20.03.2017 and para 34.1(XXIII)(i) of the MYT determination dated 05.07.2018, as reproduced hereunder:

"28.30.19 - MYT determination dated 20.03.2017

".................. If at the mid-term review it is observed that although the Petitioner has substantially (75% of the works) completed the allowed investments, however, has failed to complete a portion or a component of the promised investments in time, then the Petitioner would be bound to justify/substantiate that delay with evidence and come up with firm deadline of completion of the remaining portion of the investment. If it is found at the mid-term review that the Petitioner has not completed substantial portion of the allowed investment then the base rate adjustment component of Rs.0.5507/kWh shall be adjusted after thorough analysis and review by the Authority, at the midterm review. In addition, the Authority would initiate proceedings against the Petitioner as per the law."

Para 34.1(XXIII)(i) – MYT determination dated July 05, 2018;

"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."

Para 34.1(XXIII)(ix) – MYT determination dated July 05, 2018;

"In case KE abandon its plan to setup BQPS-III, then base rate adjustment component will be adjusted downward accordingly."

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8.10 From the above table, although it is noted that KE invested around 14% of the allowed investment up to mid-term. KE has tried to justify its inability to make timely investment, however, the Authority considers the arguments not convincing. At the same time the Authority is cognizant of the fact that the project is of critical nature keeping in view the demand and supply situation of K-Electric and its critical need in the KEs system. The Authority observed that KEL is still committed to commission the BQPS-III Plant and has not abandoned the construction of the same. Further, KE has already signed project contracts with Siemens AG and Harbin Electric International in October 2019. Notice to Proceed (NTP) has also been issued in December 2019 and construction works are in progress. Foregoing in view, and considering the critical need of BQPS-III Power Plant and its allied projects and as per Para 34.1(XXIII)(ix) of decision dated July 05, 2018 whereby, base rate adjustment is subject to downward adjustment if KE abandons the project, the Authority has decided not to adjust the base rate adjustment component to the extent of under investment made in BQPS III as the project has not been abandoned.

8.11 On the request of KE for allowing exchange rate devaluation for the BQPS-III, the Authority in its MLR decision of October 09, 2017 regarding investment on new power plants decided as under;

"For the upcoming power plants or replacement of existing power plants/units, no adjustment in tariff except to the extent of Heat rates and Auxiliaries shall be made."

8.12 Similarly, the Authority in its Reconsideration decision of July 05, 2018 regarding investment of BQPS-III Power Plant decided as under;

"In case, KE manages to build the 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."

8.13 The Authority noted that investment pertaining to BQPS-III Plant was included in the MYT of KE, based on the investment plan submitted by KE in its MLR, which was accordingly reflected in the approved tariff, and the Rs. to US$ exchange rate as proposed by KE was also considered to work out the cost of BQPS-III Power Plant in Pak Rupee terms. Thus, the allowed amount of BQPS-III Plant already included the impact of devaluation, as projected by KE and the impact in this regard was passed on to the consumers upfront. The amount of USD 730.5 million was converted into PKR 84.4 billion after taking into account the impact of projected exchange rates for respective years and the resultant amount was allowed in PKR. This is also evident form the fact that total investment allowed to KE as per para 34.1 (XXI) of the decision dated 05.07.2018 was in PKR which states that <u>K-Electric</u>

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is hereby allowed a total investment of Rs.298,915 million for the seven years tariff control period for its Generation, Transmission and Distribution Systems. Had there been no exchange rate variations allowed, the amount assessed in PKR would have been lower. The Authority also while allowing investment in PKR, shifted the risk of exchange rate variation to KE, as KE has been allowed to retain the savings, if it manages to build the BQPS-III Power plant with lower cost. Thus, on the same analogy any additional cost if incurred, has also to be borne by KE. Therefore, cost or benefit related to the overall cost of the project including negative or positive Rs. to $ currency fluctuation is to be borne by KE. It is further highlighted that under MYT, the risks / benefits attached to the timely execution of investments lies with KE. The mechanism for adjustment of investment at the time of midterm review does not allow for any upward adjustment in the tariff owing to any increase in the investment already allowed to KE (Exhibit-I).

9. **ISSUE # 10: Whether the request of KEL to allow additional investment of PKR 16,016 Million for maintenance of existing plants 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?**

Submissions of KEL:

9.1 KEL stated that generation plants require maintenance expenditure to maintain their performance level. This expenditure, based upon running hours, is required for; (i). Maintaining and enhancing despatch capacity of each generating unit (with prolonged operation of units, their despatch ability decreases because of fouling, choking, increased clearance, leakages. Accordingly, maintenance activities are critical to regain the lost capacities); and (ii). Maintaining efficiency of generation units (efficiency will gradually decrease if these overhauling activities at turbine, boilers and balance of plants are not carried out timely in accordance with prudent practices). Considering the same, to improve the overall fleet performance and ensure reliable supply of power, during the period July 2016 to June 2020, KEL has invested PKR 26,869 Million on generation plants, and under the revised investment plan, the total planned investment for maintenance of existing generation plants is PKR 46,034 Million for the tariff control period. The variation of PKR 20,969 Million from the approved investment plan for existing generation plants is mainly due to; (i) Impact of exchange rate and inflation, PKR 1,436 Million; (ii) Generation Long-term Improvement Plan (GLTIP) for BQPS–I, PKR 2,721 Million; and (iii) Other revision in estimates and necessary additional investments to ensure availability and reliability, PKR 16,812 Million. Here it is pertinent to mention that the aforementioned numbers were submitted by KE in its issue wise response dated 01.10.2020, which were different from the numbers submitted by KE initially in its Mid Term Review Petition.

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9.2 Generation (existing plants) investment is made with the view to ensure reliability and availability of generation fleet. Considering the operational requirements, initial maintenance plan submitted in March, 2016 was based on certain assumptions & forecasted business requirements which are subject to change. To ensure reliability and availability of plants, additional investments of PKR 16,812 Million will be required for necessary maintenance and overhaul of existing generation facilities to ensure continuity of supply. KEL submitted that the investments made and planned are critical to meet regulatory obligations and have no impact on the financial KPIs, and therefore, while they have no commercial proposition for KEL, the same are in the greater consumer interest. Therefore, these investments should be allowed in accordance with Section-31(2)(c) and 31(3)(a) of the NEPRA Act.

Submissions of Stakeholders:

9.3 No comments were received from any stakeholder in this regard.

Analysis & decision of the Authority:

9.4 The Authority observed that KEL in its Mid-Term review Petition requested additional investment of PKR 16,016 million in the name of necessary additional investment to ensure availability and reliability of generation fleet. Subsequently, KE vide its letter dated 01.10.2020 requested Rs.16,812 and in addition requested Rs.1,436 on account of exchange rate variations and Rs.2,721 on account of GLTIP. The Authority noted that in its Petition for the MYT, KEL itself requested an amount of PKR 25,065 million in terms of Maintenance & Rehabilitation of existing Generation Plants for its complete tariff control period of FY 2017-2023 which was allowed by the Authority, as shown in following table;

Rs. In Mln

Plant	FY 2017	FY 2018	FY 2019	Jul - Dec 2019	Total till Mid Term	Jan - Jun 2020	FY 2021	FY 2022	FY 2023	Total 2021-23	Total 2017-23
BQPS I	1,343	1,065	625	271.5	3,305	272	534	500	574	1,880	5,184
BQPS II	2,066	1,773	1,309	489	5,637	489	1,166	1,212	1,302	4,169	9,806
KCCP	591	614	647	350	2,202	350	678	667	628	2,323	4,525
KGTPS, SGTPS & others	605	612	698	310	2,225	310	502	1,314	1,198	3,324	5,549
Total	4,605	4,064	3,279	1,421	13,369	1,421	2,880	3,693	3,702	11,696	25,064

9.5 KEL in its petition for midterm review has submitted the following actual/revised CAPEX for the control period exclusive of exchange rate variations of Rs.1,844 million:-

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Rs. In Mln

Plant	FY 2017	FY 2018	FY 2019	FY 2020	Total 2017-20	FY 2021	FY 2022	FY 2023	Total 2021-23	Total 2017-23
BQPS I	1,444	2,588	2,048	1,874	7,954	2,462	910	814	4,186	12,140
BQPS II	5,275	3,314	2,345	1,320	12,254	1,950	1,843	1,747	5,540	17,794
KCCP	1,619	385	916	995	3,915	1,255	1,209	1,164	3,628	7,543
KGTPS, SGTPS & others	853	665	527	812	2,857	1,094	1,577	798	3,469	6,326
Total	9,191	6,952	5,836	5,001	26,980*	6,761	5,539	4,523	16,823	43,803

** Includes GLTIP of PKR 2,046 Million.*

Investment till December 31, 2019:

9.6 The Table below shows the actual investment made by KEL up to December, 2019 excluding GLTIP investment of PKR 2,046 Million. The investment for the individual years have been adjusted on pro rata basis to exclude GLTIP investments by KEL.

Rs. In Mln

PKR Million	FY 2017	FY 2018	FY 2019	July 2019 – Dec. 2019	Total up to December 31, 2019
Total	8,418	6,367	5,345	2,148	22,278

9.7 From the above data, it is clear that the investment of PKR 22,278 million was made by KE on the maintenance of existing power plants from July 2016 to December 2019, against the allowed investment of PKR 13,369 million for the same period. Thus, KEL has invested PKR 8,910 Million more than the allowed investment of PKR 13,368 Million for the Maintenance of the existing power plants during the Mid Term Period.

9.8 The Authority noted that KEL in its submissions during the proceedings of MYT 2016, had submitted that 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 – with prolonged operation of units, their despatch ability decreases because of fouling, choking, increased clearance, leakages. Accordingly, maintenance activities are critical to regain the lost capacities.

- Maintaining efficiency of generation units – efficiency will gradually decrease if these overhauling activities at turbine, boilers and balance of plants are not carried out timely in accordance with prudent practices.

- KEL had submitted an estimate of PKR 25,065 million for this purpose for the tariff control period.

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9.9 KE has now in its MTR has submitted that the above submissions were based on certain assumptions and estimates and the same require revision in line with the changes in operational requirements and circumstances to ensure reliability and availability of the generation fleet, as explained in the Mid-Term Review application, due to the following:

(i) Changing operational dynamics, service requirements and revision in estimated scope.

(ii) Significant devaluation of PKR against USD in actual as well as higher inflation rates, as against assumed within the projections

9.10 The Authority considers that the investment already allowed to KEL in the MYT 2016, were based on KE's own request and forecast, which were assessed after considering detailed analyses and taking into account all parameters including operational dynamics and service requirements of its own generation fleet. Therefore, making additional investment of PKR 8,910 million than allowed till mid-term is not understandable and is beyond the scope of Mid Term.

9.11 The Authority allowed additional investment in generation segment as per para 34.1 (XXIII) (v) of the Determination dated 05.07.2018, only for addition of new power plants and the same is not applicable to the existing plants. KEL has carried out aforementioned investments based on its own commercial decision while evaluating its costs and benefits.

9.12 On the issue of exchange rate variation, as discussed above, the Authority has allowed all investments to KE in PKR terms after allowing for projected exchange rate variations as requested by KE in its MYT 2016 Petition. Thus, the risk of exchange rate variations whether upward or downward rests with KE.

9.13 In view of the above discussion, the Authority considers that request of KE to allow additional investment incurred for existing power plants is not maintainable. The issue of GLTIP has been discussed separately under the relevant issue.

<u>Investment during second half of the Control Period:</u>

9.14 KEL has claimed an amount of Rs.17,433 million including GLTIP of Rs.675 million for the remaining period (second half of MYT Control period) up to June 2023 as shown in the following table. KEL in support of its request has provided a list of completed and planned activities in respect of all the existing power plants.

Rs. In Mln

Description	Jan. 2020 to June 2020	FY 2021	FY 2022	FY 2023	Total 2nd Half of MYT Control period
Total	610*	6,761*	5,539*	4,523*	17,433*

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Includes an amount of PKR 675 Million on account of GLTIP

9.15 Since, the Authority has already not considered GLTIP, hence the total investment on account of GLTIP from January 2020 to June 2023 claimed by KE has been adjusted by PKR 675 million on pro rata basis. Accordingly, the revised request of KEL after excluding therefrom the impact of GLTIP is shown in the following table;

Adjusted Investment for 2nd Half

Rs. In Mln

Description	Jan. 2020 to June 2020	FY 2021	FY 2022	FY 2023	Total 2nd Half of MYT Control period
Total	586	6,499	5,325	4,348	**16,758**

9.16 KEL submitted that additional amount is required to ensure availability and reliability of the generation fleet, however, subsequently, informed that additional investment for the 2nd half also includes commissioning cost of KCCP on HSD as an alternate fuel amounting to Rs.529 million to be incurred in FY 2020-21.

9.17 The Authority considers that the investment already allowed to KEL in the MYT 2016, were based on KE's own request and forecast, which were assessed after considering detailed analyses and taking into account all parameters including operational dynamics and service requirements of its own generation fleet. Therefore, any additional investment than the amount already allowed is not understandable and is beyond the scope of Mid Term.

9.18 The Authority allowed additional investment in generation segment as per para 34.1 (XXIII) (v) of the Determination dated 05.07.2018, only for addition of new power plants and the same is not applicable to the existing plants. KEL has carried out aforementioned investments based on its own commercial decision while evaluating its costs and benefits.

9.19 On the issue of exchange rate variation, as discussed above, the Authority has allowed all investments to KE in PKR terms after allowing for projected exchange rate variations as requested by KE in its MYT 2016 Petition. Thus, the risk of exchange rate variations whether upward or downward rests with KE.

9.20 In view of the above discussion, the Authority considers that request of KE to allow additional investments for existing power plants is not maintainable. The issue of GLTIP has been discussed separately under the relevant issue.

9.21 Regarding request of KE to allow commissioning cost of KCCP on HSD as an alternate fuel, the Authority noted that it had already issued an explanation to KE on the issue of load shedding. The Authority being cognizant of the critical need of

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operation of KCCP power plant on HSD, directed KE vide order dated 27.08.2020, to submit firm plan along-with timelines regarding commissioning of BQPS-II and KCCP on alternate fuel i.e. HSD. Therefore, the investment as claimed by KE for HSD operation of KCCP Plant is hereby allowed. The Authority shall verify the reasonability of this investment through detailed scrutiny of the costs for which KEL shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment.

9.22 Accordingly based on the above discussion, the base rate adjustment component has been adjusted upward for allowing cost of operation of KCCP on HSD by Rs.0.0014/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with one time positive adjustment of Rs.70 million.

10. **ISSUE # 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?**

Submissions of KEL

10.1 Regarding Generation Long-term Improvement Plan (GLTIP) for BQPS – I, KEL submitted that it helped remove the permanent deration in capacity and degradation in terms of efficiency of units. These units are old, and several equipment require replacement or repairs. During the period July 2016 to June 2020, under the GLTIP, PKR 2,721 Million has already been incurred by KEL, contributing towards improved reliability and enabling recoupment of de-rated capacity of BQPS – I units. It is important to note that had these investments not been made, this would have resultantly impacted KEL's ability to serve the growing power demand, thus further widening the power demand-supply situation.

10.2 GLTIP helped remove permanent deration in capacity and degradation in terms of efficiency of the units. Capacity and efficiency recouped through GLTIP is given below:-

Recoupment of Capacity and Efficiency

BQPS I	Increase in Net Efficiency	Increase in Capacity (MW)
Unit 1	1.80%	28.7

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Unit 2	0.40%	13.5
Unit 5	3.90%	21.3
Unit 6	0.80%	13.3

10.3 KE further submitted that most of the investments have been incurred prior to the conduct of heat rate tests of BQPS-I units in November 2019, and therefore, the benefits have already been passed on to consumers. Comparison of net efficiency (after GLTIP) vs FY 2016 is shown below. Had the cost been calculated on FY 2016 heat rates, cost of fuel passed through in tariff would have increased by PKR 5.9 Billion (FY 2017 – FY 2020). Accordingly, the benefit of improvements as a result of GLTIP have already been passed on to consumers.

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

BQPS I plant (Furnace Oil)	FY 2016	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%**

10.4 Accordingly, KEL requested that the investments already made and proposed investments under the GLTIP totalling PKR 2,721 million for the tariff control period should be allowed in the revised investment plan.

Submissions of Stakeholders:

10.5 Mr. Arif Bilvani and K-Electric Consumers Forum (KECF) in their comments opposed the relief sought by the KEL on the premise that the Authority in 34.1-XXIII of the Determination dated July 5, 2018 has clearly defined/fixed the scope of the Mid-Term Review as under;

"A midterm review to the extent of allowed Investments only shall be carried out, after completion of three and a half (3.5) years of the tariff control period".

10.6 It has been further submitted that the Authority in Clause-XII of the above referred decision has decided that *"For the upcoming power plants or replacement of existing power plants/units, no adjustment in tariff except to the extent of Heat rates and Auxiliaries shall be made."* Therefore, no adjustment should be made for any additional investment on the existing power plant/replacement of existing power

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10.7 Karachi Chamber of Commerce and Industry (KCCI) submitted that units of BQPS-I have already completed their useful life, therefore any investment to rehabilitate the same is unnecessary and wastage of money.

Analysis & Decision of the Authority:

10.8 The Authority observed that the matter has already been decided by the Authority after detailed deliberations in the MYT decision dated 20.03.2017, whereby it disallowed the GLTIP as mentioned hereunder;

Para 26.25.7-"...... The Authority, however, in order to provide an incentive to K-Electric neither considered the proposed investment of GLTIP for the BQPS-I in its workings nor any corresponding gains thereof; thus, if K-Electric intends to carry out such investments, it would be purely its commercial decision and would be done through its own resources, hence is allowed to retain the benefits of the improved efficiencies of BQPS-I if any, for the control period, occurring due to the proposed GLTIP. Moreover, the investments on this account has not been considered in RAB for RORB calculations"

10.9 As per the above decision, KE has been allowed to retain the benefits of the improved efficiencies of BQPS-I if any, for the control period, occurring due to the proposed GLTIP. KE in its submissions has claimed that it has already made investment in terms of the GLTIP which resulted in the efficiency and capacity gains (as mentioned above in the tables presented by KEL) the benefits of which have already been transferred to the consumers. The arguments by KEL have further been analysed and efficiency and capacity as allowed by the Authority in the MYT and the data based on tests, conducted by third party, are shown in the following table. Here it is pertinent to mention that the information has been extracted from the report as such as the Heat rate test reports have not yet been approved by the Authority.

10.10 The information in respect of efficiency gains as claimed by KEL, does not match with the efficiency based on tests as shown in the table. Since KEL has claimed further lower efficiency numbers for individual units (compared with the allowed efficiency levels under MYT), KEL arguments to justify GLTIP become contradictory. It is further noted that KEL has not indicated the capacity numbers based on tests, which as may be seen from the table below, are much lower than the numbers allowed in the MYT. The allowed total net capacity of six units is 1104 MW, against the capacity of 935.34 MW based on tests.

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Unit No.	NET EFFICIENCY %		NET CAPACITY MW	
	Allowed by Authority in MYT	Per Third Party Test	Allowed by Authority in MYT	Per third Party Test
1	31.59	32.29	183.78	168.32
2	32.04	32.41	184	170.22
3	31.03	28	183.5	118.01
4	31.31	28.16	183.64	126.51
5	33.11	33.57	184.5	175.9
6	33.29	32.96	184.58	176.38
TOTAL			**1,104**	**935.34**

10.11 In view of the above discussion, KE's claim that its investment prior to conducting of test has resulted in efficiency improvements, and therefore GLTIP related investment may be allowed, requires further deliberations. However, as the Authority has consistently disallowed GLTIP related investment in its earlier decisions, therefore as part of mid-term review, the Authority does not accede to the request of KE for allowing GLTIP investment. The issue of efficiency gain after the test, would be decided separately by the Authority as part of its approval process for heat rate tests for BQPS I.

11. **ISSUE # 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".

Submission by KEL:

11.1 In addition to the submissions / details provided by KEL regarding investments under Issue # 1, the following additional information has been provided by KEL.

(a) Transmission Segment Investment:

11.2 A spot-year-wise breakup of the additions to be made in the transmission system under the normal forecast scenario is given in the following table:-

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Spot Year	Addition of New Transformers at Existing Grids		Addition of New Transmission Lines (km)		New Grid Station	
	220 kV	132 kV	220 kV	132 kV	220 kV	132 kV
2018-19	0	15x40 MVA	53	264.32	2x250 MVA (1 Grid)	8x40 MVA (4 Grids)
2019-20	0	1x40 MVA	0	64.71	0	0
2021-22	0	4x40 MVA	0	25.9	0	0
2024-25	2x250 MVA	9x40 MVA	183.9	101.54	4x250 MVA (2 Grids)	11x40 MVA (5 Grids)

The following targets were required to be met by June 2020 (midterm):

- New Transformers at existing 220 kV Grids 0 MVA
- New Transformers (16x40 MVA) at existing 132 kV Grids 640 MVA
- New 220 kV Transmission line additions 53 km
- New 132 kV Transmission line additions 329.03km
- New 220 kV Grid 1 Grid of 2x250 MVA 500 MVA
- New 132 kV Grid 4 Grids of 8x40 MVA 320 MVA

11.3 As far as overall control period, KEL was required to carry out following approved additions (Reference paragraph 26.28.7 (a) of the Determination of the Authority in the Matter of MYT petition by KEL dated March 20, 2017) over a control period of 7 years.

- Total MVA Addition at Grid Stations 800 MVA+820 MVA (5 new Grids)
- New Transmission Line Additions 408 km
- New HT (11 kV) Line Additions 1000 km

(b) Whether KEL was able to meet the objectives of allowed investment in transmission segment:

11.4 KE stated that objectives of allowing investment in transmission segment can mainly be evaluated in view of the physical progress made by KEL during the period up to the midterm. The performance related objectives may not be evaluated directly as such performance parameters are dependent on the transmission and distribution segments, rather these are more linked to distribution segment than the

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(c) Summary of actual and planned additions by KEL:

11.5 Summary of additions to capacity, grid stations etc. as initially planned in MYT and updated as per revised investment plan is given below:

Transmission system	Unit	Additions initially planned in MYT FY 17-23	Position at June 2016	Position at Dec. 2019	Actual Additions July 2016 to Dec. 2019	Planned Jan 2020 to June 2023	Total additions FY 17-23
		A	B	C	d = c – b	E	f=d+e
Grid Stations							
500 kV Grid stations	No.	-	-	-	-	2	2
220 kV Grid stations	No.	1	7	9	2	3	5
132 kV Grid stations	No.	4	541	571	3	4	7
66 kV Grid stations	No.	-	3	3	-	-	-
Capacity							
Capacity of Power Transformers	MVA	1,120	5,100	6,310	1,210	480	1,690
Capacity of Autos Transformers	MVA	500	3,100	4,100	1,000	4,000	5,000
Transmission lines							
Total length of transmission lines (500 kV, 220 kV, 132 kV, 66 kV)	KM	408	1,249	1,288	39	290	329

Note - Includes two (2) mobile grids

11.6 KEL submitted that under the **TP-1000** project, around 900 MVAs (net) of capacity enhancement has been achieved till December 2019. Major accomplishments under the TP – 1000 project are detailed below:

- Five (5) new grid stations which consist of 2x 220kV and 3x 132kV grids have been added
- Twenty-Five (25) new Power Transformers have been added in the system out of which six (6) have been energized at new grids, whereas the remaining nineteen (19) have been installed at existing grids which includes replacement of four (4) transformers
- One (1) Auto Transformer energized at new grid whereas three (3) have been installed at existing grid
- Addition of 28x 220kV bays and 47x 132kV bays
- 6.04 km net addition in length of 220/132kV transmission circuits and rehabilitation of around 39 km of 220/132 kV lines
- 432 MV new switchgears have been added

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- Replacement of old GIS at SGTPS with new (13) thirteen GIS bays
- State of the art "Disaster Recovery Centre (DRC)" facility is commissioned which will serve as backup for KEL Load Dispatch Centre (LDC)

Under the **TP-2** project, following have been achieved:

(d) Achieved to-date:

- Five (5) power transformers have been added in existing grid stations resulting in increase in capacity by 200 MVAs
- Addition of over 31km of transmission line and another 11km will be added by June 2020
- Circuit rehabilitation works resulting in enhanced capacity of around 38 km length

11.7 KEL submitted that on TP-1000 project, till December 2019, KEL has invested **PKR 41,419 million** and significant progress has been made, with around 90% of the project completed, resulting in capacity enhancement and improved reliability of KEL's transmission network. Further, due to challenges related to Right of Way (RoW), works on 2 FWPs are in progress and it is expected that the same will be completed on expeditious basis, upon receipt of required RoW approvals.

11.8 On TP-2 Project KEL stated that keeping in view surplus capacity in the National Grid and shortfall within KEL's service territory, KEL was asked by the Ministry of Energy (Power Division) to pursue its 900 MW RLNG and 700 MW coal projects on fast track basis and for the remaining shortfall of around 1,400 MW (projected by FY 2023) pursue additional power from the National Grid, instead of its other planned power projects. In this regard, joint technical study was initiated which has been completed and discussions are in process.

11.9 KEL further stated that in the MYT estimates submitted in March 2016, it was assumed that supply from the National Grid would cease from 2021. Since, this is a significant change in circumstances, therefore, the investment plan needs to be revised accordingly. As detailed in Section 3.2.1 of Mid-Term Review under MYT 2017-23, considering the surplus capacity in the National Grid and based on discussions with the GoP and NEPRA, to bridge the projected shortfall within KEL's service area, in addition to 900 MW RLNG plant and 700 MW Coal IPP, KEL is considering off-take of additional power from the National Grid in place of other generation projects, previously envisaged.

Analysis and decision of the Authority:

11.10 The Authority noted that KE has been allowed a total investment of PKR 127,942 Million, which included PKR 115,775 Million in the transmission segment and

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Rs.12,167 million for allied transmission projects of BQPS III. It may be noted that out of PKR 115,775 Million, KEL was required to invest PKR 85,460 Million till the midterm period as detailed below;

ALLOWED INVESTMENT IN TRANSMISSION SECTOR (PKR MILLION)

Description	FY 2017	FY 2018	FY 2019	Jul - Dec 2019	Total till Mid Term	Jan - Jun 2020	FY 2021	FY 2022	FY 2023	Total Second Half	Total (FY 17-23)
Transmission Package 1	17,245	14,105	13,751	0	45,101	0	0	0	0	0	45,101
Transmission Package 2 (TP 2)	4,788	6,365	13,014	6,805	30,972	6,805	12,431	0	0	19,236	50,208
500 kV Grids	0	0	0	0	0	0	0	0	0	0	0
+HUVB	0	0	0	0	0	0	0	0	0	0	0
Transmission Network	2,996	2,327	2,739	1,325	9,387	1,325	2,919	3,145	3,690	11,079	20,466
TOTAL	25,029	22,797	29,504	8,130	85,460	8,130	15,350	3,145	3,690	30,315	115,775

11.11 The Authority observed that KEL in its MTR petition submitted the following revised investment plan including actual investment carried out till midterm period. However, subsequently KE vide letter dated 01.10.2020 revised its submitted plan.

11.12 The Authority noted that KEL was allowed PKR 45,101 Million for its TP-I project, against which KEL was able to invest PKR 41,419 Million. For the TP-2 project, KE was allowed PKR 30,972 Million, against which it invested only PKR 4,823 Million. Similarly, under the head of Transmission Network, KEL was required to invest PKR 9,387 Million till Mid Term, however, it invested only PKR 8,101 Million. Thus, against an overall amount of Rs.85,460 million allowed till Mid Term, K-Electric was able to make an investment of PKR 54,343 Million i.e. around 64%.

Rs. in Mln

Description	FY 2017	FY 2018	FY 2019	Jul-19 to Dec-19	Total till Dec-19	Jan-20 to June-20	Total (FY 17-20)	FY 2021	FY 2022	FY 2023	TOTAL 2nd Half of MYT	Total (FY 17-23)
Transmission Package 1	2,342	20,777	12,864	5,436	41,419	3,454	44,873	5,209	-	-	8,663	50,082
Transmission Package 2 (TP 2)	1,740	1,297	1,214	572	4,823	483	5,306	7,676	15,309	4,503	27,971	32,794
500 kV Grids	-	-	-	-	-	-	-	5,841	9,039	9,175	24,055	24,055
HUVB	-	-	-	-	-	-	-	2,647	3,703	976	7,325	7,325
Transmission Network	1,825	3,274	1,502	1,500	8,101	840	8,941	5,436	6,158	3,814	16,248	24,349
Total	5,907	25,348	15,580	7,508	54,343	4,777	59,120	26,809	34,209	18,468	84,263	138,606

* *In addition, KE requested Rs.11,799 million on account of exchange rate devaluation and inflation.*

11.13 The Authority noted that although till the MTR period, KEL has not been able to make the required investments, but has claimed additional investments under new heads and has also claimed certain additional investments for some heads for which certain investment has already been allowed. For instance for TP-I project, KEL under invested by PKR 3,682 Million, but has claimed an additional amount of PKR 4,981 Million for the total control period. For the Transmission network project, KEL underinvested by PKR 1,286 Million, however, has claimed additional investment of PKR 3,883 Million.

11.14 KEL submitted that revision in scope of Transmission Package 2 is mainly due to replacement of initially planned investments with 500kV grids in pursuance of off-take of additional power from the National Grid. KEL stated that in case of

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delay/denial of additional supply from the National Grid, which is beyond KEL's control, KEL will be required to re-consider the original scope of TP-2 Project, and the same will be filed with NEPRA separately for consideration, as also discussed in Section 3.2.1 of the Mid-Term Review Petition. KEL provided following explanation for the revision in its investments as a part of submissions for its petition for midterm review:

Revision in estimates and necessary additional investments:

11.15 Two 500 kV Grids have been added to the plan costing PKR 24,055 Million. Further, projects of PKR 17,415 Million have been dropped which mainly consist of Transmission Line interconnection projects of power plants, new Grids and existing Grids' augmentation and approx. 50km Transmission Lines. These were dropped mainly due to change in technical plan for Transmission Network owing to the fact that around 1,000 MW is potentially considered through 500 kV Interconnection Grids from National Grid of PKR 24,055 Million instead of evacuation from 220kV / 132kV that would have otherwise caused to increase short circuit limit.

11.16 This change in plan has also resulted in revision of planned additions to capacity, grid stations and transmission lines. While KEL is adding more than initially planned grid stations and capacity, target for transmission lines have been revised downwards after change in plan for additional supply.

Hub, Uthal, Vinder and Bela (HUVB) Transmission Lines – new project:

11.17 To further strengthen the network, the Authority vide letter No. NEPRA/DG (M&E)/LAD-01/2091 dated 01.01.2020 and also on different occasions, directed KEL to undertake phase wise rehabilitation of its existing transmission lines from Hub-Chowki to Bela grid and enhancement of grids in Vinder, Uthal and Bela which includes up-gradation of 66 kV to 132 kV level. KE accordingly has requested a total cost of PKR 7,325 Million for the purpose. In addition to the above, KE also submitted that rehabilitation of existing 66 kV transmission line is also under execution, for which Phase 1 has already been started and expected to be completed in FY 2021, whereas, in parallel phase 2 would be initiated from August, 2020.

Transmission CAPEX on existing network:

11.18 To further strengthen the existing network and improve its reliability, KEL has invested PKR 8,101 Million till December 2019, and plans to invest a total of PKR 24,349 Million under the revised plan.

11.19 The submissions of KEL have been analysed and it is noted that the approved plan required KEL to construct one (1) grid of 220 kV, and four (4) grids of 132 kV. However KEL as per above information constructed two (2) grids of 220 kV, and

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three (3) 132 kV grids. Furthermore, KEL was required to add 1120 MVA capacity of power transformers and 500 MVA of auto Transformers. KEL till midterm added 1210 MVA and 1000 MVA capacity for power transformers and autotransformers respectively. KE was also required to add 408 km of transmission lines during the control period (329.03 km till midterm), however, KEL added only 39 km of transmission lines till December, 2019.

11.20 About performance on account of transmission related investment, KEL claimed that as a result of these initiatives, transformer trips have reduced by 56% (FY 2016 vs December 2019).

11.21 KEL also submitted overloading of Power transformers (132kV & 66kV) as under;

Description	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Overloading (%)	41%	33%	28%	25%	20%	15%	10%

** overloading measured at 80% and above*

11.22 It is observed that KEL has partially met the targets against the investment allowed for the transmission segment. Under TP-1000 project, KEL has under taken significant number of projects up to midterm, however it has claimed additional investment during the second half of the control period, implying that it could not complete the scope of investment which was allowed till the midterm period.

11.23 On the maintenance of existing transmission network, KEL could not carry out the required level of investment as requested in its MYT petition, however, in its MTR Petition has not only proposed to shift a major portion of such investment to second half of the control period, but also has claimed additional investment over the earlier request also.

<u>Investment during 1st Half of the Control Period</u>

11.24 The Authority observed that KEL has not been able to make the required investment as allowed till the midterm period and could not fully meet the given targets. Therefore, pursuant to Paragraph 34.1 XXIII (vii), of the Authority decision dated 05.07.2018, the Authority has decided to adjust the base rate adjustment component downward to reflect the under-investments of KE.

11.25 Accordingly based on the above discussion, the base rate adjustment component has been adjusted downward by Rs.0.2336/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with onetime adjustment of Rs.11,772 million.

11.26 On the issue of exchange rate variation, as discussed above, the Authority has allowed all investments to KE in PKR terms after allowing for projected exchange

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rate variations as requested by KE in its MYT 2016 Petition. Thus, the risk of exchange rate variations whether upward or downward rests with KE.

Investment during 2nd Half of the Control Period

11.27 **500 kV Grids:** The Authority noted that KE initially in its Mid-Term Review Petition claimed an additional investment of PKR 24,055 Million for two 500kV grids. However, later on during its meeting with the Authority on April 28, 2021, and vide email dated May 04, 2021, KEL informed that in the final scheme of arrangements only one 500 kV grid is required. CAPEX for the same as a result of competitive bidding has been worked out as PKR 26,428 Million, as detailed below;

Rs. In Mln

Description	Jan-20 to June-20	FY 2021	FY 2022	FY 2023	Total (FY 17-23)
500 kV Grids	9	402	7,759	18,258	26,428

11.28 The Authority has thoroughly reviewed the submissions made by KEL and observed that changes in the scope of TP-2 are necessitated due to changes in power supply arrangements. It is also noted that in view of surplus capacity in the National Grid, the GoP directed KEL to abandon its plans for setting up own generation and instead draw additional power from the generation facilities connected to NTDC system. Consequently, KEL has revised its investment programme proposed earlier and claimed additional investment on account of 500 kV Grid. The Authority considers that since the new investment requirement is based on the GOP directions and in the overall national interest, keeping in view the ongoing increase in capacity charges at National Level, therefore, has decided to allow the investment of Rs.26,428 million, as claimed by KEL on account of 500 KV grid as shown in above table.

11.29 **Investment for HUVB**: The Authority also noted that the investment claimed by KEL for HUVB is in response to the directions of the Authority to undertake strengthening and up gradation of old and weak network in the region. Therefore, the Authority accepts KEL submissions in this respect and allows KEL the claimed investment of Rs.7,325 million, to carry out the works of HUVB project.

11.30 In view of the aforementioned, the Authority has decided that it shall verify the reasonableness of above investments through detailed scrutiny of the costs and field visits. KEL therefore shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment.

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11.31 For the additional investment claimed by K-Electric during the 2nd half of the control period, other than the already allowed under MYT determination, the Authority considers that same is not in line with the decision of the Authority vide para 34.1 of the MYT determination dated 05.07.2018, thus not allowed to KE.

11.32 Accordingly based on the above discussion, the base rate adjustment component has been adjusted upward by Rs.0.0312/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with onetime positive adjustment of Rs.1,571 million, to account for the additional investment of Rs.26,428 million and Rs.7,325 million allowed to KE for the construction of 500 KV Grid Station and HUVB project.

12. **ISSUE # 2: The Authority did not allow KEL additional investment, if it out-performs the regulatory targets in T&D segments. KEL has however stated that it is not claiming additional investment on account of T&D losses and sent-out growth. According to KEL, it's claimed additional investments, are required for safe and reliable supply to its consumers, necessitating a revised overall investment requirement of Rupees 442,783 million (against NEPRA allowed investment of Rupees 298,915 million). 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?**

13. **ISSUE # 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".

14. **ISSUE # 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**

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<u>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?</u>

<u>Submissions of KEL:</u>

14.1 KEL stated that at the time of submission of investment plan as part of MYT in March 2016, it was highlighted that the same was based on certain assumptions and forecasted business requirements which were subject to change. Fast pace changes in the operating environment and service requirements, technological developments leading to increased availability of information, and other factors beyond KEL's control, including policy/guidelines issued by GoP require revisions in planned investments, and hence KEL requested for flexibility in investment plan to cater for its service obligation of safe and reliable supply. The investments are categorized based on the projects and the related benefits which are envisaged from the planned investments. Accordingly, planned investments are broadly categorized as (i) Investment linked with Financial KPIs (e.g. loss reduction), and (ii) Investments to meet Service Obligations (e.g. safety and maintenance, interconnection grids for off-take of additional power from National Grid to manage the demand-supply gap), etc.

14.2 Accordingly, in the revised investment plan, KEL has not requested for any additional investment for loss reduction, as the same is linked with financial KPIs. However, it is requested that revision required in investments to fulfil service obligations including maintenance and safety, which do not have a commercial consideration, should be allowed by NEPRA. With regard to service obligations, keeping in view the learnings from Monsoon 2019 (extreme weather event – unprecedented rainfall breaking 40 years record), the investment plan needs significant revisions to enhance overall safety and reliability of the network to cater for such extreme events. Moreover, based on greater visibility into network performance through technological upgrades, including installation of AMRs, the investment plan warrants revision to enhance the overall network performance and resilience. KEL is always committed to meet its service obligations of providing safe and reliable supply of power to its consumers and has already made additional investments of PKR 24,614 Million (till June, 2020) in Distribution segment to meet the same. Accordingly, the Authority is requested to consider revision in allowed investments based on learnings, changing circumstances and technological advancements, which would enable KEL to meet its service obligations.

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14.3 As part of its submissions during the hearing KEL submitted that since the start of the tariff control period and up to June 2020, KEL has invested PKR 59,746 Million in the distribution segment as against NEPRA allowed PKR 35,132 Million, resulting in significant capacity additions and improvement in network reliability. However, given the operational challenges and in view of the learnings from 2019 Monsoon, there is a need to further increase investments in the distribution segment, to enable KEL ensure provision of safe and reliable supply of power to consumers. Regarding the additional investments of PKR 61,445 Million requested for the tariff control period, which includes PKR 24,614 Million already spent since the start of the tariff control period and up to June 2020, it is humbly submitted that within the MYT, NEPRA has linked additional investments in the distribution segment with loss reduction and has stated that such additional investment in the T&D segment will be construed as commercial decision of KEL.

"In case KEL wants to bring more investment to outperform the regulatory targets in Transmission & Distribution (T&D) segments then KEL 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* ***KEL's own commercial decision for these additional investments."***

14.4 Accordingly, in the updated investment plan, KEL has not requested for any additional investment for reduction in T&D losses as the same is linked with financial KPIs. Further, the variation of PKR 61,445 Million from the approved investment plan in Distribution is mainly due to impact of exchange rate and inflation, along with revision in estimates and necessary additional investment. The revision in estimates and necessary additional investments under the revised plan have been made in view of the learnings from 2019 Monsoon, where Karachi experienced unprecedented rainfall, breaking the 40 years record, along with requirements to improve network reliability and resilience. Therefore, to enhance the overall safety and reliability of its network, revisions for necessary additional investments under Safety & Protection and Maintenance have been made amounting to PKR 19,451 Million and PKR 33,875 Million respectively and minor revisions have been made to scope of Support CAPEX, resulting in reduction of PKR 236 Million from the initial estimates. KEL has enhanced the scope of its Safety and Protection projects to ensure safe and reliable supply of power to its consumers in view of the ground realities and learnings from 2019 Monsoon, for external factors beyond KEL's control, including encroachment/illegal use of KEL's network.

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Break up of increase in Scope

Description	Amount (PKR Million)
Earthing & Grounding	3,618
Replacement of bare conductor	4,894
Electrification of hazardous areas	8,211
Installation / Replacement of Protection Equipment	1,418
Installation of guard wires under Public Accidents Prevention Plan	1,310
Total	**19,451**

14.5 As part of its Safety and Protection projects, KEL has revisited the scope of "Earthing & Grounding", and under the revised plan, revalidation of grounding of overall distribution network is envisaged. The planned initiatives would enable KEL to ensure safe and reliable supply of electricity to consumers. The potential benefits of the project includes; (i). Protection against unfortunate incidents; (ii). Avoid risk of fire due to leakage current through unwanted path; and (iii). Avoid electric shock to persons who may be in contact with the network poles. Under the revised scope of Earthing & Grounding project which includes initiatives to revalidate complete Earthing & Grounding of the distribution network of KEL, an additional Capex of PKR 3,618 Million would be incurred. This includes revalidation of Earthing & Grounding of the existing poles and the investment in future years to upkeep and maintain the same, including replacement of Earthing & Grounding material, which are susceptible to theft (20% of the initial scope). As mentioned above, the revised scope includes revalidation of the entire network (Earthing & Grounding), and in this regard, Earthing & Grounding of all LT poles have already been completed. Moreover, initiatives to enhance safety include Public Accident Prevention Plan (PAPP), under which entire 11kV network is being provided with double earth and guard wire.

14.6 Moreover, it is pertinent to mention that there are certain challenges faced by KEL in terms of ensuring network safety. In this regard, in addition to theft of Earthing & Grounding material, other Key challenges faced by KEL adversely impacting safety and reliability indices include proliferation rate of Karachi in an unplanned manner, densely populated areas and unpredictable climate; and to cope up with these challenges, KEL is further strengthening safety strategies, procedures and practices. With respect to Earthing & Grounding, following challenges can be expected; (i). Earth resistance value may increase if the moisture in soil reduces over time; (ii). Rusting of contacts between pole and grounding rod; and (iii). Vandalizing of earthing system and to mitigate the said challenges, KEL installs running earth which provides a path to the PMT structure where protection devices may be installed to trip the system in case of leakage current.

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14.7 To further improve overall safety, KEL has started installation of HT covered conductors in place of bare conductor(s) in HT network. Covered conductors are also used to improve safety against accidental contact with live conductors. Further, covering is provided on conductor to minimize the impact of arid/humid climate, tree branches and birding, thus significantly enhancing the overall safety of the network. Covered conductors use the covering material as protection against accidental contact with other conductors or with grounded parts such as tree branches. This covering is sufficient for temporarily withstanding the phase-to-earth voltage. The installation of the aforementioned covered conductors on the distribution HT network, would be carried out in conjunction with the HT preventive maintenance plan to cover around 900 feeders by the end of the tariff control period, requiring an additional expenditure of PKR 4,894 Million.

14.8 It is estimated that nearly 62% of Karachi's residents live in informal settlements on only 23% of the city's residential land that mainly make up the high loss areas. Meanwhile, less than 40% of the population live in "planned" settlements on 77% of the city's residential land. Despite its small share of the total occupied land, informal sector meets over 50% of the city's housing needs. Owing to the mushroom growth in the outskirts, these settlements are in areas that lack basic utilities including but not limited to energy infrastructure. It is pertinent to note that, the population that resides in such areas obtains access to electricity through illegal means (carrying nonstandard electrical wires from nearest PMTs) which makes the unwarranted system prone to accidents and safety hazards. In such a case, it is of paramount importance to lay down the infrastructure that eliminates the chances of any accident through the illegal abstraction of electricity and to provide safe and reliable power to consumers. Further, the use of substandard material by locals due to no mains also results in deterioration to the existing KEL system. In this regard, KEL is continuously working on electrifying no mains areas through various schemes which are designed for consumers in far flung areas where power is being used through illegal infrastructure. In this process, LT mains and network infrastructure is being laid out to regularize around 800 schemes requiring 1,000 additional PMTs and other allied material which includes but is not limited to LT ABC Spans, LT poles, protection equipment, meters and service cables. To further accelerate the installation of necessary distribution infrastructure in such potentially hazardous areas, under the revised Capex plan, an additional investment of PKR 8,211 Million has been envisaged.

14.9 In addition to revalidation of Earthing & Grounding of the distribution network, to further strengthen the safety of network along with improving reliability of power supply, additional investments for installation/replacement of protection equipment have been planned under the revised CAPEX plan. Protective equipment in distribution system consists of relays, cut-out switches, circuit breakers and fuses and often function individually or simultaneously in case a disruptive event occurs.

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Further, circuit breakers function to de-energize the entire feeder which can disrupt power to all customers served through a particular feeder. To add layers of redundancy in the system, installation of Ring Main Units (RMU) and Vacuum Circuit Breaker (VCB) are being pursued. Through this flexibility, power can be shut off in portions of the system only, thereby isolating the fault. This becomes important also as most of the protective equipment installed at this point is oil type and relay response of such breakers is much less than desirable. In this regard, since a major portion of KEL's system is underground (directly buried) and identification of fault requires more time along with approvals from civic agencies, KEL plans installation/replacement of protection equipment including Vacuum Circuit Breakers (VCBs), Ring Main Unit (RMUs) and Load Breaker Switches (LBSs), which require dividing feeders into loops. The protection is activated at the first terminating point of each feeder by replacing existing switches with new VCBs and RMUs, having relays with enhanced facility of broken conductor feature to ensure public safety. Under the revised plan, KEL targets installation/replacement of 1,700 VCBs and 330 RMUs. With the induction of protection at the incoming of feeder, downstream faults in distribution network can be isolated without affecting the gird and also isolation and bifurcation of faulty area. In future, protection is also planned at all outgoing switches, enabling HT network to operate by isolating faults and limiting the outage to loop instead of affecting all consumers of the feeder. In addition, Earth Fault Indicators (EFI)s on overhead lines are being installed to further improve operational flexibility of the system. As part of the revised plan, to enhance the overall network safety, installation of RMUs has been planned on sick feeders for efficient utilization of protection to reduce safety risk on long OH Feeders. Further, as part of safety initiatives, off-load switches at overhead are being replaced with LBS to operate without any interruption to enhance the reliability index of the system. Installation of LBS enhances operational flexibility and increases safety, which shows KEL's commitment towards safe and reliable supply of power to consumers. Under the revised plan, installation/replacement of around 6,300 LBSs across the network has been envisaged. For installation/replacement of the aforementioned protection equipment (VCBs, RMUs and LBS) on the distribution network, KEL has planned additional CAPEX of PKR 1,418 Million.

14.10 To enhance overall public safety, guard wires are being re-constituted/installed across the overhead HT lines constituting 30% of the HT network or around 3,000 km, under "Public Accidents Prevention Plan" project. This is an extensive exercise considering the wide spread of KEL network. The installation of guard wires on overhead HT lines would enable KEL to achieve maximum protection against safety incidents, improve and enhance distribution network lifespan, and reduce outages. The guard wire in the 11kV network is a grounded conductor placed beneath an overhead line in order to ground the line and in case of breakage, protect it from reaching the ground which might result in an adverse event. Accordingly, the

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revised Capex plan for distribution includes additional investment of PKR 1,310 Million for installation of guard wires under the Public Accidents Prevention Plan. To overcome capacity constraints and improve reliability of the network, since the start of the tariff control period till June 2020, KEL has added over 6,000 PMTs and increased its distribution capacity by over 1,600 MVAs. In addition, number of feeders has increased by over 350 feeders and with planned additions going forward, a total of another 194 feeders will be added during the tariff control period, along with efficient planning and load balancing of existing feeders with an aim to optimize the network. Further, during the period July 2016 to June 2020, KEL has added over 950 km of HT lines along with simultaneous optimization of LT network. Addition of feeders, PMT and HT lines along with execution of around 1,000 System Improvement Programs ("SIPs") have resulted in capacity addition, reduction in overloading and improved network reliability. To further optimize the system, instead of laying feeders in many places, feeder links are being used to balance an overloaded feeder with an under loaded one.

Additional CAPEX for Necessary Revisions in Scope of Maintenance

Description	Amount (PKR Million)
Corrective & Preventive Maintenance	12,010
System Improvement Programs	9,770
Rehabilitation of ABC Projects	5,276
Rain Emergency Rehabilitation Plan	6,819
Total	**33,875**

14.11 To increase the reliability of its distribution network, on the maintenance side, KEL has revised the scope of maintenance activities and going forward, a more robust periodic maintenance is planned, which is subject to extensive maintenance schedule covering 300 feeders annually. Moreover, the scope of work has been redefined, including enhanced quality & reliability standards. In addition, dry-type transformers, mobile trolleys and PMUs have been introduced along with rehabilitation of old HT infrastructure and long feeders, which would result in improved availability index of the network, including SAIFI and SAIDI. Further, installation of AMRs at PMT level has resulted in greater visibility on outages, which warrants greater investments to improve network reliability and resilience. In addition, the installation of AMRs at the PMT level and moving towards having a robust AMI infrastructure, would also result in improvements in reporting of reliability indices and with planned initiatives, KEL expects to achieve substantial improvement in reliability indices by the end of the tariff control period. Therefore, to carry out maintenance projects (both preventive and corrective), an additional investment of PKR 12,010 Million has been envisaged under the revised plan.

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14.12 In addition to maintenance programs and with regard to the growth of distribution network, additional investments in System Improvement Programs (SIPs) are also planned whereby, considering the current loads at the PMT level and the future load growth, enhancement and rehabilitation of the common distribution network at LT level is being carried out to avoid any overloading of the network. These activities benefit in improving the reliability indices on a pre-emptive basis. In this regard, considering the additional expenditure already incurred by KEL and the revised scope of maintenance activities which includes SIP on around 1,000 PMTs (per year) in subsequent years from FY 2021 – FY 2023 (2,500 – 3,000 PMTs in total), KEL plans an additional investment of PKR 9,770 Million for SIPs. It is pertinent to mention that the scope and number of PMTs selected for SIPs have increased by more than double from the initial estimates submitted in March 2016. In light of the work done and with increased visibility after installation of AMRs at PMT level, the scope for SIPs was revised considering the network condition, which warranted additional activities other than originally envisaged. In this regard, with an increase in number of PMTs by around 2,900 (4,500 PMTs against the initial plan of 1,600 PMTs). The activities carried out include but are not limited to Bus-bar Arrangements, Load Balancing, Cable Replacement, installation of CTO meters, installation of check meters, grid extensions and laying of feeders or links.

14.13 Considering the climatic conditions of Karachi which damage the insulation installed on ABC and tampering of the equipment by area residents in certain high loss areas, rehabilitation on existing ABC is planned to be carried out. Here, it is pertinent to mention that in case of bare conductors, any tampering or damage to the equipment can be corrected/rectified through minimal expenditure, however in case of ABC, entire spans have to be replaced, thereby increasing the overall investment requirement. Accordingly, to carry out ABC rehabilitation work on around 2,500 PMTs having ABC, an additional investment of PKR 5,276 Million would be required. To maintain the benefits from the newly laid cables, it is essential to ensure reliability and quality of service, and the rehabilitation is carried out to achieve the same due to factors other than life of the cables itself. Due to aforementioned reasons, this investment will be cyclical replacement of the already installed ABCs at LT level and is critical to achieve the desired results on continued basis.

14.14 In furtherance to the above, subsequent to heavy rainfall in August 2020, a Board Special Committee, under chairmanship of Mr. Waseem Mukhtar (Additional Secretary MoE & Government nominated Director), has been formed to assess initiatives/investments required to further strengthen reliability and safety of the network and to cater to such extreme events. In this regard, as per current estimates, PKR 1,475 Million will be spent as part of short term plan to be executed in FY 21 and around PKR 5,344 Million as part of long term plan to spent between FY 22 to FY 24. As a result, additional investment of PKR 6,819 Million will be required till

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the end of the tariff control period. Given the various uncontrollable factors having an impact on KEL's operational environment and consequentially compromising safety and reliability of KEL's network as explained above, these additional investments are critical to mitigate such challenges, thus enabling KEL to ensure safe and reliable supply of power to the consumers. Accordingly, the additional investments made and requested are not linked with financial KPIs and therefore have no commercial proposition for KEL, rather these are prudent and critical to ensure quality of service and meet the service obligations, and therefore must be allowed in tariff in accordance with Section-31(2)(c) and Section-31(3)(a) of the NEPRA Act.

Submissions of Stakeholders:

14.15 Mr. Arif Bilwani on the issue referred the following decisions of the Authority 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. Similarly, for the last three and a half (3.5) years of the tariff control period, adjustment of base rate adjustment component, may be made in the next tariff determination, 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. For clarity purpose, a self-explanatory adjustment mechanism has been attached as Exhibit-I.

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.

In case, KE achieves Authority's given T&D segments targets with additional investment then that additional investment wouldn't be allowed cost of funds/WACC. Meaning thereby no revision shall be made in the base rate adjustment component."

Analysis & decision of the Authority:

14.16 The Authority noted that KEL in its Petition for MYT 2016, submitted a detailed and comprehensive investment plan for its Distribution Segment, with clear segregation of the required investment for all aspects of the Distribution Business for the Tariff Control Period as mentioned hereunder:

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Rs. in Mln

Description	FY 2017	FY 2018	FY 2019	Jul - Dec 2019	Total Till Mid Term	Jan - Jun 2020	FY 2021	FY 2022	FY 2023	Total Second Half	Total (FY 17-23)
Loss Reduction	2,432	2,486	2,676	1,396	8,990	1,396	3,393	4,055	4,128	12,972	21,961
Growth	3,103	3,189	3,265	2,015	11,572	2,015	5,137	5,029	4,400	16,581	28,152
Maintenance	1,113	1,081	1,071	542	3,807	542	1,171	1,364	1,342	4,419	8,226
Safety	494	478	495	256.5	1723.5	257	614	609	590	2,070	3,793
Smart Network	564	554	637	338.5	2093.5	339	1,050	1,820	2,033	5,242	7,335
Sub-Total Distribution	**7,706**	**7,788**	**8,144**	**4,547**	**28,185**	**4,547**	**11,365**	**12,877**	**12,493**	**41,282**	**69,467**
Support CAPEX	600	600	600	300	2100	300	600	600	600	2,100	4,200
Total including Support CAPEX	**8,306**	**8,388**	**8,744**	**4,847**	**30,285**	**4,847**	**11,965**	**13,477**	**13,093**	**43,382**	**73,667**

14.17 The Authority observed that KEL while requesting the abovementioned investment in the MYT petition 2016, submitted that regarding Loss Reduction Projects it plans to invest in sustainable loss reduction projects which includes aerial bundled caballing (ABC), Technical Loss reduction and Meter Replacement Projects. These will help curb power theft, improve load management, support accurate consumption recording, while also improving technical losses and the overall quality of service. Regarding Growth Related Projects, KEL submitted that these include augmentation of the existing dilapidated network and laying of new infrastructure. KEL stated that in total it plans to invest for growing network and deliver more than 1000 new 11kV feeders and 4500 km of additional 11kV power lines and as a result of the implementation of these projects, overall system reliability will increase and customer service will improve.

14.18 Regarding Smart Network, KEL submitted that in order to remain in line with the latest technological advancements, it plans to invest in Smart Grid technology which will involve conversion of existing network into smart network by installing smart devices at feeders, PMTs and at customer level. This will provide KEL the ability to better monitor the grid, increase stability, reduce losses and optimize outage management; (iii). Smart Grid technology also allows remote disconnection and activation which is expected to significantly improve collections and address losses.

14.19 Regarding Preventive & Corrective maintenance, KEL submitted that it has planned for the upkeep and improvement of the overall network to help reduce the number of faults and improve network reliability and continued service delivery. Further, improved collection rates are an important value driver for the business and can deliver improvements to KEL's cash position. Improvements in collections will be driven by a number of initiatives including; (i) Laying of additional 11 KV feeders to relieve overloaded feeders and to reduce faults and tripping; (ii) Preventive work on feeders and PMTs; (iii) Corrective work to rectify faults, change faulty meters and address complaints; (iv) System Improvement schemes for segregation, shifting and relieving of overloading.

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14.20 KEL had highlighted the following Prospective Benefits of the abovementioned Investment for its approval by the Authority:-

- Enhancement to the transmission network including a 28% increase in transmission network (km) and an increase in capacity of power transformers of 3,370 MVA;
- Reduction in transmission and distribution losses from 23.7% in FY 15 to 13.8% in FY 26;
- Additional connections to over 800,000 new customer with an aggregate load of 3,754 MW;
- Enhancement of Distribution network by adding over 1,000 new feeders and over 4,500km of 11kv underground and overhead circuits;
- Improvement in customer service, including an increase in the reliability of supply;
- System Average Interruption Duration Index (SAIDI) expected to improve from 1,330 minutes per customer per annum in FY 15 to 481 minutes per customer per annum;
- System Average Interruption Frequency Index (SAIFI) expected to reduce from 22.21 interruption per customer in FY 15 to 8.03 interruptions per customer;
- Distribution fault rates expected to reduce from 1.5/km to 0.6/km.
- Moving from a supply deficit of 421 MW to surplus in capacity of 106 MW;
- Improvements in customer service, including an increase in the reliability of supply;
- Real reduction in the tariff and improved affordability for customers;
- Secure and uninterrupted supply of power;

14.21 It may be noted that KEL's requested investment of PKR 73,666 Million for the Distribution Segment, was approved by the Authority without any changes.

14.22 As part of its instant mid-term review petition, KEL has requested an amount of Rs.119,413 million for the control period of 7 years, against the total amount of Rs.73,667 Million already allowed in the MYT 2016, as detailed below;

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Rs. in Mln

Description	FY 2017	FY 2018	FY 2019	Jul-19 to Dec-19	Total till Dec-19	Jan-20 to Jun 20	Total (FY 17-20)	FY 2021	FY 2022	FY 2023	TOTAL 2nd Half of MYT	Total (FY 17-23)
Loss Reduction	4,665	3,221	3,654	1,845	13,385	2,434	15,819	5,389	378	377	8,578	21,963
Growth	4,201	3,367	5,029	2,763	15,360	3,646	19,006	3,374	2,757	3,016	12,793	28,153
Maintenance	3,594	5,427	5,521	1,861	16,403	2,456	18,859	5,415	5,421	5,357	18,649	35,025
Safety	159	105	392	1,624	2,280	2,143	4,423	3,253	7,727	7,543	20,666	22,946
Smart Network	63	443	455	789	1,750	1,040	2,790	1,458	1,505	1,584	5,587	7,337
Sub-Total Distribution	12,682	12,565	15,051	8,882	49,180	11,719	60,899	18,889	17,788	17,877	66,273	115,453
Support CAPEX	463	101	166	415	1,145	548	1,693	683	746	842	2,819	3,964
Total including Support CAPEX	13,145	12,664	15,217	9,297	50,323	12,267	62,590	19,572	18,534	18,719	69,092	119,415

In addition KE requested Rs.7,754 million on account of exchange rate devaluation and inflation.

14.23 In order to analyse KEL's investment, the Authority has carried out a comparison of the allowed and actual investment till December 2019 as shown in the following tables;

ALLOWED INVESTMENT

Rs. in Mln

Description	FY 2017	FY 2018	FY 2019	Jul - Dec 2019	Total Till Mid Term
Loss Reduction	2,432	2,486	2,676	1,396	**8,990**
Growth	3,103	3,189	3,265	2,015	**11,572**
Maintenance	1,113	1,081	1,071	542	**3,807**
Safety	494	478	495	256.5	**1,724**
Smart Network	564	554	637	338.5	**2,094**
Sub-total Distribution	**7,706**	**7,788**	**8,144**	**4,547**	**28,185**
Support Capex	600	600	600	300	**2,100**
Total including Support Capex	**8,306**	**8,388**	**8,744**	**4,847**	**30,285**

ACTUAL INVESTMENT

Rs. in Mln

Description	FY 2017	FY 2018	FY 2019	Jul-19 to Dec-19	Total till Dec-19	Jan-20 to Jun 20	Total (FY 17-20)
Loss Reduction	4,665	3,221	3,654	1,845	**13,385**	2,434	**15,819**
Growth	4,201	3,367	5,029	2,763	**15,360**	3,646	**19,006**
Maintenance	3,594	5,427	5,521	1,861	**16,403**	2,456	**18,859**
Safety	159	105	392	1,624	**2,280**	2,143	**4,423**
Smart Network	63	443	455	789	**1,750**	1,040	**2,790**
Sub-total Distribution	12,682	12,565	15,051	8,882	**49,180**	11,719	**60,899**
Support Capex	463	101	166	415	**1,145**	548	**1,693**
Total including Support Capex	**13,145**	**12,664**	**15,217**	**9,297**	**50,323**	**12,267**	**62,590**

14.24 It has been noted that KEL till December 31, 2019 (mid-term review period) has made an investment of PKR 50,323 Million against PKR 30,285 Million allowed till December 2019. Thus, KEL has undertaken more investment of PKR 20,038 Million than the allowed, till the Mid Term Review Period.

14.25 The Authority considers that as per Para 34 (XXIII) of the Authority decision dated July 05, 2018, provides for additional investment in T&D segments. The sub-clauses (ii), (iii) and (iv), of Clause 34(XXIII) addresses different possibilities of additional investment under T&D, which are reproduced here;

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ii. "In case KEL wants to bring more investment to outperform the regulatory targets in Transmission & Distribution (T&D) segments then KEL 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 KEL's own commercial decision for these additional investments."

iii. "In case, KEL achieves Authority's given T&D segments targets with additional investment then that additional investment wouldn't be allowed cost of funds/WACC. Meaning thereby no revision shall be made in the base rate adjustment component."

iv. "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."

14.26 It is evident that any additional investment in T&D segments, irrespective of the performance of KEL with respect to NEPRA regulatory targets, would not result in adjustment of the Base Rate Adjustment Component of the tariff, allowed to KEL in the MYT. Therefore, although KEL has made more investment than allowed by NEPRA, its request for allowing additional investment needs to be analysed in view of the above conditions.

14.27 KEL in its submissions while acknowledging the above relevant conditions in NEPRA decision, has requested to delink its additional investment with loss reduction targets. The relevant submissions of KEL are reproduced here;

"NEPRA has linked additional investments in the distribution segment with loss reduction and has stated that such additional investment in the T&D segment will be construed as commercial decision of KEL and referred to the following decision of the Authority;

> *"In case KEL wants to bring more investment to outperform the regulatory targets in Transmission & Distribution (T&D) segments then KEL 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* ***KEL's own commercial decision for these additional investments."***

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14.28 KEL accordingly, submitted that in the updated investment plan, it has not requested for any additional investment for reduction in T&D losses as the same is linked with financial KPIs. "

14.29 KEL further stated that the revision in estimates and necessary additional investments under the revised plan have been made in view of the learnings from 2019 Monsoon, where Karachi experienced unprecedented rainfall, breaking the 40 years record, along with requirements to improve network reliability and resilience. Therefore, to enhance the overall safety and reliability of its network, revisions for necessary additional investments under Safety & Protection and Maintenance have been made amounting to PKR 19,451 Million and PKR 33,875 Million respectively and minor revisions have been made to scope of Support CAPEX, resulting in reduction of PKR 236 Million from the initial estimates. KEL has enhanced the scope of its Safety and Protection projects to ensure safe and reliable supply of power to its consumers in view of the ground realities and learnings from 2019 Monsoon, for external factors beyond KEL's control, including encroachment/illegal use of KEL's network.

14.30 The Authority on the aforementioned submissions of KEL, considers that the grounds taken by KE that improvement in reliability and resilience can be considered completely separate from NEPRA regulatory targets, cannot be accepted as KEL under its existing Licensing Terms is bound to carry out investments to meet reliability, and other performance standards set by NEPRA. If KEL's argument is accepted, it may lead to the premise that the investment requested by KEL during MYT 2016 was with poor service standards and now it intends to improve its service quality through requested additional investments in this regard. Accordingly, the submissions of KEL made in the MYT petition 2016, have been analysed. KEL in its MYT submissions had identified those technical areas where its proposed investment would help to improve the overall health of its system including quality of service, system reliability and technical losses which are also dependent on other parameters. Based on the submissions of KEL in the MYT Petition 2016, the following matrix lists key areas of interest:

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Investment Area	Relevant Technical Areas	Other Benefits
Loss Reduction	Aerial Bundle Cables (ABC Projects), Meter Replacement Projects.	Curb power theft, improve load management, support accurate consumption recording, improve technical losses and the overall quality of service.
Growth Related	Augmentation of existing dilapidated network, laying of new infrastructure.	Overall system reliability will increase and customer service will improve.
Maintenance	Planned for the upkeep and improvement of the overall network: (i) Laying of additional 11 KV feeders; (ii) Preventive work on feeders and PMTs; (iii) Corrective work (iv). System Improvement schemes.	To relieve overloaded feeders and to reduce faults and tripping, to rectify faults, change faulty meters and address complaints, segregation, shifting and relieving of overloading.
Safety	Not identified separately in the MYT petition filed by KEL.	---------
Smart Network	Smart Grid technology which will involve conversion of existing network into smart network by installing smart devices at feeders, PMTs and at customer level.	Ability to better monitor the grid, increase stability, reduce losses and optimize outage management.

14.31 The Authority observed that major areas i.e. loss reduction, growth related, maintenance and smart network where investment was proposed are interrelated as also identified by KEL. Referring to above matrix, under growth related investment, KEL had also proposed to take up augmentation of dilapidated network, which would also help in reducing losses in the system. Similarly maintenance projects have been foreseen for relieving overloading in the system, which is one of the reasons for higher technical losses. For investment related to smart network, KEL itself had expected that such investment would help in reducing losses (refer to above matrix).

14.32 The Authority noted that in its instant submissions in the MTR petition, KEL has justified its additional investments by mainly relying on the monsoon experience of 2019, which according to KEL, required it to make additional investment for a reliable and resilient system which cannot be linked with NEPRA regulatory targets. The Authority feels that KEL arguments are reasonable to a certain extent as flooding of grid stations, led to prolonged electricity shut downs in many areas. However it may not be a justifiable ground for allowing the additional investment as a whole since the Investment already allowed to KE were assessed after considering KE's obligation of provision of safe and reliable supply of electricity to the consumers.

14.33 Regarding proposed additional investment under "Safety", KEL is reminded that any prudent utility has to satisfy international safety standards in its design, construction and operation, which KEL is also obligated to meet. The Authority observed that KE has already been allowed a certain amount under the head of Safety in its MYT determination 2016. The 2019 events as mentioned by KE only

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highlighted and exposed KEL's construction practices and disregard of its own design specifications. Therefore, any additional investment on account of 'safety' cannot be allowed.

Investment during 1st Half of the Control Period:

14.34 Foregoing in view, the additional investment in Distribution Segment has been considered under the conditions laid down in NEPRA's decision dated July 05, 2018. The Authority considers that KEL claimed additional investment of PKR 20,038 Million over the allowed PKR 30,285 Million during 1st Half of the control period, is inefficiency on the part of KEL and hence cannot be allowed. Accordingly, no adjustment is required to be made in the Base Rate Tariff Component in this regard.

14.35 On the issue of exchange rate variation, as discussed above, the Authority has allowed all investments to KE in PKR terms after allowing for projected exchange rate variations as requested by KE in its MYT 2016 Petition. Thus, the risk of exchange rate variations whether upward or downward rests with KE.

Investment during 2nd Half of the Control Period:

14.36 **Rain Emergency Plan:** As discussed above the Authority understands that monsoon rains of 2019 have required KEL to make additional investments so that its networks can withstand similar conditions in future and lead to improved safe and reliable electricity supply. In this regard, the Authority has relied on its Order No. NEPRA/DG (M&E)/LAD-01/26697 dated December 09, 2019 in the matter of Show Cause Notice issued to KEL under Section-27B & Section-28 of the NEPRA Act and Investigation against KEL under Section-27A of the NEPRA Act. The Authority, in the matter, took serious notice of the failure of KEL during two spells of heavy rains (July 29-31, 2019 and August 10-12, 2019) to restore power supply within the prescribed time stipulated in Rule-3(3)(a) of the NEPRA Performance Standard (Distribution) Rules and directed it to take all possible measure to tackle with the monsoon season to ensure safety and avoid any fatal/non-fatal accidents in future. Accordingly, the Authority considers that additional investment claimed by KEL for Rain Emergency Plan is vital to implement the abovementioned directions of the Authority. Foregoing in view, the Authority has decided to allow KEL an investment of Rs.6,819 million in the 2nd Half of the control period, to execute the proposed Rain Emergency Plan. The details of the said investment is as under:

Rs. in Mln

Description	FY 2021	FY 2022	FY 2023	Total (FY 17-23)
Rain Emergency Plan	1,475	2,672	2,672	**6,819**

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14.37 In view of the aforementioned, the Authority has decided that it shall verify the reasonableness of above investments through detailed scrutiny of the costs and field visits. KEL therefore shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment.

14.38 For the additional investment claimed by K-Electric during the 2nd half of the control period, other than the already allowed under MYT determination, the Authority considers that same is not in line with the decision of the Authority at para 34.1 of the MYT determination dated 05.07.2018, thus not allowed to KE.

14.39 On the issue of exchange rate variation, as discussed above, the Authority has allowed all investments to KE in PKR terms after allowing for projected exchange rate variations as requested by KE in its MYT 2016 Petition. Thus, the risk of exchange rate variations whether upward or downward rests with KE.

14.40 Accordingly based on the above discussion, the base rate adjustment component has been adjusted upward by Rs.0.0094/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with onetime positive adjustment of Rs.474 million, to account for the additional investment of Rs.6,819 million allowed to KE for the execution of rain emergency plan.

15. **ISSUE # 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?**

Submissions of KEL:

15.1 KEL stated that the CAPEX plan approved at the time of MYT was based on certain assumptions and forecasted business requirements which are subject to change, and considering the vertically integrated nature of KEL, responsible for end-to-end planning of power needs of Karachi, KEL during the MYT proceedings had requested to keep the investment plan flexible. Further, despite challenges including delays in tariff finalization and other regulatory and GoP approvals resulting in consequential delays in execution of planned 900 MW, TP-1000 and TP-2 projects, as explained earlier, regulatory targets for addition of grid stations, transmission capacity and feeders were met, and there are no T&D side constraints in KEL's network.

15.2 Regarding the additional investments requested under the revised investment plan, it is submitted that the revision is on account of change in operational dynamics which includes off-take of additional power from National Grid in place of planned projects including 700 MW coal project, along with additional investment

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POWER REGULATORY AUTHORITY NATIONAL ELECTRIC NEPRA AUTHORITY requirements to strengthen network safety and reliability which have transpired through learnings from 2019 Monsoon as well as technological advancements such as installation of AMRs. Here, it is to be noted that KEL has not requested for any additional CAPEX in loss reduction, and therefore the additional investments requested under the revised investment plan do not have any commercial proposition for KEL, rather the same are critical to ensure that KEL meets its service obligations of providing safe and reliable supply of power to the consumers.

15.3 KEL submitted that the additional investments requested are based on prudent costs and revisions required due to factors beyond control, and while these investments have no commercial proposition for KEL, they are critical for service obligations. Therefore, it requested the Authority to allow the additional investments in line with Section-31(2)(b), Section-31(2)(c) and Section-31(3)(a) of the NEPRA Act.

<u>Analysis & decision of the Authority:</u>

15.4 The issues raised by KE have already been discussed in detail under the relevant issues in the instant decision, thus, does not require any further deliberations here.

16. <u>ISSUE # 5: What will be the impact of CCOE decisions dated 19 June 2020 on the Mid-term review petition?</u>

17. <u>ISSUE # 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?</u>

18. <u>ISSUE # 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?</u>

<u>Submissions of KEL:</u>

18.1 KEL submitted that considering the projected growth in power demand in KEL's service area it planned to install 900 MW RLNG based power plant and 700 MW Coal Project. Both these projects were conceived at a time when even the existing supply from the National Grid was uncertain. However, keeping in view the surplus capacity in the National Grid and projected shortfall within KEL's service area, KEL is being asked to pursue off-take of additional power from National Grid instead of 700 MW Coal Project, in light of discussions and meetings with relevant stakeholders including the GoP, NEPRA, NTDC and CPPA. In this regard, CCoE in its meeting dated August 27, 2020 has approved supply of up to 450 MW additional

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power to KEL through existing interconnections by next summer. In addition to the interim arrangement, up to 1,400 MW additional base load supply on long-term basis is being considered including (a). Up to 450 MW through 220kV Dhabeji Grid (May 2022); (b). Up to 150 MW through 220kV Gharo-Dhabeji Grid (December 2022); and (c). Upto 800 MW through 500 kV Interconnection at Karachi West through KKI Grid Station/interconnection with K2/K3 (May 2023). Accordingly, initially, KEL had requested for two 500 kV grids keeping in view the possible options for additional supply being considered. However, based on the technical study and subsequent discussions with NTDC, currently, KEL is pursuing one 220kV Dhabeji & one 500 kV KKI Grid for off-take of additional power from the National Grid.

18.2 Regarding the contractual modalities, it is submitted that discussions with relevant stakeholders including GoP, NTDC and CPPA around finalization of contractual arrangements are in progress, and it is expected that the same will be finalized by December 2020. KEL apprised that preliminary works for required 220kV Dhabeji and 500kV KKI interconnection grids have already begun, however, to proceed for firmed up contracts and financing for the project, clarity will be critical for allowance of related investments in tariff and requested NEPRA to expedite the approval for additional investments of PKR 13,610 Million as requested for grid and related interconnection works to off-take additional power from the National Grid. KEL stated that it would enable KEL to meet its service obligations and would also be in the greater consumer interest, as delays in these investments will have a consequential impact on the power demand-supply position in KEL's service area.

Submissions of Stakeholders:

18.3 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

18.4 The issue has already been discussed in detail under Issue # 20 of the instant decision, therefore need not be discussed here again.

19. **ISSUE # 6: How can KEL prove that investment has been actually made?**

Submissions of KEL:

19.1 According to KEL, during the years FY 2017 to FY 2019, a total of PKR 112,296 Million have been invested across the power value chain, which can be verified through audited financial statements and a reconciliation in this regard is presented, with detailed reconciliation of investments made in Generation, Transmission and Distribution with the audited financial statements.

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Submissions of Stakeholders:

19.2 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

19.3 The Authority while verifying the investments not only considered the audited financial statements of KE for the respective periods, but also sent a team of professionals for conducting the Physical verification of the work as claimed by the KEL in the Generation, Transmission and Distribution segments.

19.4 In addition, the team of professionals checked invoices of certain items on random sample basis. The Authority keeping in view the time constraints have decided to account for the investments executed by KE on provisional basis, however, it may conduct a 100% verification of the invoices pertaining to executed investments in due course of time either through its own professionals or through a third party. In case of any non-verification of any document, the Authority would adjust the amount.

20. **ISSUE # 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;**

Submissions of KEL:

20.1 KEL submitted that since the start of the tariff control period, it increased its generation capacity by 423 MW through own and external resources. The break-up of these additions is given below:-

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

Submissions of Stakeholders:

20.2 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

20.3 The Authority agrees with the submission of KE.

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21. **ISSUE # 16: What are the planned deadlines of KEL for de-commissioning of Units-3&4 of the BQPS-I?**

Submissions of KEL:

21.1 According to KEL, it plans to construct the 900 MW power plant in the most expeditious manner, with commissioning of power from the first unit (450 MW) by summer of 2021. However, to ensure timely commissioning of power from 900 MW plant, decommissioning of Units 3 & 4 of BQPS – I as per the planned timelines is critical. In this regard, it is submitted that Unit 4 and Unit 3 of BQPS I plant were taken out for decommissioning on September 20, 2020 and October 01, 2020 respectively. Accordingly, decommissioning of both these units is in line with the planned timelines of as also presented to the Authority during the MYT mid-term review hearing.

Submissions of Stakeholders:

21.2 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

21.3 The Authority observed that since the Unit 3 and 4 of BQPS-I have been decommissioned vide LPM decision dated 07.12.2020, therefore, the component of Depreciation, RoRB and O&M already allowed to KEL for Unit 3 and 4 in its MYT 2016, would be adjusted subsequently through its quarterly adjustments.

22. **ISSUE#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;**

Submissions of KEL:

22.1 KEL submitted that since the start of the tariff control period and till June 2020, it has invested PKR 67,014 Million in the Transmission segment, which has resulted in significant operational improvements including addition of 1,253 MVAs in transmission capacity. Year wise amount invested in the transmission segment is provided below:-

Rs. in Mln

PKR Million	FY 2017	FY 2018	FY 2019	FY 2020	Total
Investment in Transmission Segment	5,782	25,150	17,247	18,836	**67,014**

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22.2 During the period FY 2017 to FY 2020, six grid stations have been added, as follows:-

Voltage Level	FY 2019	FY 2020
220 kV	• Surjani (February 2019) • Gulshan (April 2019)	• New port Qasim (March 2020)
132 kV	• Shadman (December 2018) • Old Golimar (March 2019)	• Labour Square (November 2019)

22.3 Since the start of the tariff control period, KEL has increased the length of its transmission network by 69 km. Year-wise details of Transmission lines (km) is summarized below:-

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Transmission Lines (km) [220kV, 132kV & 66kV]	1,249	1,253	1,254	1,283	1,318
New Additions (kM)		**4**	**1**	**29**	**35**

22.4 KEL stated that to strengthen the reliability of its transmission network and ability to serve the incremental load, it added 30 power trafos (on net basis) during the FY 2016 to FY 2020, which translated into increase in capacity of power trafos by 24.6% (1,253 MVAs on net basis). As a result of these additions, percentage of power trafos having above 80% loading has reduced by 42% in the last 4 years, and with further planned additions, KEL targets to reduce the percentage of power trafos having loading above 80% to around 10% by the end of the tariff control period. Moreover, with investments made since the start of the tariff control period, and the corresponding increase in transmission capacity, there are no transmission constraints in KEL's system and sufficient capacity is available to serve the peak load. Year wise details of net addition in power trafos and capacity is summarized below:-

Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Number of Power Trafos	137	138	147	160	167
New Additions		**1**	**9**	**13**	**7**

<u>Submissions of Stakeholders:</u>

22.5 No comments were received from any stakeholder in this regard.

<u>Analysis & Decision of the Authority:</u>

22.6 The issue has already been discussed in detail under Issue # 20 of the instant decision, therefore need not be discussed here again.

23. **<u>ISSUE # 21: In consideration of the above scenario of under investment by KEL, whether the request of KEL to allow additional investment of PKR 7325 Million for</u>**

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upgrade and rehabilitation of 66kV line in Baluchistan and overall additional investment of 22828 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 115773 Million (including PKR 95307 Million for network growth and PKR 20466 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?

Submissions of KEL:

23.1 KEL stated that the investment plan submitted as part of MYT petition was based on initial estimates and under the revised investment plan, KEL has requested for additional PKR 30,201 Million in the transmission segment, due to revision in estimates and necessary additional investments in view of business and system requirements, such as interconnection grids for off-take of additional power form National Grid, rehabilitation works on transmission lines and infrastructure in Balochistan region including up-gradation of 66kV line to 132kV level with a total cost of PKR 7,325 Million and revision in scope of planned projects such as TP-2, or inclusion of 1 x 220kV Dhabeji Grid and 1 x 500 kV KKI grid along with related interconnection works for off-take of 1400 MW additional power from the National and the estimated cost for the same is PKR 20,631 Million which are factors beyond KEL's control. Revision of PKR 30,201 Million includes impact of exchange rate and inflation amounting to PKR 17,004 Million and scope changes amounting to PKR 13,196 Million. Details of scope revision due to change in estimates and necessary additional investments amounting to PKR 13,196 Million includes increase of PKR 8,468 Million due to additional cost of PKR 1,236 Million for addition of power trafos and allied equipment at 132kV Maymar Grid and 132kV bays at 132kV grid stations to accommodate additional consumer load, impact of PKR 553 Million due to change in short circuit level of new 220kV grids and transmission lines and conversion of 132kV new grid station into GIS from AIS, impact of PKR 565 Million at multiple 220/132 kV grid stations due to changes in design and on-ground limitations after contract execution and impact of PKR 3,071 Million on different 220/132 kV Transmission Lines. Moreover, to further strengthen the existing network and improve its reliability, under the revised investment plan, KEL plans to invest an additional PKR 7,186 Million for Grid rehabilitation/enhancement, EHT line rehabilitation and periodic maintenance and Up-gradation of under rated transmission equipment etc. KEL submitted that the above revisions in investment plan are prudent costs to be incurred by KEL which would enable KEL to better serve the customer needs and improve the overall service levels, and therefore, the same must be allowed in tariff, in accordance with Section-31(2)(c) and Section-31(3)(a) of the NEPRA Act.

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Submissions of Stakeholders:

23.2 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

23.3 The issue has already been discussed in detail under Issue # 20 of the instant decision, therefore need not be discussed here again.

24. **ISSUE # 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?**

Submissions of KEL:

24.1 KEL submitted that under the revised investment plan, in view of the technological advancements such as installation of AMRs resulting in greater network visibility, KEL has planned additional investments and enhanced scope of maintenance activities planned for the distribution segment including increased scope of preventive maintenance, SIPs and ABC rehabilitation as detailed above, which would result in improved reliability indices, SAIFI & SAIDI. In addition to enabling KEL to make targeted investments focused on improving reliability of its network, implementation of technology along with process improvements have also resulted in greater fault coverage, thus bringing in greater transparency and better visibility, which has improved the reporting mechanism. The comparison of SAIFI and SAIDI for FY 2019 and FY 2020 shows that with continuous investments in the network, reliability indices have shown positive trend, and planned investments would further the improvement trajectory.

Period	SAIFI	SAIDI
FY 2018 – 2019	28.95	2,950.42
FY 2019 – 2020	27.57	2,665.21

24.2 KEL highlighted that NEPRA has initiated separate proceedings for revision in SAIFI/SAIDI reporting mechanism and request the Authority to set targets based on automated data and revised mechanism as being deliberated upon in separate proceedings.

Submissions of Stakeholders:

24.3 No comments were received from any stakeholder in this regard.

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Analysis & Decision of the Authority:

24.4 The Authority observed that the abovementioned submissions of KEL regarding SAIFI and SAIDI is contrary to the facts. The actual figures for SAIFI and SAIDI of KEL are mentioned hereunder:

Period	SAIFI	SAIDI
FY 2015 – 2016	22.21	1,330.00
FY 2018 – 2019	28.95	2,950.22

24.5 The above figures of SAIFI and SAIDI clearly indicate that despite huge investment made by the KEL in its Distribution Network, contrary to its claims of improvement in the stability and reliability of its Distribution Network, in actual the same has further deteriorated in comparison to the start of the Tariff Control Period.

25. **ISSUE # 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 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?**

Submissions of KEL:

25.1 KEL submitted that despite various challenges including delays in tariff finalization, the Company invested PKR 59,746 Million in the distribution segment till June 2020, which was PKR 24,614 Million over and above NEPRA allowed PKR 35,132 Million. Year wise details of progress made in the distribution segment is provided below:-

25.2 Total number of feeders in KEL's network as of June 30, 2016 was 1,524, which has increased to 1,890 feeders as of June 30, 2020, resulting in addition/energization of 366 feeders. In addition to catering the increasing load, additions of feeders also helped relieve overloaded feeders in KEL's network, as a result of which overloaded feeders (above 100%) reduced from 0.5% (FY 2016) to 0.1% (FY 2020).

Year	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Number of 11 kV Feeders	1,524	1,653	1,729	1,807	1,890
Addition		**129**	**76**	**78**	**83**

25.3 In addition to laying/adding feeders to strengthen the network and cater to the increasing load requirement, a total of 6,112 PMTs were added (net addition of 5,769

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PMTs). As a result of these additions, KEL's distribution capacity has increased 25.6% (1,613 MVAs) since the start of the tariff control period.

Year	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Number of PMTs	23,031	25,667	27,388	28,183	28,842
Net Addition		**2636**	**1721**	**795**	**659**

25.4 Alongside addition of feeders and PMTs, KEL has increased HT lines from 9,247 km in FY 2016 to 10,204 km in FY 2020 (addition of 957 km).

Year	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
HT Lines (km)	9,247	9,363	9,549	9,876	10,204
Addition		**116**	**186**	**327**	**328**

25.5 Regarding reduction in trafos tripping, it is submitted that with continued investments, power trafo trips have shown a declining trend on continued basis and has reduced by 56% during the period FY 2016 to FY 2020 (upto December 2019), and with the requested additional investments, the downward trajectory is expected to continue further. Regarding penalties imposed on KEL as referred in the instant issue, it is submitted that the same have been on account of shortage in generation due to fuel constraints, demand and supply gap as well as network performance during monsoon rains, and are not related to power trafo trips. Going forward, KEL is committed to further enhance capacity across the value chain which includes setting up of 900 MW power plant, new interconnection grids as well as feeders and PMTs to improve network reliability and resilience, which would further benefit consumers in the form of greater capacity and improved reliability of power supply.

<u>**Submissions of Stakeholders:**</u>

25.6 No comments were received from any stakeholder in this regard.

<u>**Analysis of the Authority:**</u>

25.7 The Authority noted that as mentioned above under issue # 23, it is evident from the comparison of the values of SAIFI & SAIDI for the FY15-16 & FY 18-19 that the stability and reliability of the Distribution Network of KEL has further deteriorated in comparison to the start of the Tariff Control Period.

26. <u>**ISSUE # 11: Whether the request of KEL to allow additional investment of PKR 1844 Million in terms of "Impact of Exchange Rate & Inflation is justified?**</u>

27. <u>**ISSUE # 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**</u>

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Inflation is justified? It is pertinent to mention here that KEL itself vide its letter dated September 18, 2017 during MYT submitted the following deadlines for commercial operations of BQPS-III;

Unit	Simple Cycle	Combined Cycle
Unit-I	July, 2018	July, 2019
Unit-II	April, 2019	December, 2019

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;

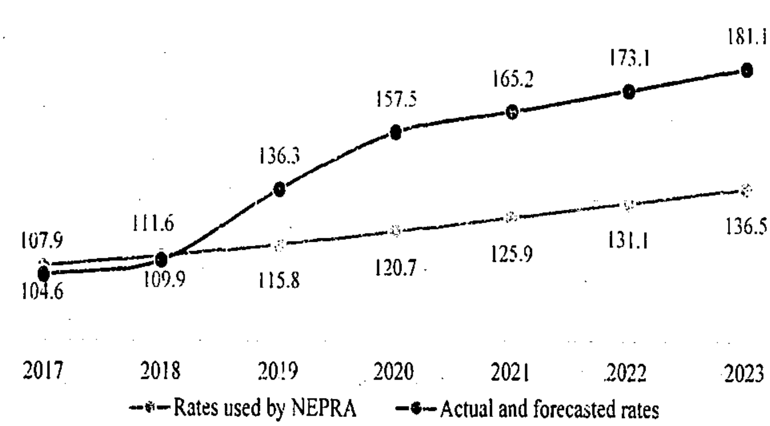
28. **ISSUE # 18: Whether the request of KEL to allow additional investment of PKR 11,799 Million in terms of "Impact of Exchange Rate & Inflation is justified?**

29. **ISSUE # 27: Whether the request of KEL to allow additional investment of PKR 7,754 Million in terms of "Impact of Exchange Rate & Inflation is justified?**

Submissions of KEL:

29.1 KEL submitted that Investment plan submitted during MYT 2016 proceedings was based on certain assumptions and forecasted business requirements. Macroeconomic factors including rupee devaluation and inflation have significantly changed, as compared to the assumptions taken at that time, which is beyond KEL's control. Comparison of assumed exchange rates and inflation with actual/updated forecast is given below:-

Comparison of Exchange Rate (Actual v NEPRA) PKR/USD



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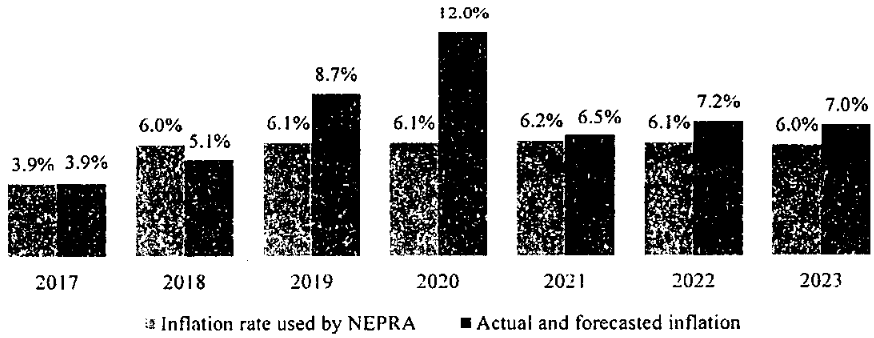
Comparison of Inflation (Actual v NEPRA) Change in CPI



29.2 As evident from the above, there has been significant depreciation of PKR against USD, having consequential increase in amount of investments, which is not within the control of KEL.

29.3 Cost of 900 MW project comprises of Equipment Supply and Construction Contracts, Ancillary Costs and Financing Costs. Supply and Construction Contracts have been signed with Siemens AG and Harbin Electric. Further, financing of the project is being pursued from Hermes and Sinosure (Foreign Lenders) along with a proportion from Local lenders. Cost which is linked with USD has been bifurcated, including financing cost and Interest during construction, as these will also vary with the variation in cost due to exchange rate. Out of the total estimated cost of USD 658 Million, USD 614 Million is forex driven. Accordingly, the same ratio of Foreign & local cost has been applied on the allowed cost of USD 730.5 million (please refer discussion in Issue no. 13 & 14 with respect to allowed cost) to calculate the impact of higher exchange rates.

29.4 TP-1000 project was initiated in FY 2016 and contracts were signed with Siemens AG, Shanghai Electric Company and Siemens Pakistan. The contract prices were designated in Euro, USD and Pak Rupees. Accordingly, the cost has been bifurcated in Foreign and local based proportions. As per cost incurred till FY 2017 to FY 2020, around 67% is based on foreign currency.

29.5 TP-2 project includes different capacity enhancement initiatives carried out through separate contracts. As per capex of PKR 5,390 Million incurred till FY 2020, around 43% is designated in foreign currency. Further, till FY 2023 capex amount on TP-2 project is planned to reach PKR 39,373 Million, out of which 57% is estimated to be based on foreign currency.

29.6 CAPEX for existing Generation Plants includes amounts incurred on maintenance and rehabilitation of existing plants, which also includes import of parts along with

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services from foreign entities. Based on actual Capex incurred in FY 2017 to FY 2020 and forecast till FY 2023, around 80% of capex will be foreign-currency based. Therefore, the allowed capex has been proportioned in foreign and local, based on the proportion for the control period and impacts of higher exchange rate and inflation have been calculated accordingly.

29.7 CAPEX for maintenance of Transmission Network includes amounts incurred on maintenance and rehabilitation of existing transmission network including Grid Stations, Transmission Lines and SCADA System. An analysis has been carried out on materials purchased during July 2016 to December 2019, as per which around 55% of the materials were foreign based.

29.8 CAPEX in Distribution segment is categorized under Loss Reduction, Growth, Maintenance, Safety and Technology – as explained in Issue no. 2. Capex incurred includes materials purchased as well as services rendered/incurred. Around 66 % of capex incurred during FY 2017 to FY 2020 comprises of Materials purchased. Further, within materials purchased, around 90% of materials are either directly or indirectly linked with foreign currency.

29.9 Therefore, out of total CAPEX, around 60% is based on foreign currency, and KEL requests NEPRA to consider the impact of higher rupee devaluation and inflation and allow the related impact on investments accordingly. Hence, it is requested that the impact of PKR devaluation on CAPEX is beyond KEL's control, and therefore, the same should be considered and relevant adjustments should be allowed in tariff. It is important to consider that these investments/initiatives are prudent and critical to ensure quality of service, and therefore must be allowed in tariff in accordance with Section-31(2)(c) and Section-31(3)(a) of the NEPRA Act.

Submissions of Stakeholders:

29.10 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

29.11 The issue of exchange rate variation has already been discussed by the Authority under the relevant issues in the instant decision.

30. **ISSUE # 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?**

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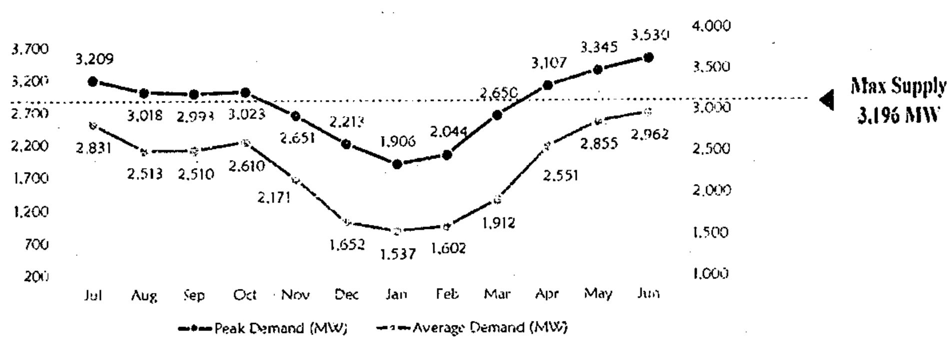
Submissions of KEL:

30.1 KEL submitted that since the start of the tariff control period and till December 2019, it added around 677,000 consumers, resulting in an addition of 996 MW. It is pertinent to note that these consumers include new connections as well as conversion of around 450,000 hook connections through provision of low-cost meters in low income areas. However, conversion of hook connections has no impact on system demand as these consumers were previously consuming power from the system illegally. In addition to conversion of unmetered consumers, KEL provided 650 MW of load to industrial, commercial and residential consumers, however, this addition is based on load sanctioned which based on their respective load and diversity factor, translates into 130 MW towards peak demand. Regarding lack of capacity addition, it is submitted that KEL has sufficient capacity in T&D network, and supply shortfall is only during peak summer period. Hence, in addition to having sufficient T&D capacity, for most part of the year, KEL has the generation capability to meet full demand, as also depicted in the chart below:

Demand-Supply (MW) FY 2019



30.2 Moreover, through investments across the value chain along with community engagement initiatives, KEL has successfully converted high and very high loss areas such as Gharo into low loss, and a result, LS exempt feeders have increased from 60% in FY 2016 to over 75% in FY 2020, which has helped reduce total unserved energy by 24%.

Submissions of Stakeholders:

30.3 No comments were received from any stakeholder in this regard.

Analysis & Decision of the Authority:

30.4 The Authority would undertake verification of KEL submissions through record and monitoring of performance.

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31. **ISSUE # 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?**

32. **ISSUE # 31: Whether request for revision in cost of debt and Normal cost of working capital are justified?**

Submissions of KEL:

32.1 KEL on the issue of Recovery issue submitted that improvement in recovery ratio of 4.1% mentioned above refers to the overall recovery ratio of the company which has improved from 88.5% in FY 2016 to 92.6% in FY 2019. During the same period, recovery ratio from public sector consumers improved from 83% in FY 2016 to 88% in FY 2019. Increase in working capital requirement is partially being controlled through improvement in recovery ratio, however, still a significant amount of working capital is stuck due to non-payment of Energy Dues by Government entities and accumulated receivables from GoP on account of Tariff Differential Claims (TDC).

32.2 K-Electric on the issue submitted that during the MYT renewal process, it explained the issue and dynamics of recovery loss and the importance of a cost-reflective tariff based on AT&C losses. Further, KE also explained the significant implications on cash flow and working capital requirements, due to non-consideration of recovery loss in the tariff and the issue of recovery loss has also been taken up in the appeal filed / pending with the Appellate Tribunal. Moreover, with regard to recovery loss, KE in its comments filed on the GoP's Reconsideration request on MYT, requested to account for recovery loss, with an improvement trajectory for recovery from Non-Public Sector Consumers. Further, with respect to the issue of long outstanding dues and irregular payments by Public Sector Consumers, KE requested to provide a working capital allowance in the base tariff, on the basis of a mechanism to be determined by NEPRA, in order to compensate KE for the unavoidable costs of providing additional working capital due to delays / non-payment by the Government (Federal, Provincial or Local) entities / Public Sector Consumers. Accordingly, to compensate K-Electric for the increase in working capital requirements, the Authority in para 26.20 of the MYT Reconsideration decision, stated that the Authority at the time of mid-term review, may consider working capital needs of KE and 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.

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Assessment of working capital cost with respect to Government related entities

32.3 K-Electric submitted that Circular debt has constrained its liquidity and as at December 31, 2019, net receivable from Government entities (after off-setting payable to Government entities) increased from PKR 24,727 million (June 2016) to PKR 108,943 million (on principal basis). Due to accumulated receivables from government entities, including stuck-up Tariff Differential Subsidy (TDS) receivables, it has to incur significant working capital cost as the related cost of supplying energy, which includes payments to fuel suppliers / IPPs, has to be made timely.

32.4 As a result, KE has incurred additional costs in holding working capital to cover late payments by government entities and stuck up TDS receivables from the GoP, while ensuring timely payments to fuel suppliers / IPPs. This is an uncontrollable and unavoidable cost, and accordingly should be compensated within the tariff. While KE puts rigorous efforts to recover the outstanding amounts from all parties, the amount pertaining to Government related entities is completely beyond KE's control. Accordingly, a separate assessment has been carried out relating to working capital requirements and the associated cost which KE has to incur due to accumulation in receivables from Government and Public Sector Consumers. With regard to receivables from the Government and related entities, one of the major components is the TDS claims which have reached an alarming level of around PKR 188,562 million as at December 31, 2019 and is further accumulating due to delays / non-release by the GoP, despite KE's continuous pursuance of the matter.

32.5 Moreover, the Power Purchase Agreement with NTDC, which continues to hold the field in line with the stay order dated February o6, 2014, granted by the Honorable Sindh High Court, provides a set-off mechanism through which KE's TDS receivable from the GoP are to be netted off with KE's payables to NTDC/CPPA-G. Further, recovery of energy dues from Government entities and departments has remained a key challenge for KE and as at December 31, 2019, receivables from various government entities and departments in respect of energy dues have reached a level of PKR 49,700 million. Further, any payments received from government entities and departments are received with significant delays, and as a result, substantial amount always remains outstanding against these entities, significantly impacting KE's liquidity position and translates into additional borrowing cost for the Company.

32.6 Further, since the principal amount stays unrecovered, the Late Payment Surcharge (LPS) is also not recovered and therefore has no impact on working capital requirements related to Government entities. Within these Public Sector Consumers, there are consumers which are of strategic nature, including Karachi Water & Sewerage Board (KWSB), and these installations are not disconnected, in

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32.7 Moreover, it must also be considered that KE, at various forums, including the Honorable Courts of Pakistan has raised the issue of non-payment of energy dues by Government and related entities and is also in continuous engagement with relevant departments in this regard. In addition to continuous engagement with GoP and Government of Sindh (GoS) on release of outstanding dues, KE has also recently started a public campaign, requesting the GoS to clear its outstanding dues towards KE. However, despite these efforts, there have been continued defaults from various Government departments and entities, which have seriously constrained the working capital position of Company, and KE should be compensated for the same accordingly.

32.8 K-Electric further mentioned that it is also critical to note that despite these stuck-up claims along with significant rupee devaluation since the start of the tariff control period, both of which are beyond KE's control, the Company has ensured payments for fuel and power purchases, however, this has been managed through increased borrowings. Had these not been made, this would have compromised KE's ability to ensure continued power supply, which would have been against the consumer interest. In view of the above, working capital allowance (related to Government entities) is requested to compensate KE for this cost, in accordance with Section 31(2)(c) and Section 31(3)(a) of the NEPRA Act 2018, based on which all prudent costs incurred by the licensee to ensure quality of service is to be allowed in tariff.

Assumptions used by K-Electric for Cost of Working Capital

32.9 K-Electric submitted that within the forecast, considering past trend, no release on account of TDS has been assumed and recovery from Public Sector Consumers has been assumed in line with earlier forecast submitted to NEPRA. Moreover, KE would request NEPRA to actualize the assumptions relating to working capital balances including release of TDS and recovery ratio of Public Sector Consumers at the end of the tariff control period and accordingly make the necessary adjustments in tariff. Cost of working capital has been calculated as 6 months KIBOR + 2.5% spread as allowed by NEPRA within the MYT. For this purpose, actual data for KIBOR has been used till December 2019, while forecast has been used for the period January 2020 till June 2023.

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Cost of Working Capital

32.10 KE further submitted that considering the working capital stuck due to receivables from Government entities and the inputs for cost of working capital explained above, it has incurred working capital cost of around PKR 17,789 million till December 2019, which would increase to PKR 67,859 million by 2023.

Rs. in MLn

Period	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	Total
Net Working Capital	15,524	25,880	76,356	108,484	109,356	107,358	94,300	
Cost of Working Capital	1,741	1,831	6,504	14,643	15,521	14,764	12,856	67,859

32.11 In view of the above submissions, K-Electric requested to increase the base tariff by Rs.0.65/kWh.

Submissions of Stakeholders:

32.12 **KCCI** on the issue submitted that KEL at one end refuses to pay SSGC any LPS and then laments over it not being paid to them by others. Since it is a private company what is the need of the business for Working Capital from the end users. It's not our responsibility that which clients pay or not pay on time, we are only responsible to out payments being paid. We absolutely refuse to even discuss this point or comment on it as its totally baseless and out of serious business context. Is the SSGC asking its end users for Working Capital based tariff inclusions or the cell companies or any other company dealing with Government? It's up to the planners and board members to finalize the ways ahead and not put everything on the poor shoulders of the masses that are virtual slaves of the utility for their everyday affairs.

Analysis & decision of the Authority:

32.13 The Authority in the reconsideration requested decision dated July 05, 2018 provided the following regarding working capital;

"26.20 However, during the midterm review, the Authority may review the working capital needs of KEL if there are significant changes in working capital needs which cannot be foreseen at this stage but could impair KEL's ability as a going concern entity in this MYT's control period. During that review, if there is an increase in working capital requirement due to factors beyond KEL's control, the Authority may consider the extent to which working capital requirement needs to be revisited. Likewise, in case if KEL's working capital requirements are significantly altered/reduced, the resultant impact may be addressed in the tariff at that stage."

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32.14 Thus, the working capital needs of K-Electric are to be reviewed keeping in view the following conditions:

(i) Needs which cannot be foreseen at this stage.
(ii) Impairs K-Electric ability as a going concern in the MYT control period
(iii) Factors beyond KE's Control.

32.15 The Authority has accordingly analysed K-Electric's claim in light of the aforementioned conditions and considers that issue of pending receivables from Government entities including TDS, is not something new and was very well known and foreseen at the time of K-Electric's MYT determination dated 05.07.2018, as its receivables from Government entities and subsidy receivable from GoP, stood at around Rs.52 billion and around Rs.30 billion respectively as per the financial statements of June 30, 2016, thus, non-payment by the Government entities or delayed payment of TDCs, cannot be termed as unforeseen.

32.16 Regarding, impairment of ability of the Company as going concern, the Authority noted that as per the Financial Statements of K-Electric for the period FY 2017, K-Electric has certified that:

"There is no significant doubt upon the company's ability to continue as a going concern".

32.17 Further, as per the Financial Statements for the FY 18, FY 19 and FY 20, the Management is responsible to assess the company's ability as a going concern, disclosing, as applicable matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so.

32.18 The Auditor is responsible to conclude on the appropriateness of the Management's use of the going concern basis of accounting and based on the Audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast doubt on the company's ability as a going concern. However, as per the Auditor's report for the FY 18, 19 and 20, no such disclosures have been given by the Management and also in the Auditors Report, no such disclosure or attention has been drawn regarding the Company ability not to continue as a going concern.

32.19 As per the amended NEPRA Act 2018, Electric Power Supplier is responsible for collection from consumers, further the amended Act provides that the existing Distribution Licensee to be deemed to hold license for supply of power for five years. Meaning thereby that KEL is a holder of supply license and is responsible for collection from the consumers itself, thus, any non-collection from the consumer is in the control of K-Electric and its own responsibility.

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32.20 Regarding issues of LPS from Government entities, the Authority observed that Terms and Condition of Tariff of K-Electric, obligates it to charge LPS @10% to all consumer i.e. both Private and Government. Therefore, non-charging of LPS by K-Electric or its non-recovery by K-Electric are its own operational inefficiencies, burden of which cannot be passed on to the paying consumers.

32.21 The Authority further observed that this issue has already been deliberated in detail in the Authority's decision dated March 20, 2017 and July 05, 2018 in the matter of K-Electric MYT determinations, where in the Authority decided as under:

<u>Determination dated March 20, 2017</u>

"36.3. After going through the submissions of the Petitioner and the objections/concerns shown by the Interveners and Commentators thereof, the Authority is of the view that the matter of delayed payment of TDC claims is something between the GoP and the Petitioner. The Petitioner may take up the matter of delayed TDC with GoP and any cost thereof may be settled between GoP and the Petitioner rather than being passed on to the consumers in the tariff. Further, the issue of delayed payment by Government entities or strategic customers may be resolved through payment mechanism in the new Implementation Agreement, if any to be signed between the GOP and the Petitioner."

<u>Determination dated July 05, 2018</u>

"26.15. KE's recovery ratio has declined from 88.6% to 87.6% during the period from 2009 to 2016. This clearly depicts a below par performance of KE on recovery side. Being mindful of this performance and operational inefficiencies, the Authority in its Determination and MLR decided not to pass through such costs on to the consumer as the same would be unfair and unjust. Further, this is consistent with the treatment meted out to XWDiscos. Moreover, there is no justification for the financial burden of declining recovery ratios to be borne by the Government in the shape of more subsidies, which defies the basic purpose and spirit of privatization K-Electric (then KESC)."

"26.16. It is also pertinent to highlight that neither the Federal Government nor the commentator (i.e. Government of Sindh) have expressed their views and commitment to address the issue of delayed payment of public sector dues as highlighted by KE in their submissions. Instead of requesting the regulator to pass on the burden of less recovery to the paying consumers, the Federal Government should itself ensure timely payments by all public sector entities/ organization."

"26.17. Similarly, it is foremost responsibility for the Provincial Government to provide enabling environment through law enforcement in order to ensure full recovery by KE instead of desiring higher recovery loss to be allowed. It is also to

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be noted that being cognizant of the law and order situation of the city, the Authority has already allowed a margin of 5.2% in the T&D losses target."

32.22 In view of the above discussion, comments of the stakeholders and considering the conditions prescribed to review the working capital needs of K-Electric, the Authority is of the considered view that cost claimed by K-Electric with respect to the Government related entities including TDS, does not merit consideration and therefore any cost/ amount on this account has been treated as Nil while working out the working Capital requirements of K-Electric.

Assessment of Normal working capital cost

Submissions by KE

32.23 KE in this regard submitted that it has carried out assessment of total cost of working capital incurred to fund the working capital gap taking into account current assets (excluding cash and securities) and current liabilities (excluding short-term borrowings and current maturity of long-term borrowings). One of the major components included in current receivables is accumulated dues from consumers. Certain portion of amount billed to consumers remains unrecovered and this recovery loss is a genuine cost of distribution business which has material implications on Company's cash flow position and working capital requirements. Within the MYT, NEPRA has stated that KE has been allowed to retain the LPS, which should be sufficient to cover the working capital requirements of the Company. However, as per the assessment, the LPS income is not sufficient to cover the cost of working capital.

32.24 Considering the above, within the MYT proceedings, K-Electric had requested NEPRA to calculate the Regulatory Asset Base ("RAB") based on 'Invested Equity + Borrowings', which would have accounted for the working capital requirements as well, however, the same was not allowed by NEPRA. As a result, K-Electric has not been adequately compensated for the cost of working capital, which is beyond K-Electric's control and an unavoidable cost.

32.25 K-Electric further reiterated that the issue of calculation of RAB based on written down value of fixed assets has already been taken up in the appeal filed / pending with the Appellate Tribunal against the MYT Decision. K-Electric also stated that as per assessment, the net working capital and related cost, net of LPS, have been worked out and accordingly requested NEPRA to consider the cost of working capital of PKR 0.50/kWh (over and above the requested working capital cost for Government related entities) and allow its recovery in the tariff as all prudent costs of the licensee is to be compensated for within the tariff, in line with Section 31(3)(a) of the NEPRA Act, 1997 (as amended).

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Exhibit 12: Nornal Cost of Working Capital — **PKR Million**

Period	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	Total
Net Working Capital	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	67,957
Less: LPS	(2,479)	(2,318)	(2,327)	(2,281)	(2,235)	(2,190)	(2,146)	(15,976)
Net Working Capital Cost	2,714	4,036	7,157	9,945	9,634	9,514	8,981	51,981

32.26 Subsequently, KE has submitted its revised working in this regard which is as follows;

Rs. in Mln

Period	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	Total
Net Working Capital	66,852	76,803	79,883	69,712	74,288	76,487	76,686	
Cost of working Capital	5,190	6,357	9,968	11,037	7,108	8,010	8,520	56,191
Less: LPS	(2,479)	(2,318)	(2,327)	(2,561)	(2,510)	(2,460)	(2,410)	(17,065)
Net Working Capital Cost	**2,711**	**4,040**	**7,641**	**8,476**	**4,598**	**5,550**	**6,110**	**39,127**

32.27 As per K-Electric, the above working includes Furnace oil (FO) inventory levels at 20,000 MTons as normally maintained by KEL, however, as NEPRA has directed to increase the inventory levels, the cost of additional inventory to bring the inventory levels to 65,000 MTons has been included in the above analysis. It has further submitted that as required by the Authority to ensure operations of Korangi Combined Cycle Power Plant (KCCPP) on liquid fuel as well, inventory of High-Speed Diesel (HSD) will be required. In this regard, K-Electric has included cost of HSD inventory equivalent to 7 days operations in the working capital analysis. BQPS-III plant will run on RLNG as primary fuel, with HSD as back up fuel. Accordingly, HSD inventory will be held for BQPS III plant, and the same has been *included in working capital analysis, after planned commissioning of plant.

<u>**Comments from Stakeholders**</u>

32.28 Regarding revision of Normal Cost of Working Capital, KCCI submitted that it would like to again state that insulation of KEL against regular risks is not the job of NEPRA or its end users and it must bear the brunt of risks as we all do in our businesses. Based on myopic vision with only meetings its own needs by all means possible results in many creative ways to make the end user pay for all risks and KEL works in a risk-free environment. This is an ideal situation and may never happen. We clearly and loudly reject this idea of making the end user shoulder the risk and KEL retain the benefits without any passing of benefits to them as per historical practice.

<u>**Analysis & decision by the Authority**</u>

32.29 The Authority in the reconsideration requested decision dated July 05, 2018 provided the following regarding working capital;

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"26.20 However, during the midterm review, the Authority may review the working capital needs of KEL if there are significant changes in working capital needs which cannot be foreseen at this stage but could impair KEL's ability as a going concern entity in this MYT's control period. During that review, if there is an increase in working capital requirement due to factors beyond KEL's control, the Authority may consider the extent to which working capital requirement needs to be revisited. Likewise, in case if KEL's working capital requirements are significantly altered/reduced, the resultant impact may be addressed in the tariff at that stage. "

32.30 Thus, the working capital needs of K-Electric are to be reviewed keeping in view the following conditions:

(i) Needs which cannot be foreseen at this stage.
(ii) Impair K-Electric ability as a going concern in the MYT control period
(iii) Factors beyond KE's Control.

32.31 The Authority has accordingly analysed K-Electric's claim in light of the aforementioned conditions and observed that issue of recovery loss was one of the major points contended by K-Electric throughout proceedings of its MYT petition 2016, for which the Authority allowed write-offs, after fulfilling the prescribed criteria & process. In addition, considering the law and order challenges and ground realities of certain areas of the Karachi, a margin of 5.2% in its T&D was also allowed to K-Electric. Thus, the issue of recovery loss was very well known fact and was fully foreseen at the time of determination of MYT.

32.32 Regarding, impairment of ability of the Company as going concern, the Authority noted that as per the Financial Statements of K-Electric for the period FY 2017, K-Electric has certified that:

"There is no significant doubt upon the company's ability to continue as a going concern".

32.33 Further, as per the Financial Statements for the FY 18, FY 19 and FY 20, the Management is responsible to assess the company's ability as a going concern, disclosing, as applicable matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so. The Auditor is responsible to conclude on the appropriateness of the Management's use of the going concern basis of accounting and based on the Audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast doubt on the company's ability as a going concern. However, as per the Auditor's report for the FY 18, 19 and 20, no such disclosures have been given by the Management and also in the Auditors Report, no such disclosure or attention has been drawn regarding the Company ability not to continue as a going concern.

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32.34 As per the amended NEPRA Act 2018, Electric Power Supplier is responsible for collection from consumers, further the amended Act provides that the existing Distribution Licensee to be deemed to hold license for supply of power for five years. Meaning thereby that KEL is a holder of supply license and is responsible for collection from the consumers itself, thus, any non-collection from the consumer is in the control of K-Electric and its own responsibility.

32.35 Notwithstanding the above, the Authority has carried out an analysis of the working submitted by K-Electric, and has observed that K-Electric included the following item in its current assets, which are not justified;

i. Loan and advances to employees.
ii. Derivative Financial Assets.
iii. Asset held of sale/Investment Property, which represent land acquired for Datang Power Plant.
iv. Taxation being a Government related issue has not been considered.
v. Trade Deposits and short-term prepayments, which themselves are interest bearing, thus, may not require any additional cost.
vi. Trade Debts have been netted off with provision of Rs.48.5 billion for doubtful debts, available with KE as of June 2016, which was allowed as deductible expense for the purpose of calculation of Claw back in the previous MYT and, at the same time, write-offs have been added back, which were deducted by KE in its requested calculations.

32.36 Similarly, following adjustments have been made in the current liabilities;

i. Long term deposits (Security deposits), not accounted for by KE, have been included, as KE is not paying any interest to consumer on such deposits, as decided by the Authority in the MYT decision. The Authority considers that since this money is being used by KE for free, hence for the purpose of calculating working capital requirements only, the same has been considered.

ii. Spread over KIBOR has been reduced from 2.5% to 1%, considering the borrowing already availed by KEL.

32.37 After accounting for the aforementioned adjustments, a revised working has been carried out. Here it is pertinent to mention that, while carrying out the revised requirement of working capital, Furnace oil inventory of 65,000 metric Tons and HSD inventory for seven (7) days has been considered.

32.38 Based on the above, the Authority considers that working capital requirement of K-Electric needs to be adjusted downward; accordingly, a negative adjustment of Rs.0.0540/kWh is required to be made in the tariff of K-Electric, to be applicable w.e.f. January 1, 2020, along-with onetime negative adjustment of Rs.2,667 million.

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No further indexation of negative adjustment of Rs.0.0540/kWh would be required for the future period.

Cost of Debt

Submissions by KE

32.39 K-Electric on the issue of revision in Cost of Debt submitted that within the MYT, NEPRA has allowed weighted average cost of debt of 12.51% based on certain KIBOR and LIBOR assumptions and stated that no adjustment on account of future variation in rates will be allowed. However, based on actualized numbers and revised forecast, there is a significant deviation from the rates assumed in tariff.

32.40 Based on revised estimates, the weighted average cost of debt works out to be 13.46% (assuming no change in spreads / loan portfolio assumed by NEPRA in the MYT).

Exhibit 10: Cost of Debt

Period	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	Applicable for the Control Period
Assumed in Tariff								
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%

32.41 The above revision in cost of debt is beyond KE's control and is a prudent cost incurred to fund planned projects and normal business operations, therefore, non-inclusion of the same would result in prudent costs being disallowed, which is against Section 31(3)(a) of the NEPRA Act, 1997 (as amended). Further, in case of IPPs, the risk of interest rate variation is covered through indexation mechanism allowed in the tariff, and accordingly, the same principle should be applied to KE. Accordingly, K-Electric requested NEPRA to consider the impact of change in KIBOR & LIBOR, which is a prudent cost and is beyond Company's control, and allow adjustment of PKR 0.10/kWh in the base tariff.

32.42 However, subsequently, K-Electric submitted that post submission of Mid Term in March 2020, KIBOR/LIBOR have shown a declining trend due to COVID-19 and based on latest assumptions, the impact is negative PKR 0.03/kWh. NEPRA may adjust the same in MYT mid-term review, however, KEL would request to actualize the same at the end of tariff control period.

Submissions by Stakeholders

32.43 Mr. Arif Bilwani vide letter dated September 28, 2020, while referring to the decision of the Authority dated 05.07.2018, submitted that no adjustment should be

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made on account of variation in KIBOR and LIBOR during the tariff control period i.e. July 01, 2016 to June 30, 2023.

32.44 **KCCI** opposed the revision in Cost of Debt and submitted that the base rate is now in a single digit and the assumed costs of debt are double digits and 2019 is lower than 2020 in the tables submitted by KEL which is not the case and massive interest rates cutting has taken place by the central bank and this point is beyond comprehension at this point of time and is refused and rejected.

Analysis & Decision by the Authority

32.45 Regarding, K-Electric request for revision on account of KIBOR and LIBOR, the Authority observed that as per the MYT determination of K-Electric dated July 05, 2018, no adjustment on account of variation in KIBOR and LIBOR is to be allowed. The order part of the Authority's determination is reproduced hereunder;

"XXXVIII. No adjustment on account of variation in KIBOR and LIBOR shall be allowed to K-Electric during the tariff control period."

32.46 The Authority has observed that KE has in its revised request has itself requested a negative adjustment on account of cost of debt and is of the view that by not allowing any adjustments on cost of debt, the Authority principally shifted the risk of variation in interest rates on KE. In case if the Authority allows this downward adjustment, it would deviate from the spirit of its MYT 2016 decision and may establish KE's right to claim all exchange rate risks etc., as claimed by KE under different heads of investment which are not allowed by the Authority in the instant decision. In view thereof, the Authority considers that request of K-Electric for any adjustment in KIBOR/ LIBOR is not maintainable and is out of scope.

33. **ISSUE # 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%?**

Submission by KE

33.1 On the issue of Sent out Growth, K-Electric submitted that demand growth in KEL's service area was projected to increase by 2,000 MW by FY 26, through inclusion of 800,000 new customers into the system and based on a projected GDP growth of 5%. Further, K-Electric to justify its claim has submitted that it was projected that by FY 19, KEL would add around 270,000 new customers, against which around 600,000 customers have been added, resulting in addition of over 800 MW. Further, to overcome capacity constraints, KEL added around 300 feeders to its distribution

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network, as against planned 222 feeders. Further, load-shed as a percentage of demand has been reduced by 22%, against the target of 18% (FY 16 to FY 19). In addition to the consumer base, reduction in load-shed and addressing the issue of system constraints, there has been an increase in peak demand by 335 MW (3,530 MW in FY 19).

33.2 K-Electric further submitted that despite overachieving the set targets for controllable factors, which include consumer addition, capacity enhancement and reduction in load-shed, due to the prevailing economic conditions (which are beyond KEL's control) and change in consumption pattern, a comparable increase in energy consumed has not been witnessed. As a result, for the period FY 16 to FY 19, on Compound Annual Growth Rate (CAGR) basis, growth in sent-out of 2.3% has been achieved as compared with the 4.6% projected growth. This lower than projected growth in sent-out is mainly due to factors beyond KEL's control such as economic slowdown, change in consumption pattern etc.

33.3 Here, it is also important to consider that in its decision dated December 31, 2019 in the matter of quarterly tariff adjustment for the period July 2016 to March 2019, NEPRA has actualized the growth in load charged (fixed charges), thus passing on the benefit of higher actual growth in load charged as compared to NEPRA projected growth to consumers. Therefore, on the same premise, NEPRA should also actualize the growth in sent-out units.

33.4 In view thereof, K-Electric requested to revise sent-out growth projections to 2.3% instead of the currently assumed target of 4.4% for the tariff control period as mentioned below, and allowed adjustment of PKR 0.29/kWh in the base tariff, as non-revision of projected growth in sent-out would result in disallowance of prudent costs, which would be against Section 31 (3)(a) of the NEPRA Act, 1997 (as amended).

Exhibit 11: Revision in Sentout Growth

Sent-out (GWh)	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	CAGR FY 16 to FY 19	CAGR FY 19 to FY 23	CAGR FY 16 to FY 23
Actual + Forecast	16,580	17,419	17,697	18,098	18,509	18,928	19,358	2.3%	2.3%	2.3%
NEPRA	17,458	18,189	18,952	19,761	20,613	21,505	22,435	4.6%	4.3%	4.4%

Submissions by Stakeholders

33.5 Mr. Arif Bilwani and K-Electric Consumer Forum in their written comments, while referring to the decision of the Authority dated 09.10.2017, submitted that no adjustment should be allowed in sent out growth due to any reason.

33.6 KCCI further submitted that any business works in the available environment. If this was possible the banks would make a hue and cry that their projections of 18%

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earnings now are slashed to half. Or their earnings through interests are unworkable as per previous plans. Has this happened anywhere else in the businesses? What makes KEL so special that it must be insulated against things that are a part of business? Has not every business suffered in COVID? Have not their growth plans stalled? Have they not fired employees as they can't sustain them? KEL on the other hand must be insulated and new sets of standards that meets its plans must be set up by the regulator. Why? We totally reject this approach of KEL and do not agree to any re-setting of standards whether things are within or beyond KEL control. What is good for the rest of the businesses is good for this company too which is a private company. NEPRA should accord priority to national interest rather than protecting the interests of a private utility at the cost of consumers.

Analysis & decision by the Authority

33.7 The Authority on the issue observed that as per the MYT determinations of K-Electric, the risk of sales is to be borne by K-Electric. The relevant extract of the Authority's determinations of K-Electric MYT is as under:

Determination dated March 20, 2017

"22.5. The Authority while agreeing with the comments of the Interveners, request of the Petitioner and owing to the fact that the Petitioner, being a VIU, has a direct control over its generation sources to meet demand of its consumers, (essentially speaking bears the volume risk of sales), considers Price Cap with aforementioned modifications a more pragmatic option."

"37.4. .... Further, the existing MYT regime is so designed that ***the volume risk is borne by the Petitioner,*** *thus its argument with respect to revenue loss is not justified either. In view of the aforementioned, the Petitioner request for inclusion of force majeure clause in tariff is not acceptable."*

Determination dated October 09, 2017

"17.4 -However, after considering the submissions made by K-Electric and keeping in view the historical trend in load growth vis a vis growth in units billed, the Authority considers K Electric request legitimate and accordingly, has revised its assumptions in terms of load growth for projecting future revenues during the tariff control period, the impact of which has been incorporated in the tariff through base rate adjustment component."

"19.9. The instant MTY 2017 allows the Utility to maximize its profits by higher sales growth, therefore, an incentive should be provided to K-Electric to minimize load shedding in order to increase its sales and earn higher profits, which would also be benefiting the consumer in the shape of exemption from load shed and provision of reliable supply.

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19.10. Accordingly, for the purpose of making future financial projections of K-Electric, the sales as projected by K-Electric have been accounted for by the Authority, for the seven years tariff control period."

The Authority also noted that in its decision dated 01.12.2020, in the matter of Request of the Ministry of Energy (Power Division) for Incorporation of Support Package for Additional Consumption and Abolishment of Time of Use Tariff Scheme for Industrial Consumers of K-Electric, the Authority decided as under;

"The Authority has considered the request of the Ministry of Energy and agrees with the proposal regarding Special rate for industrial consumers on incremental consumption. However, keeping in view the fact that K-Electric tariff structure is different from XWDISCOs whereby, as per para 19.9 of the K-Electric's MYT MLR decision dated 9th October, 2017, the risk of sales, whether positive or negative lies with K-Electric, therefore, the discount of Rs.4.96/kWh for BI, B2 & B3 Industrial Consumers from the base rate & difference regarding rate of Rs.12.96/kWh for B4 & B5 Industrial Consumers, for incremental sales would be picked up by the GoP as tariff differential subsidy.

33.8 Thus, any gain or loss on account of variation in sent-out is with K-Electric as the existing MYT regime has been so designed that the volume risk is borne by the Petitioner, therefore no adjustment on this account is to be allowed to K-Electric. In view thereof, the Authority considers that request of K-Electric for any revision in sent out Growth is not maintainable.

33.9 Regarding, K-Electric's claim that actualization of fixed charges compared to projected fixed charges by NEPRA as part of Quarterly Tariff Adjustment for the July 2016 to December 2019, is not correct as the Authority during Quarterly Tariff Adjustment has not adjusted the Authority's allowed load (MDI) as assumed while working out the MYT.

34. **ISSUE # 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?**

Submissions by KE

34.1 Regarding impact of variation in exchange rate on RoE, K-Electric in its Mid Term Review (MTR) Petition submitted that NEPRA has allowed exchange rate indexation on Return on Equity (RoE) to KE and for the purpose, used the movement of exchange rates from June 2009 to June 2016 as benchmark and allowed grossing up of 17.05% on the RoE, to account for the indexation of exchange rates, as detailed hereunder;

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Exhibit 2: Allowed RoE under MYT

Description	Unit	Generation	Transmission	Distribution	KE
Return on Equity (RoE) - Dollarized	a	15.00%	15.00%	16.67%	15.21%
USD Indexation factor	b	17.05%	17.05%	17.05%	17.05%
Indexation to be included in RoE	c = a x b	2.56%	2.56%	2.84%	2.59%
Indexed RoE	d = a + c	17.56%	17.56%	19.51%	17.80%

34.2 K-Electric also submitted that as the indexation was based on projected exchange rates, on the basis of historical trend, the MYT decision included the following paragraph with respect to review of projected exchange rates vs actual exchange rates used for indexation purposes;

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 projected exchange rate accounted for *in the current MYT, the Authority may review its accumulated impact on the allowed RoE component of KE. For the purpose of calculating aforementioned exchange rate variation, the Authority shall take simple average of actual exchange rates as on the last day of each quarter from July 2016 to December 2019, (midterm review) vis a vis simple average of the exchange rates projected by the Authority in its assessment for the same period. 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 KE.*

34.3 K-Electric further submitted that since the time of tariff finalization, there has been significant depreciation in PKR against the USD, which is beyond KE's control. Accordingly, to assess the impact of rupee devaluation on the allowed RoE component, it has carried out comparison of (i) simple average of actual exchange rates as on the last date of each quarter from July 2016 to December 2019 against (ii) simple average of exchange rates used by NEPRA in its projections for the same periods. K-Electric in this regard provided the following comparison of its assumed NEPRA allowed exchange rates viz a viz actual & projected exchange rates for the period from July 2016 till June 2023;

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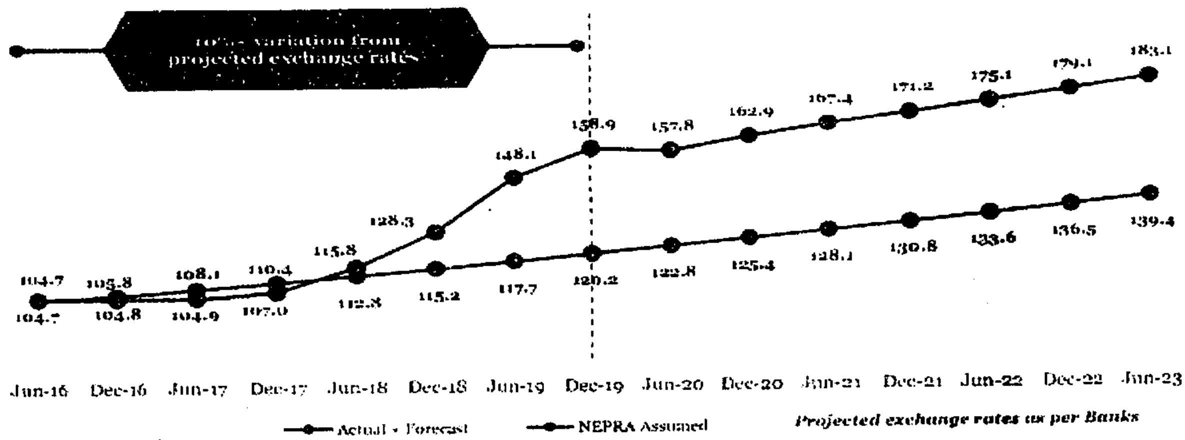
Exhibit 3: Average of Quarter-end Exchange Rates (PKR/USD)



34.4 Based on the above, K-Electric worked out the indexation factor of 41.94%, as against 17.05% allowed in the Tariff determination, and projected the following RoEs for Generation, Transmission and Distribution segments:

Exhibit 4: Revised Indexation for RoE

Description	Unit	Generation	Transmission	Distribution	KE
Return on Equity (RoE) – Dollarized	a	**15.00%**	**15.00%**	**16.67%**	**15.21%**
USD Indexation factor – updated	b	41.94%	41.94%	41.94%	41.94%
Indexation to be included in RoE	c = a x b	6.29%	6.29%	6.99%	6.38%
Indexed RoE – updated	d = a + c	**21.29%**	**21.29%**	**23.66%**	**21.59%**

34.5 Accordingly, K-Electric requested Rs.0.17/kWh as an impact of exchange rate variation for the RoE, by assuming PKR vs US$ parity to reach at Rs.183.1 as of June 2023. However, subsequently K-Electric, during its meeting with the Authority on April 26, 2021, submitted its revised projections of PKR vs US$ parity to reach Rs.164.5 as of June 2023. Consequently K-Electric revised its request downward to Rs.0.13/kWh on account of impact of exchange rate variation on RoE.

34.6 Besides above, K-Electric also submitted that within the MYT decision, NEPRA has allowed KE Return on Asset Base of 14.10%, based on notional debt to equity ratio of 70:30, whereas KE's actual debt to equity ratio based on debt and invested equity was 24:76 (FY 16). KE was required to invest equity to fund losses in past and no such condition for debt to equity ratio was specified in the Previous MYT. As a result, NEPRA has allowed a lower return to KE. The issue of applying notional 70:30 debt to equity ratio for the purpose of determining KE's Return on Asset Base has also been taken up in the appeal filed with the Appellate Tribunal, however, KE would like to request NEPRA to correct this factual anomaly in the mid-term review

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so as to allow actual variation in the exchange rate based on actual gearing ratio, in accordance with the provisions of Section 31 (3) (a), (b) and (c) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ("NEPRA Act, 1997 (as amended)").

Analysis & decision by the Authority

34.7 The Authority noted that as per the MYT decision dated July 05, 2018, K-Electric has been allowed impact of variation in exchange rate on Return on Equity (RoE), as under;

"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 projected exchange rate accounted for in the current MYT, the Authority may review its accumulated impact on the allowed RoE component of KE. For the purpose of calculating aforementioned exchange rate variation, the Authority shall take simple average of actual exchange rates as on the last day of each quarter from July 2016 to December 2019, (midterm review) vis a vis simple average of the exchange rates projected by the Authority in its assessment for the same period. 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 KE."

34.8 The Authority considers that impact of variation in exchange rates on ROE has been allowed, if the same turns out to be more or less than 5% of projected exchange rate accounted for in the current MYT for the period till midterm review i.e. July 2016 to December 2019. However, no impact is to be allowed if the variation remains within a band of 5%, either upward or downward. Accordingly, the workings submitted by K-Electric have been analysed in this context and it has been noted that;

i. NEPRA's projected exchange rates considered by K-Electric in its workings are not in conformity with the exchange rates actually projected by NEPRA while working out the ROE in the MYT 2016.

ii. K-Electric has not applied the threshold of 5%.

iii. K-Electric has assumed variation in exchange rates beyond Mid Term Review period i.e. after December 2019 till June 2023 by projecting exchange rate to reach Rs.183.1 as of June 2023. The same was although subsequently revised to Rs.164.5.

iv. K-Electric while calculating the impact of variation of exchange rate on RoE has applied the average variation for the entire seven years period on all of its investment irrespective of the actual/ proposed period of investments, as per the investment plan allowed in the MYT.

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34.9 In view thereof, the Authority has carried out its own working of impact of variation in exchange rate on ROE, by taking into account the actual exchange rates from July 2016 till December 2019 (Mid Term Review Period) vis a vis the exchange rates used in the MYT determination till December 2019. Since the Decision of the Authority is to consider the ***accumulated*** impact of exchange rate variation on RoE, hence the Authority keeping in view the recent exchange rate fluctuations, and the fact that actual exchange rates post December 2019 have remained higher than the ones projected in the MYT determination of K-Electric, has decided to also review the projections of the same on ***accumulated*** basis beyond mid-term review period as well.

34.10 For the purpose of projecting exchange rates beyond mid-term review period, the Authority has kept the actual exchange rate as of December 2019 i.e. Rs.155.35 constant till June 2023, and accordingly worked out the variations between the this rate and the exchange rate already projected, after accounting for the margin of 5%. However, the Authority keeping in view the recent appreciation of PKR vs US$, whereby the PKR vs US$ parity has considerably reduced, thus, in order to avoid any undue gain/ loss to K-Electric, has decided that if the actual PKR to US$ exchange rate variation for the period from January 2020 to June 2023, turns out to be more or less than 5% of projected exchange rate accounted for in the Mid Term Review Decision, the Authority may review its impact on the allowed RoE component of KE at the end of MYT control period as one-time adjustment.

34.11 Further, in line with the determination, the Authority while calculating the impact on ROE, has not considered variation up-to 5% either upward or downward in allowed vs actual exchange rates as this risk was to be borne by KE. Similarly, the impact of exchange rate variations has been applied keeping in view the year of investment as per the investment program approved by the Authority in the MYT determination, meaning thereby that exchange rate variations have been applied from the date of each investment till the end of MYT control period, rather than for the complete seven year period as done by K-Electric. Here it is pertinent to mention that the Authority in its instant decision has allowed K-Electric certain additional investments, (discussed in detail in earlier paragraphs), therefore, for the purpose of working out the impact of revision in RoE due to exchange rate variations, such investments have also been accounted for.

34.12 Based on the above discussion, the exchange rate variation for the seven years tariff control period has been worked out as 20.67%, as against the variation of 17.05% already allowed to K-Electric in the MYT determination, on account of devaluation of PKR to US$. Consequently, the revised ROE (%) to be allowed to K-Electric works out as 18.35% as against the already allowed RoE of 17.56%, resulting in increase in overall WACC to 14.26% from the existing WACC of 14.10%.

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34.13 In view of the above discussion, an upward adjustment in the tariff by Rs.0.0220/kWh has been made, to be applicable w.e.f. January 1, 2020, which is to be adjusted with T&D losses target for every year, along with one time positive adjustment of Rs.1,108 million.

Revision of allowed Debt to Equity Ratio

34.14 Regarding request of K-Electric to allow actual variation in the exchange rate based on actual gearing ratio, the Authority observed that the same issue was raised by K-Electric during proceedings of its MYT Petition, Review Motion and the Reconsideration Request filed by the Federal Government.

34.15 The Authority observed that the issue of change in Debt Equity ratio does not come under the scope of Mid Term Review and has already been deliberated in detail in the MYT determinations of K-Electric dated 20.03.2017, 09.10.2017 and 05.07.2018, thus, does not require any discussion at this stage. The relevant extract of the Authority's determinations are given hereunder for reference;

Determination dated March 20, 2017;

"25.21.2. For different power projects in the generation, transmission and distribution businesses an optimal capital structure (debt:equity) ranging from 80:20 to 70:30 has been allowed. The actual debt equity ratio of entities keep on changing with the payment of debts and changing gearing profiles, hence, may or may not be of optimal mix at any specific point in time. That is the reason why Authority allows a mix of capital structure which it considers to be optimum. Accordingly, the Authority has decided to adopt debt equity structure of 70:30, in the instant case for the purpose of calculating WACC."

Determination dated October 09, 2017;

"14.11. The Authority is also of the view that actual debt equity ratio of entities keep on changing with the payment of debts and changing gearing profiles, hence, may or may not be of optimal mix at any specific point in time. That is the reason why the Authority allows a mix of capital structure which it considers to be the optimum. Accordingly, the Authority decided to adopt debt equity structure of 70:30, in the instant case for the purpose of calculating WACC, which is in line with the same as approved for other DISCOs. In view thereof, the Authority maintains its earlier decision in this regard. The Authority has deliberated this issue in detail under para 25.21 of its MYT determination dated March 20, 2017."

Determination dated July 05, 2018;

"28.5. The argument put forward by KE in support of its claim regarding capital structure has already been considered by the Authority in the Determination (reference para 25.21) and later in the review motion Decision (reference para 14.11). However, KE's point of view on the issues has been reconsidered........"

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28.9. The Authority considered that comparison and reference to previous MYT is not justified as no limit was defined for debt-equity ratio, and KE was allowed to invest regardless of the formation of capital structure. Since now, a separate return component along with cost of debt has been allowed to KE, therefore, there is no reason or valid justification to change the already allowed capital structure in the MYT"

35. Here it is pertinent to mention that the aforementioned adjustments under each head, as mentioned in the instant decision, have been worked out step wise for the amounts of investment allowed or disallowed. The step wise impact may differ if the order of the steps are changed, however, the overall adjustment would remain the same.

<u>Order of the Authority</u>

36. The Authority having heard the Petitioner, stakeholders and perusal of the information/ record has decided on the Midterm Review Petition of K-Electric as under;

36.1 Not to allow any additional investments on existing power plants.

36.2 All investments allowed to KE in the MYT 2016 were in PKR terms, thus, the risk of exchange rate variations whether upward or downward rests with KE, hence no adjustment on this account has been considered.

36.3 Being cognizant of the critical need of operation of KCCP power plant on HSD, the investment of Rs.529 million, as claimed by KE for HSD operation of KCCP Plant is hereby allowed. The Authority shall verify the reasonability of this investment through detailed scrutiny of the costs for which KEL shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment. Accordingly, the base rate adjustment component has been adjusted upward for allowing cost of operation of KCCP on HSD by Rs.0.0014/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with one time positive adjustment of Rs.70 million.

36.4 No adjustment on account of GLTIP related investment has been considered. The issue of efficiency gain after the conduction of tests, would be decided separately by the Authority as part of its approval process for heat rate tests for BQPS I.

36.5 To adjust the already allowed impact on account of under investment in Transmission till the Midterm period. Accordingly, the base rate adjustment component has been adjusted downward by Rs.0.2336/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with onetime adjustment of Rs.11,772 million.

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36.6 Not to consider the additional investment proposed for Transmission Segment for the remaining MYT control period, except Rs.26,428 million and Rs.7,325 million, on account of 500 KV grid and HUVB project respectively. The Authority shall verify the reasonability of this investment through detailed scrutiny of the costs for which KEL shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment. Accordingly, the base rate adjustment component has been adjusted upward by Rs.0.0312/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year, along with onetime positive adjustment of Rs.1,571 million.

36.7 Not to allow any additional investment carried out in the distribution segment till the midterm review period and also not to allow any additional investment claimed for the remaining MYT control period except investment of Rs.6,819 million for execution of the proposed Rain Emergency Plan. The Authority shall verify the reasonability of this investment through detailed scrutiny of the costs for which KEL shall submit all necessary details for Authority's consideration. The allowed investments would be considered as an upper cap and only downward adjustment will be made in the base rate as a result of Authority's scrutiny of KEL investment. Accordingly, the base rate adjustment component has been adjusted upward by Rs.0.0094/kWh to be applicable w.e.f. January 1, 2020, to be adjusted with T&D losses target for every year along with onetime positive adjustment of Rs.474 million.

36.8 That keeping in view the time constraints, it has decided to account for the investments executed by KE on provisional basis, however, it may conduct a 100% verification of the invoices pertaining to the executed investments in due course of time either through its own professionals or through a third party, and in case of any non-verification of any document, the Authority would adjust the amount.

36.9 The component of Depreciation, RoRB and O&M already allowed for Unit 3 & 4 in the MYT 2016, would be adjusted subsequently through the quarterly adjustments.

36.10 That cost claimed by K-Electric with respect to the Government related entities including TDS, does not merit consideration, therefore any cost/ amount on this account has been treated as Nil, while working out the working Capital requirements.

36.11 To adjust working capital requirement of K-Electric downward; accordingly, a negative adjustment of Rs.0.0540/kWh has been made in the tariff of K-Electric going forward, along-with onetime adjustment of Rs.2,667 million. No further indexation of negative adjustment of Rs.0.0540/kWh would be required for the future period.

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36.12 No adjustment on account of KIBOR/ LIBOR is allowed.

36.13 No adjustment on account of sent out growth is allowed.

36.14 An upward adjustment of Rs.0.0220/kWh is allowed in the tariff on account of variations in exchange rate for the RoE, to be applicable w.e.f. January 01, 2020, to be adjusted with T&D losses target for every year, along-with onetime adjustment of Rs.1,108 million.

36.15 No adjustment on account of change in Debt Equity ratio is allowed.

36.16 Any error/omission found at a later stage which may require any adjustment in the tariff shall be binding on K-Electric and will be adjusted subsequently.

36.17 Based on the above mentioned adjustments, the Claw Back thresholds already allowed in the MYT decision dated July 05, 2018 have been revised as under. However, while calculating the amount of profit to be clawed back, the amount of onetime adjustment made in the instant decision, would be adjusted from the revenue of the respective year to which it pertains.

	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
25% to be shared with consumers	23.36% - 26.36%	19.57% - 22.57%	13.87% - 16.87%	11.72% - 14.72%	11.43% - 14.43%	10.91% - 13.91%	10.57% - 13.57%
50% to be shared with consumers	26.37% - 29.36%	22.58% - 25.57%	16.88% - 19.87%	14.73% - 17.72%	14.44% - 17.43%	13.92% - 16.91%	13.58% - 16.57%
75% to be shared with consumers	Above 29.36%	Above 25.57%	Above 19.87%	Above 17.72%	Above 17.43%	Above 16.91%	Above 16.57%

37. Based on the above, the Schedule of Tariff for the Quarters October to December 2019 and January to March 2020, already determined vide decision dated March 10, 2021, have been revised and are attached herewith. The same shall replace the already determined SoTs vide decision dated March 10, 2021.

38. The decision of the Authority along-with Order part and Annexures attached with this determination is intimated to the Federal Government for notification in the official gazette under Section 31(7) of the NEPRA Act.

AUTHORITY

Rehmatullah Baloch
Member

Engr. Maqsood Anwar Khan
Member

Rafique Ahmed Shaikh
Member

Tauseef H. Farooqi
Chairman

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

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SCHEDULE OF ELECTRICITY TARIFF FOR K-ELECTRIC LIMITED — APPLICABLE FOR THE QUARTER JANUARY - MARCH 2020

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
a)	For Sanctioned load less than 5 kW											
i	Up to 50 Units	-		4.00								4.00
	For Consumption exceeding 50 Units											
ii	1- 100 Units	-		16.72		(0.02)		(0.22)		(4.20)		12.28
iii	101- 200 Units	-		18.31		(0.02)		(0.22)		(4.20)		13.87
iv	201- 300 Units	-		19.52		(0.02)		(0.22)		(4.20)		15.08
v	301- 700 Units	-		20.57		(0.02)		(0.22)		(4.20)		16.13
vi	Above 700 Units	-		22.92		(0.02)		(0.22)		(4.20)		18.48
b)	For Sanctioned load 5 kW & above		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
	Time Of Use	-	24.13	19.95	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.69	15.51

As per decision of the Authority, residential consumers will be given benefit of only one previous slab.
Consumption exceeding 50 units but not exceeding 100 units will be charged under the 1-100 slab.
Under tariff A-1, there shall be minimum monthly customer charge at the following rates even if no energy is consumed.

a) Single Phase Connections: Rs. 75/- per consumer per month
b) Three Phase Connections: Rs. 150/- per consumer per month

A-2 GENERAL SUPPLY TARIFF - COMMERCIAL

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
a)	For Sanctioned load less than 5 kW			20.88		(0.02)		(0.22)		(4.20)		16.44
b)	For Sanctioned load 5 kW & above	400.00		20.11		(0.02)		(0.22)		(4.20)		15.67
			Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
c)	Time Of Use	400.00	24.12	19.89	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	15.45

Under tariff A-2. there shall be minimum monthly charges at the following rates even if no energy is consumed.

a) Single Phase Connections; Rs. 175/- per consumer per month
b) Three Phase Connections: Rs. 350/- per consumer per month

A-3 GENERAL SERVICES

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	Mid Term Adjustmnet Rs/kWh	Mid Term One Time Rs/kWh	TOTAL VARIABLE Rs/kWh
a)	General Services	-	21.07	(0.02)	(0.22)	(4.20)	16.63

Under tariff A-3, there shall be minimum monthly charges at the following rates even if no energy is consumed.

a) Single Phase Connections; Rs. 175/- per consumer per month
b) Three Phase Connections: Rs. 350/- per consumer per month

B INDUSTRIAL SUPPLY TARIFFS

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
B1	Upto 25 kW (at 400/230 Volts)	-		21.12		(0.02)		(0.22)		(4.20)		16.68
B2(a)	25-500 kW (at 400 Volts)	400.00		20.27		(0.02)		(0.22)		(4.20)		15.83
B3(a)	For all loads upto 5000 KW (at 11,33 kV)	380.00		20.12		(0.02)		(0.22)		(4.20)		15.68
B4(a)	For all loads upto 5000 KW (at 66,132 kV)	360.00		19.62		(0.02)		(0.22)		(4.20)		15.18
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
B1(b)	Upto 25 kW (at 400/230 Volts)	-	24.12	20.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	15.68
B2(b)	25-500 kW (at 400 Volts)	400.00	24.12	19.62	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	15.18
B3(b)	For All Loads up to 5000 kW (at 11,33 kV)	380.00	24.12	19.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.68
B4(b)	For All Loads (at 66,132 kV & above)	360.00	24.12	18.87	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.43
B5	For All Loads (at 220 kV & above)	340.00	24.12	18.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	13.68

For B1 consumers there shall be a fixed minimum charge of Rs. 350 per month.
For B2 consumers there shall be a fixed minimum charge of Rs. 2,000 per month.
For B3 consumers there shall be a fixed minimum charge of Rs. 50,000 per month.
For B4 consumers there shall be a fixed minimum charge of Rs. 500,000 per month.
For B5 consumers there shall be a fixed minimum charge of Rs. 1000,000 per month.

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NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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SCHEDULE OF ELECTRICITY TARIFF
FOR K-ELECTRIC LIMITED

APPLICABLE FOR THE QUARTER JANUARY - MARCH 2020

C - SINGLE-POINT SUPPLY

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
C -1	For supply at 400/230 Volts											
a)	Sanctioned load less than 5 kW	-	21.12		(0.02)		(0.22)		(4.20)		16.68	
b)	Sanctioned load 5 kW & up to 500 kW	400.00	20.12		(0.02)		(0.22)		(4.20)		15.68	
C -2(a)	For supply at 11,33 kV up to and including 5000 kW	380.00	20.12		(0.02)		(0.22)		(4.20)		15.68	
C -3(a)	For supply at 132 and above, up to and including 5000 kW	360.00	19.62		(0.02)		(0.22)		(4.20)		15.18	
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
C -1(c)	For supply at 400/230 Volts 5 kW & up to 500 kW	400.00	24.12	19.62	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	15.18
C -2(b)	For supply at 11,33 kV up to and including 5000 kW	380.00	24.12	19.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.68
C -3(b)	For supply at 132 kV up to and including 5000 kW	360.00	24.12	18.87	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.43

D - AGRICULTURE TARIFF

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
D-1	For all Loads	200.00	18.84		(0.02)		(0.22)		(4.20)		14.40	
	Time of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
D-2	For all Loads	200.00	24.12	18.42	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	13.98

Note:- The consumers having sanctioned load less than 5 kW can opt for TOU metering.

E - TEMPORARY SUPPLY TARIFFS

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	Mid Term Adjustmnet Rs/kWh	Mid Term One Time Rs/kWh	TOTAL VARIABLE Rs/kWh
E-1(i)	Residential Supply	-	21.62	(0.02)	(0.22)	(4.20)	17.18
E-1(ii)	Commercial Supply	-	22.22	(0.02)	(0.22)	(4.20)	17.78
E-2 (i)	Industrial Supply	-	22.67	(0.02)	(0.22)	(4.20)	18.23
E-2 (ii)	Bulk Supply						
	(a) at 400 Volts	-	22.62	(0.02)	(0.22)	(4.20)	18.18
	(b) at 11 kV		22.60	(0.02)	(0.22)	(4.20)	18.16

For the categories of E-1(i&ii) and E-2 (I&ii) above, the minimum bill of the consumers shall be Rs. 50/- per day subject to a minimum of Rs.500/- for the entire period of supply, even if no energy is consumed.

F - SEASONAL INDUSTRIAL SUPPLY TARIFF

125% of relevant industrial tariff

Note: Tariff-F consumers will have the option to convert to Regular Tariff and vice versa. This option can be exercised at the time of a new connection or at the beginning of the season. Once exercised , the option remains in force for at least one year.

G- PUBLIC LIGHTING

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	Mid Term Adjustmnet Rs/kWh	Mid Term One Time Rs/kWh	TOTAL VARIABLE Rs/kWh
	Street Lighting	-	21.52	(0.02)	(0.22)	(4.20)	17.08

Under Tariff G, there shall be a minimum monthly charge of Rs.500/- per month per kW of lamp capacity installed.

H - RESIDENTIAL COLONIES ATTACHED TO INDUSTRIAL PREMISES

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	Mid Term Adjustmnet Rs/kWh	Mid Term One Time Rs/kWh	TOTAL VARIABLE Rs/kWh
	Residential Colonies attached to industrial premises	-	21.62	(0.02)	(0.22)	(4.20)	17.18

J - SPECIAL CONTRACTS UNDER NEPRA (SUPPLY OF POWER) REGULATIONS 2015

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		Mid Term Adjustmnet Rs/kWh		Mid Term One Time Rs/kWh		TOTAL VARIABLE Rs/kWh	
J -1	For supply at 66 kV & above and having sanctioned load of 20MW & above	360.00	19.62		(0.02)		(0.22)		(4.20)		15.18	
J-2												
(a)	For supply at 11,33 kV	380.00	20.12		(0.02)		(0.22)		(4.20)		15.68	
(b)	For supply at 66 kV & above	360.00	19.62		(0.02)		(0.22)		(4.20)		15.18	
J-3											-	
(a)	For supply at 11,33 kV	380.00	20.12		(0.02)		(0.22)		(4.20)		15.68	
(b)	For supply at 66 kV & above	360.00	19.62		(0.02)		(0.22)		(4.20)		15.18	
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
J -1(b)	For supply at 66 kV & above and having sanctioned load of 20MW & above	360.00	24.12	18.87	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.43
J-2 (c)	For supply at 11,33 kV	380.00	24.12	19.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.68
J-2 (d)	For supply at 66 kV & above	360.00	24.12	18.87	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.43
J-3 (c)	For supply at 11,33 kV	380.00	24.12	19.12	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.68
J-3 (d)	For supply at 66 kV & above	360.00	24.12	18.87	(0.02)	(0.02)	(0.22)	(0.22)	(4.20)	(4.20)	19.68	14.43

NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
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SCHEDULE OF ELECTRICITY TARIFF
FOR K-ELECTRIC LIMITED

APPLICABLE FOR THE QUARTER APRIL - JUNE 2020

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
a)	For Sanctioned load less than 5 kW							
i	Up to 50 Units	-	4.00				4.00	
	For Consumption exceeding 50 Units							
ii	1- 100 Units	-	16.48		0.61		17.09	
iii	101- 200 Units	-	18.07		0.61		18.68	
iv	201- 300 Units	-	19.28		0.61		19.89	
v	301- 700 Units	-	20.33		0.61		20.94	
vi	Above 700 Units	-	22.68		0.61		23.29	
b)	For Sanctioned load 5 kW & above							
			Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
	Time Of Use	-	23.89	19.71	0.61	0.61	24.50	20.32

As per decision of the Authority, residential consumers will be given benefit of only one previous slab.
Consumption exceeding 50 units but not exceeding 100 units will be charged under the 1-100 slab.
Under tariff A-1, there shall be minimum monthly customer charge at the following rates even if no energy is consumed.

a) Single Phase Connections: Rs. 75/- per consumer per month
b) Three Phase Connections: Rs. 150/- per consumer per month

A-2 GENERAL SUPPLY TARIFF - COMMERCIAL

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
a)	For Sanctioned load less than 5 kW		20.64		0.61		21.25	
b)	For Sanctioned load 5 kW & above	400.00	19.87		0.61		20.48	
			Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
c)	Time Of Use	400.00	23.88	19.65	0.61	0.61	24.49	20.26

Under tariff A-2, there shall be minimum monthly charges at the following rates even if no energy is consumed.

a) Single Phase Connections; Rs. 175/- per consumer per month
b) Three Phase Connections: Rs. 350/- per consumer per month

A-3 GENERAL SERVICES

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	TOTAL VARIABLE CHARGES Rs/kWh
a)	General Services	-	20.83	0.61	21.44

Under tariff A-3, there shall be minimum monthly charges at the following rates even if no energy is consumed.

a) Single Phase Connections; Rs. 175/- per consumer per month
b) Three Phase Connections: Rs. 350/- per consumer per month

B INDUSTRIAL SUPPLY TARIFFS

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
B1	Upto 25 kW (at 400/230 Volts)	-	20.88		0.61		21.49	
B2(a)	25-500 kW (at 400 Volts)	400.00	20.03		0.61		20.64	
B3(a)	For all loads upto 5000 KW (at 11,33 kV)	380.00	19.88		0.61		20.49	
B4(a)	For all loads upto 5000 KW (at 66,132 kV)	360.00	19.38		0.61		19.99	
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
B1(b)	Upto 25 kW (at 400/230 Volts)	-	23.88	19.88	0.61	0.61	24.49	20.49
B2(b)	25-500 kW (at 400 Volts)	400.00	23.88	19.38	0.61	0.61	24.49	19.99
B3(b)	For All Loads up to 5000 kW (at 11,33 kV)	380.00	23.88	18.88	0.61	0.61	24.49	19.49
B4(b)	For All Loads (at 66,132 kV & above)	360.00	23.88	18.63	0.61	0.61	24.49	19.24
B5	For All Loads (at 220 kV & above)	340.00	23.88	17.88	0.61	0.61	24.49	18.49

For B1 consumers there shall be a fixed minimum charge of Rs. 350 per month.
For B2 consumers there shall be a fixed minimum charge of Rs. 2,000 per month.
For B3 consumers there shall be a fixed minimum charge of Rs. 50,000 per month.
For B4 consumers there shall be a fixed minimum charge of Rs. 500,000 per month.
For B5 consumers there shall be a fixed minimum charge of Rs. 1000,000 per month.

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NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA AUTHORITY

SCHEDULE OF ELECTRICITY TARIFF
FOR K-ELECTRIC LIMITED

APPLICABLE FOR THE QUARTER APRIL - JUNE 2020

C - SINGLE-POINT SUPPLY

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
C -1	For supply at 400/230 Volts							
a)	Sanctioned load less than 5 kW	-	20.88		0.61		21.49	
b)	Sanctioned load 5 kW & up to 500 kW	400.00	19.88		0.61		20.49	
C -2(a)	For supply at 11,33 kV up to and including 5000 kW	380.00	19.88		0.61		20.49	
C -3(a)	For supply at 132 and above, up to and including 5000 kW	360.00	19.38		0.61		19.99	
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
C -1(c)	For supply at 400/230 Volts 5 kW & up to 500 kW	400.00	23.88	19.38	0.61	0.61	24.49	19.99
C -2(b)	For supply at 11,33 kV up to and including 5000 kW	380.00	23.88	18.88	0.61	0.61	24.49	19.49
C -3(b)	For supply at 132 kV up to and including 5000 kW	360.00	23.88	18.63	0.61	0.61	24.49	19.24

D - AGRICULTURE TARIFF

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
D-1	For all Loads	200.00	18.60		0.61		19.21	
	Time of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
D-2	For all Loads	200.00	23.88	18.18	0.61	0.61	24.49	18.79

Note:- The consumers having sanctioned load less than 5 kW can opt for TOU metering.

E - TEMPORARY SUPPLY TARIFFS

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	TOTAL VARIABLE CHARGES Rs/kWh
E-1(i)	Residential Supply	-	21.38	0.61	21.99
E-1(ii)	Commercial Supply	-	21.98	0.61	22.59
E-2 (i)	Industrial Supply	-	22.43	0.61	23.04
E-2 (ii)	Bulk Supply				
	(a) at 400 Volts	-	22.38	0.61	22.99
	(b) at 11 kV		22.36	0.61	22.97

For the categories of E-1(i&ii) and E-2 (i&ii) above, the minimum bill of the consumers shall be Rs. 50/- per day subject to a minimum of Rs.500/- for the entire period of supply, even if no energy is consumed.

F - SEASONAL INDUSTRIAL SUPPLY TARIFF

125% of relevant industrial tariff

Note: Tariff-F consumers will have the option to convert to Regular Tariff and vice versa. This option can be exercised at the time of a new connection or at the beginning of the season. Once exercised , the option remains in force for at least one year.

G- PUBLIC LIGHTING

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	TOTAL VARIABLE CHARGES Rs/kWh
	Street Lighting	-	21.28	0.61	21.89

Under Tariff G, there shall be a minimum monthly charge of Rs.500/- per month per kW of lamp capacity installed.

H - RESIDENTIAL COLONIES ATTACHED TO INDUSTRIAL PREMISES

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh	Quarterly Adjustment Rs/kWh	TOTAL VARIABLE CHARGES Rs/kWh
	Residential Colonies attached to industrial premises	-	21.38	0.61	21.99

J - SPECIAL CONTRACTS UNDER NEPRA (SUPPLY OF POWER) REGULATIONS 2015

Sr. No.	TARIFF CATEGORY / PARTICULARS	FIXED CHARGES Rs/kW/M	VARIABLE CHARGES Rs/kWh		Quarterly Adjustment Rs/kWh		TOTAL VARIABLE CHARGES Rs/kWh	
J -1	For supply at 66 kV & above and having sanctioned load of 20MW & above	360.00	19.38		0.61		19.99	
J-2								
(a)	For supply at 11,33 kV	380.00	19.88		0.61		20.49	
(b)	For supply at 66 kV & above	360.00	19.38		0.61		19.99	
J-3								
(a)	For supply at 11,33 kV	380.00	19.88		0.61		20.49	
(b)	For supply at 66 kV & above	360.00	19.38		0.61		19.99	
	Time Of Use		Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
J -1(b)	For supply at 66 kV & above and having sanctioned load of 20MW & above	360.00	23.88	18.63	0.61	0.61	24.49	19.24
J-2 (c)	For supply at 11,33 kV	380.00	23.88	18.88	0.61	0.61	24.49	19.49
J-2 (d)	For supply at 66 kV & above	360.00	23.88	18.63	0.61	0.61	24.49	19.24
J-3 (c)	For supply at 11,33 kV	380.00	23.88	18.88	0.61	0.61	24.49	19.49
J-3 (d)	For supply at 66 kV & above	360.00	23.88	18.63	0.61	0.61	24.49	19.24

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