National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-570/QESCO-2021/8705-8707
June 2, 2022

Subject: **DETERMINATION OF THE AUTHORITY IN THE MATTER OF PETITION FILED BY QUETTA ELECTRIC SUPPLY COMPANY LTD. (QESCO) FOR DETERMINATION OF DISTRIBUTION TARIFF UNDER MYT REGIME FOR THE FY 2020-21 TO FY 2024-25** [CASE # NEPRA/TRF-570/QESCO-2021]

Dear Sir,

Please find enclosed herewith subject Determination of the Authority along with Annex-A and additional note of Engr. Rafique Ahmed Shaikh, Member NEPRA (73 Pages) in Case No. NEPRA/TRF-570/QESCO-2021.

2. The Determination 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.

Enclosure: As above

02.06.22
(Syed Safeer Hussain)

Secretary
Ministry of Energy (Power Division)
'A' Block, Pak Secretariat
Islamabad

CC:

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

National Electric Power Regulatory Authority
(NEPRA)

PETITION NO: NEPRA/TRF-570/QESCO-2021

DETERMINATION OF DISTRIBUTION TARIFF PETITION
FOR
QUETTA ELECTRIC SUPPLY COMPANY LIMITED (QESCO)
FOR THE FY 2020-21 – FY 2024-25
UNDER
NEPRA TARIFF (STANDARDS AND PROCEDURE) RULES - 1998

Islamabad

02-06-2022

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Abbreviations

CpGenCap	The summation of the capacity cost in respect of all CpGencos for a billing period minus the amount of liquidated damages received during the months
ADB	Asian Development Bank
AMI	Advance Metering Infrastructure
AMR	Automatic Meter Reading
BoD	Board of Director
BTS	Base Transceiver Station
CAPM	Capital Asset Pricing Model
CDP	Common Delivery Point
COSS	Cost of Service Study
CPPA (G)	Central Power Purchasing Agency Guarantee Limited
CTBCM	Competitive Trading Bilateral Contract Market
CWIP	Closing Work in Progress
DIIP	Distribution Company Integrated Investment Plan
DISCO	Distribution Company
DM	Distribution Margin
DOP	Distribution of Power
ELR	Energy Loss Reduction
ERC	Energy Regulatory Commission
ERP	Enterprise resource planning
FCA	Fuel Charges Adjustment
FY	Financial Year
GIS	Geographical Information System
GOP	Government of Pakistan
GWh	Giga Watt Hours
HHU	Hand Held Unit
HT/LT	High Tension/Low Tension
HSD	High Speed Diesel
IGTDP	Integrated Generation Transmission and Distribution Plan
IESCO	Islamabad Electric Supply Company Limited
KIBOR	Karachi Inter Bank Offer Rates
KSE	Karachi Stock Exchange
KV	Kilo Volt
kW	Kilo Watt
kWh	Kilo Watt Hour
LPC	Late Payment Charges
MDI	Maximum Demand Indicator
MMBTU	One million British Thermal Units
MoWP	Ministry of Water and Power
MVA	Mega Volt Amp

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MW	Mega Watt
NEPRA	National Electric Power Regulatory Authority
NOC	Network Operation Centre
NTDC	National Transmission & Despatch Company
O&M	Operation and Maintenance
OGRA	Oil and Gas Regulatory Authority
PEPCO	Pakistan Electric Power Company
QESCO	Quetta Electric Supply Company Limited
PDEIP	Power Distribution Enhancement Investment Program
PDP	Power Distribution Program
PPA	Power Purchase Agreement
PPAA	Power Procurement Agency Agreement
PPP	Power Purchase Price
PYA	Prior Year Adjustment
R&M	Repair and Maintenance
RAB	Regulatory Asset Base
RE	Rural Electrification
RFO	Residual Fuel Oil
RLNG	Re-gasified Liquefied Natural Gas
RoE	Return on Equity
RORB	Return on Rate Base
ROR	Rate of Return
SBP	State Bank of Pakistan
SOT	Schedule of Tariff
STG	Secondary Transmission Grid
SYT	Single Year Tariff
T&D	Transmission and Distribution
TFC	Term Finance Certificate
TOU	Time of Use
TOR	Term of Reference
TPM	Transfer Price Mechanism
USCF	The fixed charge part of the Use of System Charges in Rs./kW/Month
UOSC	Use of System Charges
WACC	Weighted average cost of capital
WAPDA	Water and Power Development Authority
XWDISCO	Ex-WAPDA Distribution Company

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DETERMINATION OF THE AUTHORITY IN THE MATTER OF PETITION FILED BY QUETTA ELECTRIC SUPPLY COMPANY LIMITED (QESCO) FOR DETERMINATION OF DISTRIBUTION TARIFF UNDER MYT REGIME FOR THE FY 2020-21 TO FY 2024-25

CASE NO. NEPRA/TRF-570/QESCO-2021

PETITIONER

Quetta Electric Supply Company Limited (QESCO), QESCO Headquarter, Zarghoon Road, Quetta.

INTERVENER
M/s PTCL
M/S Telenor
M/S Pak Telecom Mobile Ltd.

COMMENTATOR
M/s Deodar PMCL (Jazz)

REPRESENTATION

Chief Executive Officer and along-with its Technical and Financial team

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1. Background

1.1. The amendments in the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 was passed by the National Assembly on 15th March, 2018, which was published in the official Gazette on 30th April 2018 (the "**Amendment Act**"), resulting in restructuring of the energy sector. One of the fundamental changes as per the amendment Act is the introduction of a competitive retail energy sector, wherein, supply function has been segregated from the distribution license.

1.2. As per the amended Act, function of sale of electric power traditionally being performed by the Distribution Licensees has been amended under Section 21(2)(a), whereby 'sale' of electric power has been removed from the scope of 'Distribution Licensee' and transferred to 'Supply Licensee'.

1.3. The newly introduced Section 23E of the Act, provides NEPRA with the powers to grant Electric Power Supply License for the supply of electric power. Section 23E(1), however, provides that the holder of a distribution license on the date of coming into effect of the Amendment Act, shall be deemed to hold a license for supply of electric power under this section for a period of five years from such date. Thus, all existing Distribution Licensees have been deemed to have Power Supplier Licenses, to ensure distribution licensees earlier performing both the sale and wire functions, can continue to do so. Section 23E, further states that the eligibility criteria for grant of license to supply electric power to be prescribed by the Federal Government, and shall include, provision with respect to a supplier of the last resort, as the case may be.

1.4. As per Section 23F (2)(b), the Supplier possess the right to make sales of electric power to consumers within their specified territories on a non-discriminatory basis to all the consumers who meet the eligibility criteria laid down by the Authority.

1.5. In view thereof, Quetta Electric Supply Company Limited (QESCO), hereinafter called "the Petitioner", being a Distribution as well as deemed Supplier filed separate tariff petitions for the determination of its Distribution and Supply of Electric Power Tariff under the MYT Regime for a period of five years i.e. from FY 2020-21 to FY 2024-25, in terms of Rule 3 (1) of Tariff Standards & Procedure Rules-1998 (hereinafter referred as "Rules").

1.6. The Petitioner, inter alia, requested the following Distribution Margin in its Petition for the five years MYT period;

Description	Unit	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Investment	Mln Rs.	4,243	20,571	26,379	12,885	12,433
Unit Received	GWh	6,629	7,024	7,196	8,634	9,370
Units Lost	GWh	1,854	1,931	1,942	2,288	2,436
% of T&D losses	%	28	27	27	26	26
Units Delivered	GWh	4,775	5,093	5,254	6,346	6,934
O&M	Mln Rs.	6,794	7,945	8,883	9,592	10,274
Depreciation	Mln Rs.	1,940	2,425	3,295	3,651	4,018
Return on Asset Base (RoRB)	Mln Rs.	7,008	8,282	10,955	13,091	14,247
PYA	Mln Rs.	1,337				
Other Income	Mln Rs.	(1,072)	(1,261)	(1,452)	(1,582)	(1,790)
Distribution Margin	**Mln Rs.**	**16,007**	**17,391**	**21,681**	**24,752**	**26,749**
Average Sale Rate	**Rs./kWh**	3.35	3.41	4.13	3.9	3.86

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2. Proceedings

2.1. In terms of rule 4 of the Tariff standard and Procedure Rules, 1998 (hereinafter referred to as "Rules"), the petition was admitted by the Authority. However, considering the fact that the distribution license of the Petitioner is valid only till April 2022, the Authority decided to deliberate the term of the MYT period as a separate issue during the hearing. Since the impact of any such adjustments 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 hearing in the matter.

2.2. Hearing in the matter was scheduled on November 10, 2021, for which notice of admission / hearing along-with the title and brief description of the petition was published in newspapers on October 27, 2021 and also uploaded on NEPRA website; Individual notices were also issued to stakeholders/ interested parties.

3. Issues of Hearing

3.1. For the purpose of hearing, and based on the pleadings, following issues were framed to be considered during the hearing and for presenting written as well as oral evidence and arguments;

i. Whether the request of Petitioner to allow MYT for a period of five years is justified?

ii. Whether the Petitioner has complied with the direction of the Authority given in the tariff determination of FY 2019-20?

iii. Whether the projected energy purchases are justified?

iv. Whether the requested investment along-with its prospective benefits are justified?

v. Whether the projected O&M is justified?

vi. Whether the projected Return on Regulatory Asset base (RORB), Depreciation & Other Income is justified?

vii. What are the basis used by the Petitioner for bifurcation of its costs into supply and distribution segments?

viii. What should be the adjustment mechanisms during the MYT? Whether there should any efficiency factor (X Factor)?

ix. Whether the requested T&D loss targets stated in the instant MYT petition are justified?

x. Whether QESCO fully utilized the investments allowed previously in FY 2018-19 and FY 2019-20?

xi. QESCO submitted its 5-years DIIP without segregating the investment costs in to Best Case and Optimally Achievable Case. In this regard, QESCO needs to submit its 5-years investment plans according to the prescribed formats of DIIP whereby investments should be claimed against Best Case and Optimally Achievable Case separately.

xii. It is noted that agricultural load contributes major share of the load in QESCO system whereas, recovery from such agricultural/tube well connections is least. QESCO had plan to convert these connections to solar. QESCO needs to submit details of accomplishment and future plans in this regard.

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xiii. Whether QESCO has prepared schemes to cater for future demand and removal system overloading/constraints and provided a detailed report in this regard as per requirement under NEPRA Guidelines for determination of Consumer end Tariff (Methodology and Process) 2015.

xiv. Whether QESCO has provided at least 95% of new connections to its eligible consumers as specified in the Consumer Eligibility Criteria and Performance Standard Distribution Rules, 2005? Provide detail of pending connections till 30 September 2021.

xv. What steps were taken by QESCO to target high loss feeders to bring down the AT&C losses? Whether a detailed plan in this regard was furnished.

xvi. Whether project-wise detailed report for the investment carried out along with their cost-benefit analysis and technical/financial saving achieved by June 30, 2021.

xvii. Whether QESCO had prepared and submitted the IGTDP? If yes, what are the achievements of the last five years in this regard? Provide the detail.

xviii. What are the remedial measures taken for the achievement of performance standards (targets of SAIFI & SAIDI given by the authority during FY 2019-20) as laid down in the Performance Standards (Distribution) Rules 2005?

xix. Whether the loading position of Power Transformers, Distribution Transformers and 11kV Feeders has been improved? Provide details for the last three years.

xx. Provide details of preventive measures taken during FY 2020-21 to cater for the safety incidents?

xxi. Whether TOU meter installed to all the eligible connections? Submit details in this regard.

xxii. Progress regarding the installation of AMI meters at the consumer end.

xxiii. Progress of installation of ABC cable to control theft of electricity, which is the major source of the increase in transmission and distribution losses.

xxiv. What is the load-shedding criteria in the jurisdiction of QESCO?

xxv. What steps were taken to control the theft of electricity?

xxvi. Whether the concerns raised by the intervener/ commentator if any are justified?

xxvii. Any other issue that may come up during or after the hearing?

4. <u>Filing Of Objections/ Comments</u>

4.1. Comments/replies and filing of Intervention Request (IR), if any, were desired from the interested person/ party within 7 days of the publication of notice of admission in terms of Rule 6, 7 & 8 of the Rules. In response thereof, IR has been filed by M/s PTCL, M/s Pak Telecom Mobile, M/s Telenor and M/s CM Pak (Zong). Written comments also received from M/s Deodar PMCL (Jazz). A brief of the concerns raised in the IR/ comments is as under;

4.2. Telecom Sector including Cellular Operators (CMOs) has been declared as an Industry vide Ministry of Industries notification dated 20.04.2004, therefore, for the purpose of charging of electricity, industrial tariff may be applied to CMOs instead of currently applicable Commercial tariffs.

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4.3. The Authority during the tariff determinations of the Petitioner GEPCO for the FY 2019-20, on the request of Telenor regarding charging of Industrial tariff from Telecom Operators decided as under;

"The Authority observed that the issue highlighted by the commentator M/s Telenor Pakistan regarding applicability of Industrial tariff to Cellular Mobile Operator (CMOs) pertains to all the DISCOs including K-Electric as CMOs are operating all over Pakistan, therefore, the issue requires deliberations involving all stakeholders i.e. DISCOs, CMOs, Ministry of Energy, MoIT etc. The Authority noted that proceedings regarding Tariff petitions filed by all XWDISCOs for the FY 2018-19 and FY 2019-20, except GEPCO, have already been completed, therefore, the Authority has decided to consider the request of M/s Telenor as a separate issue during the proceedings for the upcoming tariff Petitions of DISCOs for the FY 2020-21 & onward".

4.4. In view thereof, in the instant tariff Petition, the subject matter has been discussed as a separate issue in the supply of power tariff petition of the petitioner.

4.5. During the hearing, the Petitioner was represented by its Chief Executive Officer along-with its technical and financial teams; On the basis of pleadings, evidence/record produced and arguments raised during the hearing, issue-wise findings are given as under;

5. **Whether the request of Petitioner to allow MYT for a period of five years is justified, considering the fact that distribution license is valid till April 2022?**

5.1. The Authority noted that the Petitioner has filed its MYT Petition for a period of five years i.e. FY 2020-21 to FY 2024-25, however, the Distribution license of the Petitioner is valid only till 29.04.2022. In view thereof, the Authority decided to deliberate the matter during the hearing.

5.2. The Petitioner during the hearing submitted that QESCO is considered as a going concern, having natural monopoly over distribution system in its service jurisdiction and will continue its operations in the future. The company is in process of filing a request for renewal of its license within due course of time. The determination of Multiyear tariff for a period of five years is justified in anticipation of renewal of distribution license by the Authority after April, 2022.

5.3. The Authority, considering the fact that the Petitioner has already filed request for renewal of its distribution license, which is under process with the Authority, has decided to consider the distribution tariff request of the Petition under the MYT tariff regime. However, the Authority is also aware of the fact that under Section 21 (2) (a) of the NEPRA Act, the word "exclusive" has been omitted, meaning thereby that the Petitioner does not possess the exclusive right for provision of distribution services in its specified territory. Thus, the grant of distribution tariff under the MYT regime shall in no way be construed as a basis for claiming any exclusivity in the licensed territory of the Petitioner. The terms & conditions, given by the Authority, in the new Distribution license of the Petitioner would be applicable during the MYT control period and the MYT would be governed by the terms & conditions of the new license.

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6. **Directions given to the Petitioner in its previous Tariff determination**

6.1. The Authority gave certain directions to the Petitioner in its tariff determination for the FY 2019-20. The Authority understands that periodic monitoring of the directions given by the Authority is absolutely necessary in order to analyze the Petitioner's performance, therefore, the Authority has decided to have a half yearly review of the given directions, instead of discussing the same only during the tariff proceedings. However, the directions which are directly relevant to the tariff determination of the Petitioner are discussed hereunder;

7. **File Multi Year Tariff Petition for a tariff control period of five year to avoid any delay in tariff determinations**

7.1. The Petitioner submitted during the hearing that in compliance of the direction, QESCO has filed Multi Year tariff petition for the FY 2020-21 to 2024-25 in the instant case.

8. **Provide break-up of its other income in terms of Distribution and Supply Business in its financial statements.**

9. **Segment reporting with clear break-up of costs in financial statements for the Distribution and Supply Functions in light of the amended NEPRA Act.**

9.1. As explained in earlier paragraphs, the function of sale of electric power traditionally being performed by the Distribution Licensees has been amended through NEPRA Act, 2018, whereby 'sale' of electric power has been removed from the scope of Distribution Licenses and transferred to 'Supply Licensee'.

9.2. In light of the aforementioned provisions of the Act, the Petitioner was directed for segment reporting with clear break-up of costs in financial statements for the Distribution and Supply Functions in light of the amended NEPRA Act for the FY 2020-21 & onward bifurcate its costs in terms of Distribution and Supply Function and provide basis thereof.

9.3. The Petitioner submitted during the hearing that QESCO will segregate the costs related to supply and distribution business for FY 2020-2021. Authority is requested to allow the segregation in financial statements of 2021-22 due to the fact that the comparative of last financial year is also needed to be incorporated in Financial Statements.

9.4. The Petitioner is directed to ensure segment reporting with clear break-up of costs in financial statements for the Distribution and Supply Functions in light of the amended NEPRA Act for the FY 2020-21 & onward.

10. **Stop the existing practice of deducting 20% of SAP funds for grid augmentation and carry out the augmentation of the grid after coordinating with the Ministry of Energy.**

10.1. The Authority in the MYT determination of the Petitioner for the FY 2019-20 directed the Petitioner to stop the existing practice of deducting 20% of SAP funds for grid augmentation and carry out the augmentation of the grid after coordinating with the Ministry of Energy.

10.2. The Petitioner submitted that in compliance of the Authority's instructions QESCO has stopped the practice of deducting 20% of SAP funds for Grid Augmentation and carry out the augmentation of the grid after coordinating with the Ministry of Energy.

11. **Restrain from unlawful utilization of receipts against deposit works and security deposits, failing which, the proceedings under the relevant law may be initiated against the Petitioner.**

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12. **Ensure that in future consumer's deposits are not utilized for any other purpose and the same is reflected in the Audited accounts for FY 2020-21 and onward.**

13. **To give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance for the FY 2020-21 & onward.**

13.1. The Authority during the tariff determination of the Petitioner for the FY 2015-16 and onward, noted that the Petitioner had insufficient cash balance as on 30th June 2015 against its pending liability of receipt against deposit works and consumer security deposits, which indicated that the amount received against the aforementioned heads has been utilized somewhere else and the Petitioner failed to provide details in this regard. The Authority observed that the amount collected as security deposit cannot be utilized for any other reason and any profit earned thereon has to be distributed to the consumers. Also, the amount collected under the head of receipt against deposit works has to be spent for the purpose for which it has been collected. The utilization of the money collected against deposit works and security deposits other than the works for which it has been received is illegal and unlawful. In view thereof, the Petitioner was directed to provide rational / justification for improper utilization of the money because the consumers have to face unnecessary delay for their applied connections.

13.2. Similarly for the FY 2018-19 & FY 2019-20, the Authority again observed that the Petitioner as per its provisional accounts had insufficient cash balance, against its pending liability of receipt against deposit works and consumer security deposits, thus, indicating that the amount received against the aforementioned heads has been utilized somewhere else for which no details have been provided.

13.3. Accordingly, the Authority decided, to include the amount of receipts against deposit works as a part of Deferred Credits for RAB for FY 2018-19 & FY 2019-20, after excluding therefrom cash/ bank balances and amount of stores & Spares available with the Petitioner and also directed the Petitioner to restrain from unlawful utilization of receipts against deposit works & security deposits, and to give clear disclosures in its Financial Statements with respect to the consumer financed spares and stores, work in progress and cash & bank balance.

13.4. The Petitioner submitted that there is no unlawful utilization of Receipts against Deposit Works however, previously Security Deposits were invested in TDRs for a specific period of time but after directives of NEPRA compliance has been made and noted for future.

13.5. The Petitioner further submitted that work in progress and cash balances can be bifurcated in the financial statements for the FY 2020-21 however, the segregation of store and spares could only be possible after implementation of ERP system.

13.6. The matter has been deliberated in detail under the issue of RoRB.

14. **Provide the certificate of replacement hiring from its Auditors as directed by the Authority in its previous tariff determinations by March 31, 2021.**

14.1. The Petitioner during the hearing submitted that the certificate has already been submitted vide letter No. 1221/FD/QESCO/CPC dated 27.10.2021.

14.2. The petitioner has complied with the direction of the Authority and provided replacement hiring certificate. The matter if further deliberated under the issue of O&M expenses.

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15. Provide the required details of late payment charges recovered from the consumers and invoices raised by CPPA (G) under the head of mark-up on delayed payments for the period from FY 2015-16 to FY 2019-20, in its next tariff petition.

15.1. The Petitioner submitted that the details of late payment charges recovered from the consumers and invoices raised by CPPA (G) under the head of mark-up on delayed payments for the period from FY 2015-16 TO FY 2019-20 are as under:

Rs. Mln

Description	Suppl. Charges billed by CPPA	Payment of LPS
SUPPLEMENTAL CHARGES 2015-16	1,422	119
SUPPLEMENTAL CHARGES 2016-17	2,045	140
SUPPLEMENTAL CHARGES 2017-18	2,299	145
SUPPLEMENTAL CHARGES 2018-19	6,910	161
SUPPLEMENTAL CHARGES 2019-20	11,946	151
SUPPLEMENTAL CHARGES 2020-21	16,011	206
Grand TOTAL	40,633	921

15.2. The matter has been deliberated further under the issue of PYA.

16. Create a separate post retirement fund by March 31, 2021, and report in this regard be submitted to the Authority.

16.1. The matter has been discussed in the ensuing paragraphs while deliberating the issue of Distribution Margin requested by the Petitioner.

17. Maintain a proper record of its assets by way of tagging each asset for its proper tracking

17.1. The Petitioner submitted during the hearing that Assets as of 30th June 2018, except distribution equipment's have been tagged and recorded. Assets added after 2018 will be verified and tagged after closing of accounts for FY 2020-21.

17.2. The Authority noted that despite repeated directions and lapse of significant time, the Petitioner has not been able to comply with the directions of the Authority. In view thereof, the Authority has decided to take up this matter separately with the Petitioner through M&E/Legal Department, however, at the same again directs the Petitioner to complete tagging of its assets by December 31, 2022.

18. To provide details of PEPCO Management Fees, if any, claimed previously by March 31, 2021, so that same could be adjusted in the subsequent tariff determinations.

18.1. The Authority, in the tariff determination of the Petitioner for the FY 2018-19 & FY 2019-20 observed that each DISCO is an independent entity having its own board of Directors, thus, allowing any cost on the pretext of PEPCO Management fee is not logical. It was also noted that the Ministry of Energy (MoE), itself in the Peshawar High Court submitted that PEPCO shall be dissolved after June 2011.

18.2. In view thereof, the cost of PEPCO fee was not allowed to the Petitioner and it was directed to provide details of PEPCO Management Fees, if any, claimed previously so that same could be adjusted in the subsequent tariff determinations.

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18.3. The Petitioner during the hearing submitted that PEPCO Management Fee amounting to Rs.132.09 million has been booked by QESCO from the FY 2019-20 to 2020-21 as per the following detail:

Advice No	2020-21	Advice No	2019-20
PPA-110/QESCO-11	8,460,000	PPA-144/QESCO-14	8,460,000
PPA-331/QESCO-31	11,567,769	PPA-299/QESCO-28	8,930,000
PPA-341/QESCO-32	8,460,000	PPA-60/QESCO-06	8,460,000
PPA-201/QESCO-19	8,460,000	PPA-206/QESCO-19	8,460,000
PPA-19/QESCO-02	8,460,000	PPA-211/QESCO-20	5,902,598
PPA-79/QESCO-08	8,460,000	PPA-224/QESCO-21	8,408,591
PPA-243/QESCO-24	8,460,000		
PPA-189/QESCO-18	8,460,000		
PPA-301/QESCO-30	8,460,000		
PPA-331/QESCO-33	4,230,000		
Total	83,477,769	Total	48,621,189

18.4. Although the Petitioner has provided the detail of amount booked on account of PEPCO fee, however, the petitioner is directed to provide the detail of PEPCO fee claimed in tariff till June 30, 2021 with its subsequent tariff adjustment/indexation request.

19. Whether the projected energy purchases are justified?

19.1. The Petitioner during the hearing submitted the following projected Energy (GWh), based on average growth rate of sanctioned load for last 06 years i.e. 4.29%.

Description	Units	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Units Purchased	MkWh	6,264	6,609	6,629	7,024	7,196	8,634	9,370
PPP Rate	Rs/kWh	12.14	13.43	12.19	15.4	17.03	17.74	18.95
PPP	Rs Million	74,926	88,602	80,792	108,162	122,510	153,150	177,578
T&D Losses	%	23.71%	26.74%	28.00%	27.50%	27.00%	26.50%	26.00%
	MkWh	1,485	1,767	1,854	1,932	1,943	2,288	2,436
Adjusted-PPP	Rs/kWh	15.68	18.3	16.93	21.24	23.32	24.13	25.61

19.2. The Authority observed that the issue of Power Purchase Price being relevant with the Supply Business has been deliberated in detail under Supply Tariff Petition of QESCO for the MYT control period.

20. What are the basis used by the Petitioner for bifurcation of its costs into supply and distribution segments?

20.1. The Petitioner submitted the following bifurcation of costs, into supply and distribution segments, during the hearing:

Supply of power	Distribution of power
•EXPENSES OF REVENUE OFFICES	•EXPENSES OF OPERATION DIVISIONS & GSO CIRCLES
•SALARIES AND OTHER EXPENSES OF BILL DISTRIBUTERS	•HEAD OFFICE EXPENSES ALLOCATED ON THE BASIS OF NUMBER OF OPERATION DIVISIONS AND GRID STATION OFFICES
•SALARIES AND OTHER EXPENSES OF METER READERS AND METER SUPERVISORS	•15% OF EXPENSES OF COMPUTER CENTER
•HEAD OFFICE EXPENSES ALLOCATED ON THE BASIS OF NUMBER OF REVENUE OFFICES	
•85% OF EXPENSES OF COMPUTER CENTER	

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20.2. The Authority understands that as per the Amended Act, the Distribution Licensee is responsible to provide distribution service within its territory on a non-discriminatory basis and develop, maintain and publicly make available, with the prior approval of the Authority, an investment program, meaning thereby, that installation/investment, operation, maintenance and controlling of distribution networks, form part of the Distribution License and activities like billing and collection form part of the Supply License.

20.3. The Authority in the determination of the Petitioner for the FY 2019-20 decided the following;

"The Authority believes that after amendments in NEPRA Act, all the Public Sector Distribution companies are required to make organizational restructuring in terms of segregation of responsibilities of the Distribution and Sale functions and in order to ensure appropriate coordination between both functions. Hence, keeping in view the fact that it is operational issue and DISCOs are owned by the Federal Government, it would be more appropriate that a centralized restructuring plan at the level of Federal Government is prepared to be implemented by all the public sector DISCOs in order to have a uniformity and consistency in the structure."

20.4. It is again desired that a centralized restructuring plan at the level of Federal Government is prepared, so that a uniform & consistent basis/ approach is adopted by all the DISCOs. Till such time, the submissions of the Petitioner are considered.

21. Whether the projected O&M is justified?

22. Whether the projected Return on Regulatory Asset Base (RORB), Depreciation & Other Income is justified?

23. What should be the adjustment mechanisms during the MYT? Whether there should any efficiency factor (X Factor)?

23.1. The Petitioner submitted that the requested O&M expenses includes salaries and other benefits of employees, repair and maintenance expenses, traveling allowance, vehicle maintenance allowance and other operating costs related to its distribution and supply business. The Pay & allowances for the FY 2020-21 have been estimated based on the Company's present strength.

23.2. Pay & allowances and employee benefits including retirement benefits constitute a major portion of the Company's O&M expenses. The Petitioner also submitted that requested amounts of O&M are calculated by taking CPI impact, 25% disparity Allowance w.e.f. March 2021 for base year and for remaining control period indexation of CPI along-with cost of new hiring. A summary of the final O&M costs requested by the Petitioner, under the MYT control period, during hearing of the instant Petition for the Distribution function is as under:

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Description	20-21	21-22	22-23	23-24	24-25	Basis
Salaries and Other Benefits	3,436	3,908	4,105	4,306	4,509	10% increase in salary & annual increment effect
622 ALM appointments	-	140	168	176	185	Provision for critical vacancies
Critical Vacancies required to be filed	-	60	243	347	389	Provision for Critical Vacancies
Retirement benefits Provision	1885	2074	2281	2509	2760	Actuarial provision
Trainings	-	30	30	31	31	Provision for trainings
Repair and Maintaince	728	931	1187	1282	1380	1.3% of Net fixed Assets
Traveling expenses	210	221	232	243	256	5% increase
Vehicle expenses	254	267	294	323	356	5% increase
Admin expenses	280	314	342	374	409	6.8% CPI increase
TOTAL	6,794	7,945	8,883	9,592	10,274	

23.3. The Petitioner submitted that Pay and allowances includes salaries of regular and contract employees, wages of daily wages, which includes all benefits such as house rent and acquisitions allowances, medical allowances and facilities, free electricity and pension contribution. Considering the impact of increase in salaries annual increment etc. by the Government as per the finance bill. Government of Pakistan approved Disparity Reduction Allowance 25% of the basic pay to all Federal Government Employees w.e.f 1st March, 2021.

24. Repair & maintenance expenses:

24.1. The Petitioner in its petition submitted that R&M expenses pertain to Civil, System Maintenance, Other plants and equipment's including Computers and Office Equipment's. Regarding basis of requested amount the Petitioner during hearing submitted that same has been projected based 1.3% of net Fixed assets.

25. Travelling & Other Operating expenses:

25.1. The Petitioner submitted that the travelling expenses for daily movement from allied formation to all bank branched and collect the scroll from banks and submit to MIS Directorate.

26. Vehicle running Expenses

26.1. The Petitioner submitted that transportation charges include repair and maintenance of vehicles, POL and annual renewal of registration fees.

27. RORB

27.1. On the issue of RoRB, the Petitioner submitted the following;

27.2. The return on investment on the (cost of capital) will be calculated as follows:

$$\text{ROR} = \text{Profit Rate Base} \times \text{Rate of Return}$$

Where:

Profit Rate Base is defined for the FY 2020-21 to FY 2024-25 as the sum of (i) Gross Fixed Assets in Operation beginning of the year (ii) The capital expenditures for the year (New Investments), in accordance with the proposed investment program (iii.) Less Cumulative Depreciation (iv) Plus Closing Capital Work in Progress (v) Less: Differed Credit.

27.3. Annual Rate of Return is a pre-tax return on the Profit Rate Base. Because the investment is typically financed with a combination of debt equity, the appropriate rate of return would be a market-based weighed average of the cost of capital

27.4. Average ROR is kept at 15.02% as cost of capital as allowed by NEPRA for the FY 2019-20.

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$$Ke = RF + (RM - RF) \times \beta$$

cost of debts ; kd = Interest on loans

$$WACC = [\ Ke \times (E/V)] + [kd \times (D/V)]$$

Where E/V and D/V are equity and debt ratio respectively taken as 20% & 80%.

27.5. The Petitioner accordingly projected the following RoRB for the FY 2020-21 to 2024-25;

RORB of Distribution Business (Rs in Million)					
Description	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Average Asset Base	**46,708**	**55,267**	**73,041**	**87,238**	**94,913**
Rate of Return	**0**	**0**	**0**	**0**	**0**
Total RORB	**7,016**	**8,301**	**10,971**	**13,103**	**14,256**
RORB of Wire Business	**7,008**	**8,282**	**10,955**	**13,091**	**14,247**

28. Depreciation:

28.1. Regarding depreciation charges, the Petitioner submitted that requested Depreciation is calculated on basis of approved rates as per company policy;

Depreciation of Distribution Business (Rs in Million)					
Description	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Building	45	69	100	104	108
Distribution Equipment	1,839	2,267	3,084	3,414	3,762
Office Equipment	12	14	18	21	22
Computers	13	39	43	46	53
Vehicles	46	73	94	113	126
Total	1,954	2,463	3,338	3,698	4,072
Depreciation for Wire Business	1,940	2,425	3,295	3,651	4,018

29. Other Income:

29.1. On the issue of Other Income, the petitioner submitted that other income pertaining to Distribution Business has been considered for base year and CPI impact taken for remaining control period.

Description	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
	Provisional	**Projected**	**Projected**	**Projected**	**Projected**
Sale of scrap	-	-	-	-	-
Non-utility operations	171.45	175.2	166.85	171.16	171.07
Stores handling and others	437.57	437.97	418.35	431.3	429.21
Amortization of deferred credit	835.63	854.09	857.51	849.08	853.56
Total	**1,444.64**	**1,467.26**	**1,442.71**	**1,451.54**	**1,453.83**

29.2. The Authority observed that the Amended NEPRA Act under Section 31(3), *inter alia*, has prescribed that the following general guidelines shall be applicable to the Authority in the determination, modification or revision of rates, charges and terms and conditions for provision of electric power services;

- ✓ *"(a) tariffs should allow licensees the recovery of any and all cost prudently incurred to meet the demonstrated needs of their customers Tariff."*

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- ✓ *(b) tariffs should generally be calculated by including a depreciation charge and a rate of return on the capital investment of each licensee commensurate to that earned by other investments of comparable risk;*
- ✓ *(c) tariffs should allow licensees a rate of return which promotes continued reasonable investment in equipment and facilities for improved and efficient service;*
- ✓ *(d) tariffs should include a mechanism to allow licensees a benefit from and penalties for failure to achieve the efficiencies in the cost of providing the service and the quality of service;"*

29.3. Further, as per NEPRA determination of Consumer-end-Tariff (Methodology & Process) Guidelines, 2015, the Authority shall choose a base year for the purpose of determining the affected company's revenue requirement under multi-year tariff regime or annual tariff regime. "Base Year" has been defined as the year on which the annual or multiyear tariff projection is being made, which may be a historical financial year, for which the actual results/audited accounts are available. It may be a combination of actual results and projected results for the same financial year or it may be a pure projection of a future financial year.

29.4. The Authority noted that as per the approved tariff methodology the Power Purchase Price is the only uncontrollable cost which is allowed a pass through item. The other remaining costs are to be treated as controllable costs.

29.5. Considering the fact that the MYT has been filed for the period pertaining to the FY 2020-21 to FY 2024-25, and the cost for the FY 2020-21 i.e. test year, is being assessed as reference cost during the MYT control period, the Authority has decided to consider the costs as per the Audited / Provisional accounts of the Petitioner for the FY 2019-20, and/or the request of the Petitioner in this regard as base year.

29.6. The Authority considers that for projections or assessment of OPEX costs, the two commonly used approaches are the Ex-Ante approach and the Ex-Post approach. In a regime where the allowed OPEX is determined Ex-Ante, there will inevitably be deviations between the allowed and actual OPEX in the form of efficiency savings or losses. Thus resulting in two broad options, one that the utility bears all savings or losses, i.e. no action is taken by the Regulator. The 2nd that the utility shares the savings or losses with consumers. The former provides the utility with a profit incentive to cut costs, but at the same time places the utility at greater financial risk in the face of losses. The latter somewhat dilutes efficiency incentives, but also limits the losses/gains for the utility and its customers. However, the widely used approach is that no adjustments to allowed Revenues or OPEX allowances are made in the next period to compensate for a deviation from allowed OPEX in the current period except for certain allowed adjustments in terms of CPI etc.

29.7. In view thereof, the head wise assessment of the Petitioner under each of the requested costs is as discussed hereunder.

Salaries and wages:

29.8. The Petitioner submitted that Salaries & Wages including employee's retirement benefits is the major component of O&M expense. The Authority understands that employees of XWDISCOs are hired on Government pay scales, thus, any salary increase announced by

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the Federal Government in Fiscal Budget is also applicable on the employees of XWDISCOs. Therefore, salaries & wages cost of employees can be considered as un-controllable cost for XWDISCOs as long as they remain in public sector.

29.9. The petitioner in compliance to the direction of the Authority has also sub mitted replacement hiring certificate. Therefore, while assessing the reference cost for the Petitioner MYT control period no deduction has been made in this regard.

29.10. Considering the fact that the cost for the FY 2020-21 is being assessed, which would be used as reference during the MYT control period, the Authority has decided to consider the costs as per the Audited accounts of the Petitioner for the FY 2019-20 as base year as explained in the preceding paras. It is also pertinent to mention that being a public sector company, the Petitioner is required to pay, its employees, increases in salaries & wages announced by the Federal Government through Budget. This also addresses the concern of the Petitioner in terms of salaries & wages cost being uncontrollable.

29.11. The actual total cost reflected in the Audited accounts of the Petitioner for the FY 2019-20, under Salaries & Wages *(excluding postretirement benefits, discussed separately)* is Rs.4,193 million. Accordingly, the said amount has been considered as base cost and by applying thereon the increases as approved by the Federal Government on Salaries and Wages in the Federal Budget for the FY 2020-21, the cost of Salaries & Wages *(excluding postretirement benefits, discussed separately)*, for both the Distribution and Supply Functions works out as Rs.4,623 million. The same is hereby allowed to the Petitioner for the FY 2020-21 for both its distribution and Supply Functions as reference cost, to be adjusted in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

29.12. Since the Audited accounts of the Petitioner, do not provide bifurcation of the Salaries, Wages and other benefits costs in terms of Distribution and Supply Functions, therefore, for the purpose of allocation of total cost of Salaries, Wages and other benefits in terms of Distribution and Supply Functions, the criteria as adopted by the Petitioner has been used. Accordingly, the cost of Salaries, Wages and other benefits *(excluding postretirement benefits)* for the FY 2020-21 pertaining to the distribution function works out as Rs.3,571 million.

29.13. The assessed Salaries & Wages costs for the FY 2020-21 i.e. Rs.3,571 million, shall be considered as the reference cost for working out future Salaries & Wages expenses of Distribution function, in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

<u>**Additional Hiring**</u>

29.14. Regarding additional recruitment, the Authority observed that Salaries & Wages cost for the FY 2019-20, as per the Audited accounts of the Petitioner, have been considered as base cost, therefore, impact of any new recruitment already made till FY 2019-20 has been accounted for. For the proposed recruitment to be carried out in FY 2020-21 and onward, the Authority understands that allowing cost of additional hiring, upfront would be unfair with the consumers, without considering/ analyzing the benefits of such recruitment. The Authority understands that it will be in a better position to adjudicate on the issue once the Petitioner provides details of the actual cost incurred in this regard and substantiates the same with the quantified benefits accrued. In view thereof, the Authority has decided to consider the financial impact of any additional hiring during the midterm review, which will be carried

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out after expiry of 3rd year of the MYT control period, whereby the Petitioner would provide complete detail/ justification of the recruitment made along-with benefits achieved. The mid-term review would be carried out, in case the Petitioner remains in the Public sector.

Post Retirement Benefit

29.15. The last four years pension payment as provided by the Petitioner is as under;

Sr.	Paid Rs in mln	FY 2020	FY 2019	FY 2018	FY 2017
1	Post retirement benefits	1,227	909	696	610
2	Medical Facilities	3	4	4	4
3	Free Electricity	51	33	24	26
4	Leave Encashment	44	44	35	23
	Total	**1,325**	**990**	**759**	**662**

29.16. Based on the above breakup of pension expense for the FY 2020 the requested amount has broken down as under;

Rs mln

	FY 21	FY 22	FY 23	FY 24	FY 25
Post retirement benefits	1,746	1,921	2,112	2,324	2,556
Medical Facilities	5	5	6	7	7
Free Electricity	72	79	87	96	105
Leave Encashment	63	69	76	83	92
	1,885	2,074	2,281	2,509	2,760

29.17. On the issue of Post-retirement benefits, it is also pertinent to mention that the Authority in its previous determinations, considering the overall liquidity position in the power sector and in order to ensure that XWDISCOs fulfil their legal obligations with respect to the post-retirement benefits, directed the XWDISCOs to create a separate fund in this regard. The rationale behind creation of separate fund was to ensure that DISCOs record their liability prudently as the funds would be transferred into a separate legal entity, which would also generate its own profits, as it would be kept separate from the Company's routine operations, thus reducing the Distribution Margin and eventually consumer-end tariff in longer run.

29.18. The Petitioner has created a separate Fund for its post-retirement benefits. Although, the Petitioner has created the Fund, however, the Authority is also cognizant of the operational performance of the Petitioner in terms of achieving the Regulatory Targets of T&D losses and Recoveries etc. The actual losses of the Petitioner for the FY 2019-20 remained at around 29% as compared to the allowed target of 19.47%. Similarly, the recovery ratio of the Petitioner during FY 2019-20 remained well below the allowed level of 100% recovery target.

29.19. The Authority keeping in view the operational performance of the Petitioner considers that at this point in time allowing provision for post-retirement benefits instead of actual payments made by the Petitioner, would not be in the interest of the consumers as any additional amount over & above the actual payments, would be eaten-up by the inefficiencies of the Petitioner and the Petitioner would not be able to deposit the excess amount in the Fund. However, if the Petitioner still manages to deposit any additional amount in the Fund, the Authority may consider to allow the same as PYA in the subsequent adjustment request.

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29.20. In view thereof, the Authority has decided to considered the amount of actual payments as per the Audited accounts of the Petitioner for the FY 2019-20 as base cost and by applying thereon the increases as approved by the Federal Government on Pension Benefits in the Federal Budget for the FY 2020-21, the cost of post-retirement benefits for the FY 2020-21 for both the Distribution and Supply Functions works out as Rs.1,334million. The same is hereby allowed to the Petitioner for the FY 2020-21 for both its distribution and Supply Functions as reference cost, to be adjusted in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

29.21. Since the Audited accounts of the Petitioner, do not provide bifurcation of post-retirement benefits in terms of Distribution and Supply Functions, therefore, for the purpose of allocation of total cost of post-retirement benefits in terms of Distribution and Supply Functions, the criteria as adopted by the Petitioner has been used. Accordingly, the cost of post-retirement benefits for the FY 2020-21 pertaining to the Distribution function works out as Rs.1,030 million.

29.22. **Regarding Repair and Maintenance expenses,** the Petitioner has requested amount of Rs. 728 million for the FY 2020-21 for its distribution function only. The Petitioner during hearing submitted that same has been projected based 1.3% of net Fixed assets.

29.23. The Authority has carefully examined the Petitioner's request of linking the R&M cost as a percentage of Net Fixed Assets (NFAs). The Authority, while going through the actual expenditure incurred by the Petitioner on account of R&M during the last two years as per its audited accounts, observed that the same works out as 1.94% and 2.39% of the Net fixed assets for the FY 2018-19 and FY 2019-20 respectively. Moreover, the Petitioner has not provided any rationale or working to substantiate its request of setting R&M as 1.3% of Net fixed assets except that it has to maintain vast & old distribution system. The Authority while reviewing the request of the Petitioner has observed that amount requested by the Petitioner under head of R&M is not calculated based on 1.3% of net fixed assets in operation.

29.24. No doubt that the adherence to service standards and improvement of customer services is only possible through continuous repair and maintenance of distribution network, however, at the same time the Petitioner has also requested for huge CAPEX of over Rs.76 billion for making additional investment in Fixed Assets, resulting in new, expensive and efficient equipment, leading to overall reduction in R&M cost and increasing the total Assets base. Thus, the Petitioner idea if adopted would result in undue benefit to the Petitioner in the long run. Thus, the request of the Petitioner to link R&M cost with the certain % of Fixed Assets is not justified.

29.25. In view of the foregoing and keeping in view the current approved tariff methodology, the Authority has decided to allow an amount of Rs.743 million under R&M head, for the FY 2020-21, as requested by the Petitioner, for both the Distribution and Supply Functions. The same is hereby allowed to the Petitioner for the FY 2020-21 for both its distribution and Supply Functions.

29.26. Since the Audited accounts of the Petitioner, do not provide bifurcation of the R&M costs in terms of Distribution and Supply Functions, therefore, for the purpose of allocation of total cost of R&M costs in terms of Distribution and Supply Functions, the criteria as adopted

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by the Petitioner has been used. Accordingly, the cost of repair & maintenance for the FY 2020-21 pertaining to the Distribution function works out as Rs.728 million.

29.27. The assessed repair and maintenance cost for the FY 2020-21 i.e. Rs.728 million, shall be considered as the reference cost for working out future repair and maintenance expenses for its distribution function, in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

29.28. **For other O&M Expenses**, the Authority noted that as per the approved tariff methodology, all other operating expenses are part of O&M costs which are to be assessed through CPI-X formulae for the whole tariff control period. Accordingly, for the assessment pertaining to the FY 2020-21 (reference cost), the Authority keeping in view the cost as per the Audited accounts of the Petitioner for the FY 2019-20, and the request of the Petitioner has assessed the other O&M expenses as Rs.895 million for both the distribution and Supply of Power Function for the FY 2020-21.

29.29. Since the Audited accounts of the Petitioner, do not provide bifurcation of the other O&M costs in terms of Distribution and Supply Functions, therefore, for the purpose of allocation of total cost of other O&M costs in terms of Distribution and Supply Functions, the criteria as adopted by the Petitioner has been used. Accordingly, the cost of other O&M for the FY 2020-21 pertaining to the Distribution function works out as Rs.725 million.

29.30. The assessed Other O&M cost for the FY 2020-21 i.e. Rs.725 million, shall be considered as the reference cost for working out future repair and maintenance expenses for its distribution function, in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

29.31. By considering the figures as per the financial statements/ request of the Petitioner, the Authority has incorporated all the costs including bill collection, building rent, NEPRA fee, insurance cost, rent, rates & taxes, and travelling, transportation etc. However, Management Fees of PEPCO, has not been considered as each DISCO is an independent entity having its own board of Directors, thus, allowing any cost on the pretext of PEPCO Management fee is not logical. Further, the Ministry of Energy (MoE), itself in the Peshawar High Court submitted that PEPCO shall be dissolved after June 2011. Accordingly, the cost of PEPCO fee, if any, has not been allowed to the Petitioner.

30. RORB

30.1. The Authority observed that as per Section 31(3) of the amended NEPRA Act, the following general guidelines shall be applicable to the Authority in the determination, modification or revision of rates, charges and terms and conditions for provision of electric power services;

- *(b) tariffs should generally be calculated by including a depreciation charge and a rate of return on the capital investment of each licensee commensurate to that earned by other investments of comparable risk;*
- *(c) tariffs should allow licensees a rate of return which promotes continued reasonable investment in equipment and facilities for improved and efficient service;*

30.2. The Authority uses the Capital Asset Pricing Model (CAPM) for calculation of Return of Equity (RoE) component of the WACC, being the most widely accepted model, which is

POWER REGULATORY AUTHORITY NEPRA AUTHORITY NATIONAL ELECTRIC applied by regulatory agencies all over the world to estimate the cost of capital for regulated utilities. Further, as per the Tariff methodology, in case of negative equity the Authority would consider a minimum of 20% equity and any equity in excess of 30% would be considered as debt.

30.3. Keeping in view the above, the Authority for the assessment of RoE component for the FY 2020-21, has considered weighted average yield on 05 Years Pakistan Investment Bond (PIB) as of July 22, 2020 as risk free rate, which is 8.2139%.

30.4. The expected return on any investment is the sum of the risk-free rate and an extra return to compensate for the risk. This extra return or 'risk premium' is the difference between market rate of return and risk free rate. Generally, the return on stock market index is taken as a measure of market rate of return. To have an appropriate measure of the market rate of return, analyzed KSE-100 Index return, over a period of 10 years i.e. FY 2011 to FY 2020, which remained at around 13.9%. The Authority also analyzed returns offered by stock exchanges of the neighboring countries, and noted that return of KSE-100 index remained higher than those of neighboring countries.

30.5. Based on the above analysis, the Authority has considered the rate of return on KSE-100 index as expected market return in WACC formula for calculation of Return of equity. The rate of return on KSE-100 index of around 13.9%, translates into risk premium of around 5.68% *(with risk free rate of 8.2139%, Weighted Average Yield of 5-Year PIB as of July 22, 2020).* Therefore, keeping in view the aforementioned, Market Risk Premium of 5.68% is considered as reasonable for calculation of cost of equity component.

30.6. Regarding assessment of beta, the Authority has considered the earlier studies in the matter, range of betas used by international Regulators, and accordingly decided to use the beta of 1.10, while assessing the RoE component.

30.7. As regard the cost of debt, it is the interest rate on which a company would get borrowing from the debt market / commercial banks i.e. a rate at which banks lend to their customers. In order to have a fair evaluation of the cost of debt, the Authority has taken cost of debt as 3 month's KIBOR + 2.00% spread. Consequently, the cost of debt has been worked out as 9.03% i.e. 3 Months KIBOR of 7.03% as of 3rd July 2020 plus a spread of 2.00% *(200 basis points).*

30.8. In view thereof, the WACC for the FY 2020-21 has been worked out as under;

Cost of Equity;

$Ke = R_F + (R_M - R_F) \times \beta$
$= 8.2139\% + (13.9\% - 8.2139\% = 5.686\% \times 1.1) = 14.47\%$

The cost of debt is;
Kd = 9.03%

WACC= ((Ke x (E / V) + (Kd x (D / V))
Where E/V and D/V are equity and debt ratios respectively taken as 30% and 70%;
WACC = ((14.47% x 30%) + (9.03% x 70%)) = 10.66%

31. <u>Treatment of Capital Work in Progress (CWIP) while calculating the RoRB</u>

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31.1. The Authority noted that as per the existing practice of XWDISCOs, CWIP in made part of RAB, while calculating RoRB. Considering the fact that CWIP also includes Interest during Construction (IDC), which once capitalized becomes part of total fixed assets, the Authority, regarding treatment of CWIP as part of RAB, has considered the best practices adopted by different Regulators across the world and observed the following;

32. <u>Energy Regulators Regional Association (ERRA) Practices for RAB</u>

32.1. As per the Energy Regulators Regional Association (ERRA) tariff data base, regarding CWIP, most of the regulators think that new CAPEX should be introduced in the RAB on the basis of actual costs incurred up to the point at <u>which the assets become operational</u>. Some regulators include construction work in progress in the RAB when construction is to be completed within a relatively short period of time, e.g. in one year. Accordingly RAB is calculated as per the following formula;

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RAB calculation: net approach

The regulatory asset base for the year t is calculated according to the following formula:

$$CB = OB + Inv - D - AD - DC + DWC$$

where:

OB - opening value of regulatory assets for year t of the regulatory period;

Inv - investment (capital expenditures) for year t of the regulatory period;

D - depreciation for year t of regulatory period;

AD - assets disposal for year t of regulatory period;

DC - annual change over year t in the value of assets funded by capital contributions;

D*WC* - annual change over year t in working capital;

CB - closing value of regulatory assets for year t of the regulatory period

32.2. Similarly, in India, the Maharashtra Electricity Regulatory Commission, while calculating return only considers assets that have been capitalized and any amount beyond 30% of equity portion is treated as part of debt.

32.3. In view of the above international practices and the fact that CWIP includes IDC, which once capitalized becomes part of total fixed assets, the Authority has decided to allow Return on Equity only up-to 30% of the CWIP separately and make the same as part of total RoRB.

32.4. Based on above and using WACC of 10.66% on RAB by including allowed investment for the FY 2020-21 and excluding therefrom the amount of CWIP, and allowing RoE at 30% of the closing value of CWIP, the RoRB of the Petitioner for the FY 2020-21 has been worked out as under;

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Description	FY 2019-20	FY 2020-21
Fixed Assets O/B	44,813	45,879
Addition	1,066	1,049
Fixed Assets C/B	45,879	46,928
Depreciation	15,838	17,346
Net Fixed Assets	30,041	29,582
Capital WIP C/B	-	-
Fixed Assets Inc. WIP	30,041	29,582
Less: Deferred Credits	21,138	20,804
Total	**8,903**	**8,778**
RAB		**8,840**
WACC		10.66%
RORB		**942**
Capital WIP C/B		30,909
Equity Portion of CWIP 30%		9,273
ROE on CWIP		1,342
Total RORB		**2,284**

32.5. The total amount of RoRB as worked out above has been allocated in terms of Distribution and Supply Functions, as per the criteria adopted by the Petitioner itself. Accordingly, the entire amount of RORB i.e. Rs.2,282 million for the FY 2020-21 has been allocated to the distribution function.

32.6. The reference RoRB determined for the FY 2020-21 would be adjusted annually as per the adjustment mechanism prescribed in the instant determination.

32.7. The Authority from the annual accounts of the Petitioner for the FY 2019-20, has again observed that the Petitioner as per its accounts has insufficient cash balance as on 30th June 2020, against its pending liability of receipt against deposit works and consumer security deposits, thus, indicating that the amount received against the aforementioned heads has been utilized somewhere else for which no details have been provided. Thus, it would be unfair and unjust with the consumers to suffer due to the unlawful act of the Petitioner.

32.8. Accordingly, the Authority has decided, to include the amount of receipts against deposit works as a part of Deferred Credits for the assessment of RAB for FY 2020-21, after excluding therefrom the cash/ bank balances and the amount of stores & Spares available with the Petitioner as on June 30, 2020.

33. Depreciation

33.1. The Authority noted that as per the Methodology, depreciation expense for the test year, which in the instant case is FY 2020-21, will be determined by applying depreciation charge on the Gross Fixed Assets in Operation, including new investment and will be considered reference for the tariff control period.

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33.2. In order to make fair assessment of the depreciation expense, the Authority accounts for the investments approved for the year. After taking into account the new investments, the Gross Fixed Assets in Operation for the FY 2020-21 have been worked out as Rs.45,873 million. Accordingly, the depreciation charge for the FY 2020-21 has been assessed as Rs.1,508 million calculated on actual depreciation rates for each category of Assets as per the Company policy, which will be considered as reference cost for working out future depreciation Expenses for the remaining tariff control period, to be adjusted as per the mechanism provided in the instant determination.

33.3. After carefully examining the relevant details and information pertaining to the deferred credit and amortization as per the accounts for the FY 2019-20, the Authority has projected amortization of deferred credit to the tune of Rs.665 million for the FY 2020-21. Accordingly, the consumers would bear net depreciation of Rs.844 million.

33.4. The actual depreciation reflected in the Audited accounts of the Petitioner for the FY 2019-20, do not provide bifurcation of depreciation cost in terms of Distribution and Supply Functions, therefore, for the purpose of allocation of depreciation cost in terms of Distribution and Supply Functions, the criteria as adopted by the Petitioner has been used. Accordingly, the depreciation cost of Rs.1,498 million for the FY 2020-21 has been allocated to the distribution function.

33.5. The reference expense determined for the FY 2020-21 would be adjusted annually as per the mechanism provided in the instant determination.

34. Other income

34.1. Other income is considered to be a negative cost which may include, but not be limited to, amortization of deferred credit, meter and rental income, late-payment charges, profit on bank deposits, sale of scrap, income from non-utility operations, commission on PTV fees and miscellaneous income.

34.2. Since the other income would be trued up every year as per the mechanism provided in the instant determination, therefore, for the FY 2020-21, the Authority has assessed Rs.1,146 million as Other Income of the Petitioner for the FY 2020-21, which does not include late payment charge but includes amortization of deferred credit.

34.3. The Authority in consistency with its earlier decision, on the issue, has not included the amount of LPS while assessing the other income for the FY 2020-21. Here it is pertinent to mention that the LPS recovered from the consumers on utility bills shall be offset against the late payment invoices raised by CPPA (G) against respective XWDISCO only and in the event of non-submission of evidence of payment to CPPA (G), the entire amount of Late Payment charge recovered from consumers shall be made part of other income and deducted from revenue requirement in the subsequent year.

34.4. The total amount of Other Income as worked out above has been allocated in terms of Distribution and Supply Functions, as per the criteria adopted by the Petitioner itself. Accordingly, Other Income for the FY 2020-21 pertaining to the distribution function works out as Rs.1,072 million, to be adjusted during the MYT control period as per the adjustment mechanism prescribed in the instant determination.

35. Adjustment Mechanism:

35.1. The Petitioner regarding adjustment mechanism proposed the following during hearing;

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Sr. No.	Tariff Component	Adjustment	Sr. No.	Tariff Component	Adjustment
01	Fuel Cost	Monthly	05	RORB	Annually
02	Var. O&M, CPP & UOSC	Quarterly	06	Other Income	Annually
03	O&M Cost	Annually	07	Financing Cost	Annually
04	Depreciation	Annually	08	PYA	Annually

35.2. The Petitioner submitted that the O&M cost has been bifurcated into controllable and uncontrollable cost, it is proposed that controllable cost will be indexed with change in Consumer Price Index (CPI) during the control period whereas uncontrollable cost will be treated as passed through items. The Petitioner further submitted that Operating expenditures will be subject to an efficiency requirement so that QESCO will be required to ensure that its increase in costs is below the rate of inflation by an efficiency factor (X) to be determined by NEPRA. However, the Petitioner has not stated any % of efficiency (X) factor.

35.3. The Authority, while assessing the O&M costs of the Petitioner (excluding postretirement benefits) i.e. rent, rates & taxes, Injuries & damages, collection expenses, legal charges, management fee, and Audit Charges etc., has incorporated these costs in the reference cost, keeping in view the audited accounts of the Petitioner for the FY 2019-20, to be adjusted in the remaining MYT control period as per the adjustment mechanism given below. The risk / benefits of any future cost fluctuations thereof lies with the Petitioner along with an opportunity for optimizing overall costs under these head. The treatment is in line with the very sprit of multi- year tariff regime and in accordance with Authority's approved tariff methodology.

35.4. Regarding adjustment of O&M costs with the efficiency factor X, the Authority noted that the Petitioner although has proposed to index its O&M to be adjusted with efficiency factor "X", however, at the same time it has been requested to keep the X-factor as zero. The Authority in line with its decisions in the matter of XWDISCOs which have been allowed MYTs, has decided to keep the efficiency factor "X", as 30% of increase in CPI for the relevant year of the MYT control period. The Authority has further decided to implement the efficiency factor from the 3rd year of the control period, in order to provide the Petitioner with an opportunity to improve its operational performance, before sharing such gains with the consumers.

35.5. The Authority also noted that as per the approved tariff methodology the Power Purchase Price is the only uncontrollable cost which is allowed a pass through item. The other remaining costs are to be treated as controllable costs. Accordingly, the Authority prescribes the following mechanism for adjustment of costs allowed as part of Distribution Margin, during the MYT control period;

36. <u>Salaries & Wages and Post-retirement Benefits;</u>

36.1. The reference costs shall be adjusted every year with the increase announced by the GoP, being beyond the Petitioner's control, for the respective year till the time the Petitioner remains in the public sector. In addition a 5% increase as requested by the Petitioner would be allowed on the amount of Basic pay to account for the impact of annual increment. In case, the Petitioner is privatized during the MYT period, the allowed cost of Salaries & Wages would be adjusted with CPI-X factor.

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37. Post-retirement benefits

37.1. Similarly, the allowed amount of post-retirement benefits would be adjusted every year with the Pension increase announced by the GoP for the respective year, till the time the Petitioner remains in the public sector. In case, the Petitioner is privatized during the MYT period, the allowed cost of Salaries & Wages would be adjusted with CPI-X factor.

38. O&M Costs

38.1. Regarding O&M costs, the reference costs would be adjusted every Year with CPI-X factor. However, the X factor would be applicable from the 3rd year of the MYT control period. The Adjustment mechanism would be as under;

Adjustment Mechanism -Operation & Maintenance Exp.	
Operation & Maintenance Exp.	= Ref. O&M cost x [1+(CPI -X factor)]

39. RORB

39.1. The reference RoRB would be adjusted every Year based on the amount of RAB worked out for the respective year after taking into account the amount of investment allowed for that year as per the following mechanism;

Adjustment Mechanism - RoRB	
RORB(Rev)	=RORB(Ref) x RAB(Rev) / RAB(Ref)

39.2. In addition the allowed RORB for previous year will be trued up downward only, keeping in view the amount of investment allowed for the respective year. In case, the Petitioner ends up making higher investments than the allowed, the same would be the Petitioner's own commercial decision and would not be considered while truing up the RoRB, unless due to any regulatory decisions/interventions/approved plans for which the Petitioner obtains prior approval of the Authority. In such case the Authority may also revise the efficiency targets in terms of T&D losses etc.

39.3. The Authority also understands that interest payment is an obligatory cash flow liability unlike discretionary dividend payment and considering the fact that any default may hamper the financial position of the Petitioner, hence the Authority has decided to cover the risk of floating KIBOR. This addresses the concern of the Petitioner to recalculate WACC for changes in input parameters. Accordingly, fluctuation in the reference KIBOR would be adjusted biannually. In addition, the Authority has also decided to allow sharing of benefit by introducing a claw back mechanism for any savings resulting from cheaper financing by the Petitioner to the extent of 2.00% spread. If the Petitioner manages to negotiate a loan below 2.00% spread, the savings would be shared equally between the consumers and the Petitioner through PYA mechanism annually. In case of more than one loan, the saving with respect to the spread would be worked out by a weighted average cost of debt. The sharing would be only to the extent of savings only i.e. if the spread is greater than 2.00%, the additional cost would be borne by the Petitioner.

40. Depreciation Expenses

40.1. The reference Depreciation charges would be adjusted every Year as per the following formula;

$$DEP\ (Rev) = DEP\ (Ref) \times \frac{GFAIO\ (Rev)}{GFAIO\ (Ref)}$$

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Where: DEP (Rev) = Revised Depreciation Expense for the Current Year
DEP (Ref) = Reference Depreciation Expense for the Reference Year
GFAIO (Rev) = Revised Gross Fixed Assets in Operation for the Current Year
GFAIO (Ref) = Reference Gross Fixed Assets in Operation for the Reference Year

40.2. In addition the allowed Depreciation for previous year will be trued up downward only, keeping in view the amount of investment allowed for the respective year. In case, the Petitioner ends up making higher investments than the allowed, the same would be the Petitioner's own commercial decision and would not be considered while truing up the depreciation expenses, unless due to any regulatory decisions/interventions/approved plans for which the Petitioner obtains prior approval of the Authority. In such case the Authority may also revise the efficiency targets in terms of T&D losses etc.

41. Other Income

41.1. Other Income shall be adjusted annually as per the following mechanism during the MYT control period to calculate future Other Income.

$OI_{(Rev)} = OI_{(1)} + (OI_{(1)} - OI_{(0)})$
$OI_{(Rev)}$ = Revised Other Income for the Current Year
$OI_{(1)}$ = Actual Other Income as per latest Financial Statement.
$OI_{(0)}$ = Actual/Assessed Other Income used in the previous year.

42. Whether requested financial charges are justified?

42.1. The Petitioner submitted the following financial charges request during the hearing:

FINANCIAL CHARGES					
FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	Total
1,791.147	597.049	597.049	597.049	597.049	4,179.343

42.2. The Authority observed that the Petitioner has not provided any detail in terms of nature of these charges nor has provided any workings / calculations of the amount requested. In view thereof, the Authority does not see any justification to consider the request of the Petitioner.

43. PYA

43.1. On the point of Prior-year adjustments, the Petitioner during the hearing submitted following details, however, no justification/workings has been provided to support the requested amount.

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Description	Rs/kWh	Units MKWh	Rs Million	Share of Wire Business	Share of Supply Business
Distribution Margin determined by NEPRA for 19-20	2.24				
Distribution Margin determined Notified for 2018-19	2.16				
Difference	0.08	4,842	368	331	37
Distribution Margin determined by NEPRA for 2020-21 up to Jan-21	2.24				
Distribution Margin determined Notified for 2018-19	2.16				
Difference	0.08	2,800	213	192	21
PYA by NEPRA for 2019-20	0.24				
PYA Notified for 2019-20	0.16				
Difference	0.08	4,842	384	346	38
Cost of replacement hiring disallowed by NEPRA					
2018-19			288	223	65
2019-20			318	245	73
Turn over Tax 2019-20			681		681
Turn over Tax 2018-19			562		562
Turn over Tax 2017-18			544		544
Turn over Tax 2016-7			372		372
Total PYA			**3,730**	**1,337**	**2,393**

43.2. The Authority, however, understands that the Prior Year Adjustment includes the impact of variation in the following;

- ✓ Difference between the actual PPP billed and the amount recovered by the DISCO.
- ✓ Difference between the assessed DM and the amount actually recovered.
- ✓ Difference between the previously assessed PYA/ quarterly adjustment and the amount actually recovered.
- ✓ Difference between actual other income and the amount allowed
- ✓ Variation due to Sales Mix

43.3. It is important to highlight that variation between the PPP billed to DISCOs by CPPA-G and the amount recovered by the DISCOs are being accounted for separately through Quarterly/Bi-Annual Adjustment mechanism, therefore, the PYA only includes only the remaining components.

43.4. The Authority is also cognizant of the fact that for the FY 2020-21, for which the assessment is being made has already lapsed, therefore, while calculating the PYA of the Petitioner, the Authority has also included therein the impact of under/ over recovery of the assessed DM for the FY 2020-21.

43.5. Based on the discussion made in the preceding paras, the PYA of the Petitioner has been worked out as under;

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Description	Rs. Mln QESCO
1st & 2nd Qtr. FY 2018-19	
Allowed Amount	10,390
Qtr. Rs./kWh	1.5236
Recovered	10,601
Under/(Over) Recovery	**(211)**
3rd & 4th Qtr. FY 2018-19	
Allowed Amount	2,615
Qtr. Rs./kWh	0.4794
Recovered	2,526
Under/(Over) Recovery	**89**
Interim D.M FY 2018-19	
Allowed Amount	1,603
Qtr. Rs./kWh	0.2938
Recovered	1,548
Under/(Over) Recovery	**55**
1st Qtr. FY 2019-20	
Allowed Amount	453
Qtr. Rs./kWh	0.0830
Recovered	439
Under/(Over) Recovery	**14**
Distribution Margin FY 2019-20	
Allowed	12,221
Recovered	10,190
Under/(Over) Recovery	**2,031**
Other Income FY 2019-20	
Allowed	(1,257)
Actual	(1,050)
Under/(Over) Recovery	**207**
Sales Mix Variances	
FY 2019-20	10,243
	10,243
Distribution Margin FY 2020-21	
Allowed	12,221
Recovered	11,037
Under/(Over) Recovery	**1,184**
Total Prior Period Adjustment	**13,612**

43.6. The aforementioned sales mix has been worked out based on the data provided by the Petitioner and is being allowed to the petitioner on provisional basis. The Petitioner is directed to submit complete working in this regard along-with category wise subsidy claim data for the FY 2019-20 and reasons for change in sales mix.

43.7. The Authority in line with its earlier decision in the matter of negative FCA, has calculated the impact of negative FCA pertaining to the FY 2019-20 in the matter of lifeline consumers,

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domestic consumers (consuming up-to 300 units) and Agriculture Consumers which has been retained by the Petitioner. The Authority has also worked out the impact of positive FCAs not recovered by the Petitioner from life line consumers. The Authority also considered the relevant clauses of the S.R.O. 189 (1)/2015 dated March 05, 2015 issued by GoP and the amount of subsidy claims filed by the Petitioner for the FY 2019-20.

43.8. After considering all the aforementioned factors, the Authority observed that the Petitioner has retained a net amount of Rs.1,036 million on account of negative FCA for the FY 2019-20, pertaining to the lifeline consumers, domestic consumers (consuming up-to 300 units) and Agriculture Consumers, which is still lying with the Petitioner. The Authority also considered the amount of subsidy claims filed by the Petitioner for the FY 2019-20, which shows a net subsidy claim filed by the Petitioner.

43.9. The Authority in view of the above and in line with its earlier decisions, has decided not to adjust the impact of negative FCA across different consumer categories. Thus, the net negative FCA amount pertaining to the lifeline consumers, domestic consumers (consuming up-to 300 units) and Agriculture Consumers for the FY 2019-20 i.e. Rs.1,036 million, which is still lying with the Petitioner, must be adjusted by the Federal Government, against the overall Tariff Differential Subsidy claim in the matter of the Petitioner eventually reducing GOP's overall Tariff Differential Subsidy burden. The above working has been carried out based on the data/ information provided by PITC, as DISCOs have not submitted the required information. In case DISCOs own calculations are different from the aforementioned numbers, keeping in view the last slab benefits etc., the same may be shared with the Authority in its subsequent adjustment request. This decision of the Authority is only applicable under a subsidy regime, whereby aforementioned classes of consumers are receiving subsidy directly in their base tariff.

43.10. Here it is pertinent to mention that the impact of under/ over recovery of quarterly adjustments for the FY 2018-19 and 1st quarter of the FY 2019-20 has been worked out based on total units i.e. without adjusting the impact of life line units as DISCOs have neither submitted their workings in this regard nor provided break-up of category wise units sold for the period. In view thereof, the Petitioner is directed to provide its working in the matter along-with break-up of units sold for each category for the period from FY 2019-20 till FY 2021-22, for consideration of the Authority. Any adjustment in this regard would be adjusted subsequently as PYA.

44. <u>Whether the requested T&D loss targets stated in the instant MYT petition are justified?</u>

44.1. QESCO in its instant MYT petition has mentioned that it will reduce T&D losses from 28.0% in FY 202-21 to 26.0% by FY 2024-25 meaning thereby an overall reduction of 2.00% in MYT control period of 5-years will be achieved by the petitioner. The year wise projected reduction in Technical Losses as provided by the petitioner is given below:

Year	2019-20 (Actual)	2020-21	2021-22	2022-23	2023-24	2024-25
Losses	26.68%	28.00%	27.5%	27.0%	26.5%	26.0%

44.2. The petitioner provided the following detailed breakup regarding projected losses in its instant MYT petition and thereafter through email by Finance Director dated 1-2-2022:

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Year	Units Purchased (GWh)	Units Sold (GWh)	Units Lost (GWh)	Total T&D (%)	Breakup of T&D Losses (%)		Breakup of Technical Losses (%)		
					Technical Losses	Admin. Losses	132 kV	11 kV	LT
2019-20 (Actual)	6,604	4,842	1,762	26.68	23.68	3.00	1.30	19.88	2.50
2020-21	6,629	4,775	1,854	27.96	24.96	3.00	1.30	21.16	2.50
2021-22	7,024	5,093	1,932	27.50	24.50	3.00	1.30	20.70	2.50
2022-23	7,196	5,253	1,943	27.00	24.00	3.00	1.30	20.20	2.50
2023-24	8,634	6,346	2,288	26.50	23.50	3.00	1.30	19.70	2.50
2024-25	9,370	6,934	2,436	26.00	23.00	3.00	1.30	19.20	2.50

44.3. QESCO also submitted historical record of its actual losses for last five years as under:

Financial Year	T&D Actual Losses (%)
2016-17	23.19
2017-18	22.57
2018-19	23.71
2019-20	26.68

44.4. QESCO claimed that in order to achieve the T&D losses targets, it has prepared DIIP which includes formation of new grids, conversion of existing grids, revamping of secondary transmission lines, augmentation of HT & LT lines, provision of T&P items, induction of low loss transformers, theft detection by enforcement agencies and replacement of meters, with static meters and upgrade to Automated Meter Reading (AMR). The summary of proposed additions as provided by petitioner in Optimally Achievable Case is given below:

Description	No.	MVA	Km
New Grid Stations	26	343	-
Augmentation	8		-
Extension T/F Bay	7		-
New 132 kV T/Lines	-	-	648
New HT Lines	-	-	1166
HT Line reconductoring	-	-	459
11 kV Capacitors	114	51.30 MVAr	
Replacement of over loaded dist. Transformers	1432	-	-
Replacement of Defective Transformers	1193	-	-

44.5. The Authority noted that as per the DISCO annual performance report of NEPRA the impact of losses for the past five years is as under;

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Period	Actual Losses %	Notified Losses %	Breach %	Impact of Breach Rs. mln	Impact of Notified Rs. mln	Impact of Actual Rs. mln
FY 2016	23.8	17.5	6.3	4,284	11,900	16,184
FY 2017	23.1	17.5	5.6	4,130	12,906	17,036
FY 2018	22.4	17.5	4.9	3,923	14,010	17,933
FY 2019	23.6	17.5	6.1	5,378	15,429	20,807
FY 2020	26.7	17.5	9.2	10,933	20,797	31,730

45. Transmission Losses pertaining to Instant MYT Control Period:

45.1. It is noted that QESCO requested following transmission losses for MYT control period:

Description	2020-21	2021-22	2022-23	2023-24	2024-25
Transmission Losses at 132kV (%)	1.30	1.30	1.30	1.30	1.30

45.2. It is noted that QESCO's requested transmission losses as mentioned above are much lower than its transmission losses of 7.90% as assessed by the third party consultant. It is also noted that QESCO has requested a consistent margin of transmission losses of 1.30% throughout the MYT control period of 5-years meaning thereby NO reduction in transmission losses will be achieved by QESCO. In this regard, it is noted that the petitioner requested for 7.90% transmission losses (as per Third Party Loss Study results) for FY 2018-19 and FY 2019-20. It is also noted that the Third Party Loss study was conducted in FY 2013-14 on the basis of QESCO's transmission asset (132kV, 66kV and 33kV) statistics pertaining to FY 2012-13 which are tabulated as under:

Sr. #	Description	As on 30th June, 2013
1	Grid Stations	92 Nos.
2	Transmission line length	5775 kms.

45.3. The Authority while evaluating the Transmission loss study observes that third party consultant i.e. M/s. Power Planner International (PPI) mentioned in its final report that:

"The data of actual line current flows, bus voltages and power transformer load currents for entire 132kV and 66kV system of QESCO was gathered for the conditions of peak and off-peak hours of each month of 2012-13. Thus data for 24- snapshots of the year 2012-13 was captured and processed to be used as input to the Study. Thus the annual energy loss come out as 7.901%.

45.4. It is also observed that in the said study the third party consultant, keeping in view the higher transmission losses of 7.90% for QESCO, recommended the following:

"For QESCO, the installation of switched shunt capacitor banks at 11kV levels to bring the power factor of distribution network as high as possible is very important as during peak conditions the low voltage on the network causes heavier loading on the lines in order to meet the load demand, thus causing high losses. In addition, to relieve the heavily loaded transmission lines and power transformers by installing more lines and transformers or re-conducting heavily loaded lines using Rail Conductor to bring the loading reasonably below the limit to operate the system comfortably and with low losses."

45.5. In view of the above, the Authority understood that QESCO faced transmission network congestion / constraints and overloading situation in FY 2012-13 and when PPI conducted

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the said transmission losses study on the basis of transmission data pertaining to FY 2012-13, the transmission losses of 7.90% have been assessed by the third party consultant. The Authority also understood that the higher transmission losses of 7.90% were reflective of the above mentioned critical conditions. Therefore the Authority has no reservations on the results of the transmission losses study conducted by PPI at that time.

45.6. Afterwards the Authority observed the following transmission network (132kV, 66kV and 33kV) conditions in last few years as a result of making huge investments in the transmission segment of QESCO in line with the aforementioned recommendations by the third party consultant in its transmission loss assessment report:

Sr. #	Description	2014	2015	2016	2017	2018	2019
1	No. of Grid Stations	92	93	95	104	106	106
2	MVA Capacity	----	2706	2715	2897	3330	3397
3	Transmission line length	5775	5775	5786	7416	7441	7500
4	Peak Demand (MW)	----	1762	1765	1770	1800	----

45.7. An analysis has been carried out about the additions in transmission network and variation in electricity demand. It is noted that QESCO has been able to increase its transformation capacity by 22.65% over a period of 3 years i.e. from 2016-2018. Similarly an increase of 28.60% in transmission lines (33kV and above) has been noted over the same period. On the other hand its peak demand registered an increase of only 1.96%. It was therefore concluded that significant additions made in the transmission network for the transmission of almost same level of electricity must have resulted in improved voltage profile and reduced overloading conditions. Any such improvement in quality of supply would lead to reduced transmission losses.

45.8. Based on the above highlighted additions in transmission networks by QESCO during FY 2016-17, the Authority analyzed the impact of reduced transmission constraints and overloading on transmission losses and made its own technical losses assessment. Accordingly, the Authority allowed a target of 4.00% transmission losses in its Determination for FY 2016-17 and also maintained the same target for FY 2017-18 as well. In this respect, the Authority was of the view that QESCO's request to allow 7.90% transmission losses was without any logic as the recommendations in the third party study about strengthening transmission system of QESCO concluded that the situation would improve as a result of additions in its transmission system. In view thereof, the Authority did not accept the request of QESCO and accordingly allowed 3.85% transmission losses for FY 2018-19 and 3.75% transmission losses for FY 2019-20.

45.9. For the purpose of instant MYT petition and in order to set a starting point with respect to QESCO's transmission network losses, the requested margin of transmission losses of 1.30% for FY 2020-21 is much lower than the previously allowed margin of 3.75% transmission losses by the Authority in its earlier determination pertaining to FY 2019-20, therefore the requested margin of 1.30% transmission losses is allowed to QESCO for the first year of MYT control period i.e. FY 2020-21. For rest of the four years of MYT control period, since QESCO's transmission lines are usually very lengthy having mostly redial configuration used for transmission of power in the entire province of Balochistan therefore, in order to encourage QESCO to maintain its lower transmission losses, the requested transmission losses is allowed to QESCO as per following:

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Year	2020-21	2021-22	2022-23	2023-24	2024-25
Allowed Transmission Losses	1.30 %	1.30 %	1.30 %	1.30 %	1.30 %

46. Distribution Losses at 11kV Level pertaining to Instant MYT Control Period:

46.1. It is noted that for the purpose of instant MYT petition, QESCO requested following distribution losses at 11kV level:

2020-21	2021-22	2022-23	2023-24	2024-25
21.16 %	20.70 %	20.20 %	19.70 %	19.20 %

46.2. While considering the above distribution losses at 11kV level, it is noted that the above requested losses are higher than the targeted losses of 10.10% allowed to QESCO in Authority's earlier determination for FY 2019-20 and also found higher than the distribution losses of 11.30% at 11kV level assessed by third party consultant i.e. M/s PPI. The Technical Department is of the view that the already determined targeted distribution losses at 11kV may not be revised. Therefore, the Authority has decided to allow the already determined target distribution losses at 11kV of 10.10% as starting point for QESCO for FY 2020-21.

46.3. For setting the distribution loss targets at 11kV level for remaining control period of 4-years of MYT term, the Technical Department is of the opinion that by allowing an investment of Rs. 4,906 million in ELR component; QESCO is encouraged to achieve better results in the MYT control period than the requested T&D loss targets. Further, an overall reduction of 0.49% in distribution losses at 11kV level is required to be achieved by QESCO due to aforementioned planned investment in the head of ELR. Accordingly following distribution loss targets at 11kV level are allowed to QESCO:

Description	2020-21	2021-22	2022-23	2023-24	2024-25
Requested Dist. Losses at 11kV Level (%)	21.16	20.70	20.20	19.70	19.20
Investment Allowed for ELR Projects (Million Rs.)	126	1,001	1,195	1,243	1,341
Allowed Dist. Losses at 11kV Level (%)	**10.10**	**9.99**	**9.87**	**9.74**	**9.61**

47. Distribution Losses at LT Level pertaining to Instant MYT Control Period:

47.1. It is noted that for the purpose of instant MYT petition, QESCO requested consistent margin of 2.50% LT losses for MYT control period of 5-years which are slightly higher than the results (2.10%) of distribution loss study conducted by third party consultant M/s PPI. It is important to mention here that the Authority allowed 1.90% LT losses in its earlier determination pertaining to FY 2019-20. The Technical Department is of the opinion that the earlier target of 1.90% LT losses may not be revised and accordingly the same margin of 1.90% LT losses may be maintained and allowed for MYT control period of 5-years i.e. from FY 2020-21 to FY 2024-25 to QESCO as per following:

Year	2020-21	2021-22	2022-23	2023-24	2024-25
Allowed LT Losses	1.90 %	1.90 %	1.90 %	1.90 %	1.90 %

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48. Margin for Law and Order pertaining to Instant MYT Control Period:

48.1. QESCO, in its instant MYT petition, requested to allow a consistent margin of 3.0% administrative losses throughout for MYT control period of next 5-years which is higher than 1.40% administrative losses as per assessment of third Party consultant. In this regard, it is observed that the Authority in its earlier determinations pertaining to FY 2013-14, allowed a margin of 0.50% administrative losses to all DISCOs except IESCO and TESCO. After that period, the Authority never considered the request for allowing administrative losses and losses due to theft of electricity to any distribution licensee. However, the Authority allowed a margin of law & order to QESCO, its neighboring DISCOs (HESCO and SEPCO) and PESCO in its earlier determinations pertaining from FY 2015-16 to FY 2019-20. It is important to mention here that the Authority has allowed a margin of 1.40% against law and order to QESCO in FY 2019-20.

48.2. For the purpose of instant MYT petition, already determined target of 1.40% is hereby allowed to QESCO for the first year of MYT control period and then may gradually be reduced to 1.0% margin in the remaining period of 4-years of MYT control period for QESCO as follows:

2020-21	2021-22	2022-23	2023-24	2024-25
1.40 %	1.30 %	1.20 %	1.10 %	1.00 %

49. ALLOWED LEVEL OF T&D LOSSES PERTAINING TO INSTANT MYT PERIOD:

49.1. The summary of the allowed level of T&D losses for QESCO for MYT period is as under:

Year	Transmission Losses (%)	11kV Distribution Losses (%)	LT Losses (%)	Margin for Law & Order (%)	Total T&D Losses (%)
2020-21	1.30	10.10	1.90	1.40	**14.70**
2021-22	1.30	9.99	1.90	1.30	**14.49**
2022-23	1.30	9.87	1.90	1.20	**14.27**
2023-24	1.30	9.74	1.90	1.10	**14.04**
2024-25	1.30	9.61	1.90	1.00	**13.81**

50. Whether QESCO fully utilized the investments allowed previously in FY 2018-19 and FY 2019-20?

50.1. The petitioner, during the MYT Hearing dated: 10.11.2021, submitted the following statistics of investment utilization during FY 2018-19 and FY 2019-20:

Description	FY 2018-19			FY 2019-20		
	Allowed	Utilized	%	Allowed	Utilized	%
STG	347	347	100	600	550	91.67
DOP	39	39	100	300	49	16.33
ELR	57	57	100	389	85	21.85
Others	4,003	4,003	100	2,474	1,935	78.21
Total	**4,446**	**4,446**	**100**	**3,763**	**2,619**	**69.60**

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50.2. The above information submitted by the petitioner has been reviewed and it is observed that QESCO has made investments amounting to Rs. 4,446 million (against allowed investment of same amount) for FY 2018-19 and Rs. 2,619 million (against allowed investment of Rs. 3,763 million) for FY 2019-20. The above actual investments have also been verified from the audited accounts pertaining to FY 2018-19 and FY 2019-20 as provided by QESCO.

51. **QESCO submitted its 5-years DIIP without segregating the investment costs in to Best Case and Optimally Achievable Case. In this regard, QESCO needs to submit its 5-years investment plans according to the prescribed formats of DIIP whereby investments should be claimed against Best Case and Optimally Achievable Case separately.**

51.1. The petitioner during the hearing on MYT dated 10-11-2021 claimed a total investment of Rs. 76,511 million. The summary of claimed investment is given hereunder:

Description	2020-21	2021-22	2022-23	2023-24	2024-25	TOTAL
7th STG	310	1,804	1,940	2,333	1,883	8,269
STG (Removing of System Constrain)	-	1,268	1,369	1,479	1,597	5,714
STG (Federal PSDP)	1,350	7,077	14,409	1,895	2,085	26,815
STG (Provincial PSDP)	250	302	567	464	510	2,093
STG (Deposit)	-	3,004	769	-	-	3,772
Sub Total STG	**1,910**	**1,3455**	**19,054**	**6,170**	**6,075**	**46,663**
DOP	57	1,275	1,478	1,048	930	4,789
ELR	126	1,001	1,195	1,243	1,341	4,906
Village Electrification (Provincial)	1,556	2,313	2,253	2,508	2,637	11,267
Village Electrification (Federal)	63	625	776	392	398	2,254
Other deposits – Independent Feeders	300	1,002	902	764	323	3,291
Sub Total 11 kV Distribution	**2,102**	**6,216**	**6,604**	**5,955**	**5,629**	**26,507**
Meters	30	42	49	58	68	247
AMR Meters	-	193	213	304	334	1,044
MIS hardware/software	43	122	17	14	30	227
Vehicles	-	178	142	130	85	535
Other plant & Equip	8	12	12	14	15	61
IDC on cash development loan		113	-	-	-	113
Civil Works	115	161	200	145	114	735
Establishment of Training Centre	-	15	20	20	-	55
T&P Including PPE & Sports items	35	63	69	76	83	325
Total	**4,243**	**20,571**	**26,379**	**12,885**	**12,433**	**76,511**

51.2. Moreover, the petitioner submitted following financing arrangements in its DIIP:

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Description	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Own Sources	694.39	6205.15	6654.51	6804.12	6413.12	**26,771**
PSDP Financing (Loan)	1350	7277	14678.67	1895	2084.50	**27,285**
PSDP Financing (Grant)	1868.56	2940.69	4,094.03	3364.04	3545.30	**15,813**
Consumer Contribution	330.48	3548.08	951.33	821.62	390.48	**6,042**
Spill Over	-	599.91	-	-	-	**600**
Total	**4,243**	**20,571**	**26,379**	**12,885**	**12,433**	**76,511**

51.3. The petitioner, in its MYT petition and during the course of MYT hearing, submitted scope of works for different heads i.e. STG, DOP and ELR works. The project wise details along with year wise breakup of cost of above mentioned heads are given as under:

STG WORKS:

(Million Rupees)

Name	Nature of Work	Qty.	2020-21	2021-22	2022-23	2023-24	2024-25
132 KV G/S at Jivani along with Gawadar Jivani T/L	New/T/L	85 KM	310				
Khanozai - Pishin	T/L	60 KM		650.98			
Kalat - Surab	T/L	70 KM		261.13			
Yaru - Huramzai	T/L	30 KM			89.64		
Huramzai - Qilla Abdullah	T/L	20 KM			80.3		
220kV Zhob - 132kV Zhob	T/L	28 KM			534.85		
Noshki - Mall	T/L	25 KM					94.15
Nasir Abad (Turbat)	New				360.19		
132 KV G/S Hazar Ganji	New			545			
Dub Khanzai	New				377.95		
Musa Khel	New					850.93	
Jeeva	New					359.25	
Chiltan	New						505.19
Gresha	New						344.55
Sheerani	New					115.63	938.61
Ziarat	Extension				113.35		
Quetta City	Extension				134.21		
Sariab	Extension				134.21		
Yaru	Augmentation			115.63			
Khuzdar	Augmentation			115.63			
Turbat	Augmentation				115.63		

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Sariab	Augmentation			115.63			
Surab	Augmentation					115.63	
Khad Kocha	Augmentation					115.63	
Gandawah	Conversion					775.43	
Total			**310**	**1804**	**1,940**	**2,333**	**1,883**

STG for System Constraints Removal:

Proposed Plan for Improvement / Rehabilitation work of GSO Network Under GSO Circle QESCO Quetta For the Year 2021-22

S. No.	Grid Station / Transmission Line	Description	Duration (Months)	Estimated Cost (Rs. Million)	Remarks
1	66-kV Grid Station Manjho Shori	Up-gradation of 66-kV Grid Station Manjho Shori along with Transmission Line into 132-kV	11	132.450	Transmission Losses are on higher side as Manjoshori is getting supply from Jacobabad, by conversion of 66kV into 132kV Grid this will not only improves voltage profile but also losses will be reduces besides 1 x CDP will be disconnected/removed.
2	132-kV Grid Station Gidder	Reconductoring of 132-kV Transmission Line Gidder-Basema (Lynx Conductor) (210 KM)	9	82.670	Old aged problematic conductor with de-rated ampere capacity caused power interruptions at 132kV Basema Grid.
3	132-kV Grid Station Marriabad	Reconductoring of 132-kV Transmission Line Marriabad-Quetta(Lynx Conductor) (51KM)	10	22.500	Old aged problematic conductor with de-rated ampere capacity.
4	132-kV Grid Station Sariab	Reconductoring of 132-kV Transmission Line Sariab-Quetta (Lynx Conductor) (69KM)	9	25.310	Old aged problematic conductor with de-rated ampere capacity.
5	132-kV Grid Station Zarghoon	Reconductoring of 132-kV Transmission Line Zarghoon-Sheikh	10	24.450	Old aged problematic conductor with de-rated ampere capacity.

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		Manda (Lynx Conductor) (66KM)			
6	132-kV Grid Station Mastung	Reconductoring of 132-kV Transmission Line Mastung-Panjpai (Lynx Conductor) (54KM)	10	23.890	Old aged problematic conductor with de-rated ampere capacity.
7	132-kV Grid Station Mand	Reconductoring of 132-kV Transmission Line Mand-Turbat (Cairo Conductor) (420KM)	12	305.78	Old aged problematic conductor with de-rated ampere capacity as Mand-Turbat T/Line is single source from Iran for Mekran Region
8	132-kV Grid Station Pasni	Replacement of 20x ZM-I Towers Pasni-Turbat Transmission Line	8	80.00	Rusted and Deteriorated Towers
9	132-kV Grid Station Gawal Hyderzai	Replacement of Isolator Bay to 132-kV Line Bay	3	17.00	
10	132-kV Grid Station Musafir Pur	Replacement of Isolator Bay to 132-kV Line Bay	3	17.00	
11	132-kV Grid Station Barkhan	Replacement of Isolator Bay to 132-kV Line Bay	3	17.00	
12	132-kV Grid Station Chaman	Replacement of Isolator Bay to 132-kV Line Bay	3	16.50	
13	132-kV Grid Station Alizai	Replacement of Isolator Bay to 132-kV Line Bay	3	16.50	Operational Constraints identified by NPCC
14	132-kV Grid Station Qila Abdullah	Replacement of Isolator Bay to 132-kV Line Bay	3	16.45	
15	132-kV Grid Station Gulistan	Replacement of Isolator Bay to 132-kV Line Bay	3	17.40	
16	132-kV Grid Station Zard Ghulam Jan	Replacement of Isolator Bay to 132-kV Line Bay	3	15.50	
17	132-kV Grid Station Kharan	Replacement of Isolator Bay to 132-kV Line Bay	3	16.80	

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18	132-kV Grid Station Gidder	Replacement of Isolator Bay to 132-kV Line Bay	3	16.70	
19	132-kV Grid Station Wadh	Replacement of Isolator Bay to 132-kV Line Bay	3	16.80	
20	Grounding Conductor	132/66-kV Earthing Mesh	3	55.00	Re-strengthening of Earthing Mesh as per installed capacity to ensure healthy protection.
21	Control Cables	2.5/ 6mm Control Cables	3	20.00	For installation of New line bays
22	132-kV Grid Station Kirdgap	Replacement of Isolator Bay to 132-kV Line Bay	3	16.50	Operational Constraints identified by NPCC
23	132-kV Grid Station Panjpai	Replacement of Isolator Bay to 132-kV Line Bay	3	16.50	
24	132-kV Grid Station Khadkucha	Replacement of Isolator Bay to 132-kV 02x Line Bay & 01x PT Bay	3	40.20	
25	132-kV Grid Station Sohbat Pur	Replacement of Isolator Bay to 132-kV Line Bay / 01x PT Bay	3	28.00	
26	132-kV Grid Station Sariab	Replacement of ZM-60 ZM-I with 04x SPG Pole (hazardous point) Sariab-Quetta & Sariab-Industrial	6	30.36	Hazardous Points
27	132/66-kV Grid Station Material	11-kV Incoming/Outgoing/ Capacitor/AD-CD/ Battery bank/Battery Charger /132-kV breakers	8	150.48	Old Problematic Grid Station equipment will be replaced with new one.
28	11-kV Cables	500/1000 MCM Cables	8	30.00	For replacement of old aged/ under capacity cables
Total				**1268**	-

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Proposed Plan for Improvement / Rehabilitation work of GSO Network Under GSO Circle QESCO Quetta For the Year 2022-23					
S. No.	**Grid Station / Transmission Line**	**Description**	**Duration (Months)**	**Estimated Cost (Rs. million)**	**Remarks**
1	66-kV Grid Station Sorrange	Up-gradation of 66-kV Grid Station Sorrange along with Transmission Line into 132-kV	11	156.780	Transmission Losses are on higher side, by conversion of 66kV into 132kV Grid this will not only improves voltage profile but also losses will be reduces besides 2 x 40MVA, 132/66kV Transformer bays along with 3 x 66kV Line bays at TPS will be spared.
2	132-kV Grid Station Nal	Replacement of Isolator Bay to 132-kV Line Bay	4	18.670	Operational Constraints identified by NPCC
3	132-kV Grid Station Chaghi	Replacement of Isolator Bay to 132-kV Line Bay	4	17.230	
4	Purchasing of Grid Station Material	CP/ RP / Line Isolator / Bus Bar Isolator / 132-kV CTs / 132-kV PTs / 11-kV Outgoing Panels / 11-kV Incoming Panels / Lighting Arrestor / 11-kV CTs	11	438.980	Required for New Line bays, replacement of old problematic grid equipment.
5	Purchasing of 40 MVA Transformer	Augmentation / Emergency	6	115.780	for future planning / to attend any contingency
6	Purchasing of 20/26 MVA Transformer	Augmentation of 132-kV Grid Station Sui & Mall	8	144.980	To increase existing capacity
7	132-kV Grid Station Pishin / Alizai / Girdgap	03x 132-kV Capacitor	3	99.530	For reactive VAR compensation
8	132-kV Grid Station Basema	Reconductoring of 132-kV Transmission Line Basema-Kharan	7	101.560	Old aged problematic conductor with de-rated ampere capacity caused power

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		(Lynx Conductor) (270 KM)			interruptions at 132kV Kharan Grid.
9	Purchasing of Testing Equipment	Testing Equipment C&DF / Magger / Open Short / TTR / Oil DS	7	140.980	Required for Testing Purpose
10	Purchasing of Protection Relays	Over Current / Earth Fault / Differential / Distance / DC Supervision	7	57.980	For replacement of Mechanical Relays with new Digital Relays as per directives of System Protection
11	132kV Grid Station Pasni	Extension of 20/26MVA Power Transformer	9	55.890	To increase existing capacity
12	Up gradation of Earthing Pits	30x Grid Stations Installed Earth Pits along with Material	8	20.780	Re-strengthening of Earthing Mesh as per installed capacity to ensure healthy protection.
			TOTAL	**1369**	

Proposed Plan for Improvement / Rehabilitation work of GSO Network Under GSO Circle QESCO Quetta For the Year 2023-24

S. No.	Grid Station / Transmission Line	Description	Duration (Months)	Estimated Cost (Rs. million)	Remarks
1	66-kV Grid Station Gandakha	Up gradation of 66-kV Grid Station Gandakha along with Transmission Line into 132-kV	11	480.000	Transmission Losses are on higher side as Manjoshori is getting supply from Ghari Khero, by conversion of 66kV into 132kV Grid this will not only improves voltage profile but also losses will be reduces besides 1 x CDP will be disconnected/removed.
2	Purchasing of 40 MVA Transformer	Augmentation / Emergency	8	120.000	for future planning / to attend any contingency
3	Purchasing of 20/26 MVA Transformer	Augmentation of 132-kV Grid Station Dera Bugti	8	90.000	To increase existing capacity

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4	Purchasing of Grid /T&P Material	CP/ RP / Line Isolator / Bus Bar Isolator / 132-kV CTs / 132-kV PTs / 11-kV Outgoing Panels / 11-kV Incoming Panels / Lighting Arrestor / 11-kV CTs & T&P material	8	230.560	Required for New Line bays, replacement of old problematic grid equipment.
5	Up gradation of Capacitor Banks	3.6/4.8 Capacitors Banks replaced with 7.2	7	36.230	For reactive VAR compensation
6	132kV Grid Station Mand & Tump	Augmentation of 10/13MVA with 20/26MVA Power Transformer	11	35.670	To increase existing capacity
7	132kV Grid Station Control Room/ Quarters	Repair / Maintenance of Control Rooms, Buildings / Quarters under SS&T Divisions	11	66.340	For maintenance of deteriorated buildings , control rooms and quarters
8	132-kV Grid Station Surab	Reconductoring of 132-kV Transmission Line Surab-Gidder (Lynax Conductor) (105 KM)	9	420.200	In order to provide reliable, stable source to the interlinking of Mekran Region with National Network
			TOTAL	**1479.000**	

Proposed Plan for Improvement / Rehabilitation work of GSO Network Under GSO Circle QESCO Quetta For the Year 2024-25

S. No.	Grid Station / Transmission Line	Description	Duration (Months)	Estimated Cost (Rs. In million)	Remarks
1	132-kV Grid Station Sohbat Pur	Re-location of 132-kV Grid Station Sohbat Pur Control Room Building / 11-kV Room / 132-kV Yard / Civil Works of Residential Quarters	11	222.450	Existing Grid station is situated well below the road level all the grid equipment installed at yard got rusted/corroded due abundance of water besides the control

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					room building got damaged.
2	132-kV Grid Station Sohbat Pur	Reconductoring of 132-kV Transmission Line Tull-Sohbatpur(Lynx Conductor) (135 KM)	8	92.450	
3	132-kV Grid Station Loralai	New 132kV Double Ckt Transmission Line proposed from 220kV Loralai - 132kV Loralai (Rail Conductor) 15KM	11	271.150	To enhance existing Transmission Capacity required to with meet future demand
4	Purchasing of 20/26 MVA Transformer	Augmentation of 132-kV Grid Station Harnai	7	105.000	To increase existing capacity
5	Purchasing of 2 x 40 MVA Transformer	Augmentation / Emergency/ Extension	8	270.000	for future planning / to attend any contingency
6	Purchasing of Grid Material	11-kV Incoming/Outgoing/ Capacitor/AD-CD/ Battery Bank/Battery Charger/132-kV breakers / Lighting Arrestor / 132-kV CTs / PTs / Disk Insulators/Conductors/ Grounding Conductors/Earth Rod /Earthing Platform/Earth Wire/Line Material /SSF, STF/Dumper Weight/ MS Joint/PG Claim/Silica Gel/Transformer Oil	8	452.230	Required for replacement of old problematic grid equipment & to attend emergencies if any.
7	Up gradation of Earthing Pits	Grid Stations Installed Earth Pits along with Material	8	28.890	Re-strengthening of Earthing Mesh as per installed capacity to ensure healthy protection.

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8	132kV Grid Station Bus Bars	Conversion of Single conductor Bus bar to Double conductor Bus bar at 132kV Grid station Quetta, Sariab, Marriabad, Sheikhmand, Yaru, Khuzadar , Surab	11	76.590	The existing Bus Bars of the mentioned Grid Stations are under capacity therefore, by this conversion the safe handling capacity will be increased.
9	Up gradation of Capacitor Banks	3.6/4.8 Capacitors Banks replaced with 7.2	9	78.000	For reactive VAR compensation
			TOTAL	**1597**	

STG FEDERAL:

Name of Project	2020-21	2021-22	2022-23	2023-24	2024-25
Construction of 132 KV Grid Station at Dadar and 132 KV SDT Sibbi-Dada T/Line (QESCO)	98.741	16	145.099		
Construction of 132 KV (AIS) Grid Station at Deep Sea Port Gawadar and associated 132-Kv D/c transmission line (QESCO	86.737	128			
Construction of 132 KV G/S at Isplinji District Mastung (QESCO)	170.851	133	244.156		
Construction of 132 KV Grid Station at Khan Mehterzai With allied T/Line (50:50) (QESCO)	1.376	149.77			
Construction of 132 KV Mashkay G/S with allied 132 KV Nall-Mashkay T/Line (QESCO)	479.202	386	760.201		
Interconnection of Isolated Makran Network Basima via Nag G/Station from Panjgoor G/Station (QESCO)	512.969	5,000.00	12,071.44		
Construction and up gradation of 132 KV grid station mand	-	132			
Construction and up gradation of 132 KV grid station Tump	-	132			
Construction of 132 KV G/s washuk with allied 132 KV SDT nag-warsak t/line	-	500	722		
Construction of 132 KV G/s at industrial state bostan with allied 132 kv D/C transmission line	-	500	466		

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220kV Zhob - Musafirpur - G.Hyderzai - Pasinzai				1,895	
Mastung - Kirdgap - Noshki					2,085
Total	**1,350**	**7,077.00**	**14,409**	**1,895**	**2,085**

STG PROVINCIAL:

PSDP No	Name	2020-21	2021-22	2022-23	2023-24	2024-25
1029	Construction of Sanjavi grid station 132 KV Tehsil Sanjavi District Ziarat	100	62.098	109.12	89.28	Allocation of 510 Million. The projects to be identified by Prov. Govt.
1030	Construction of 132 KV Grid Station at Chaman	100	88.048	166.21	135.99	
1031	Construction of 132 KV Grid station at Barshore and 132 KV SDR Alizai Barshore Transmission line Dist Pishin (40KM)	50	132.22	263.38	215.5	
1039	Election and stringing 132 kV SDT Transmission line for Alizai Dap khan Zai with links conductor district Pishin	-	20	28.19	23.06	
	Total	**250**	**302.366**	**567**	**464**	**510**

STG DEPOSIT WORKS:

Name	Allocation 2021-22	Throw forward 2022-23
Construction of 132 Grid Station in Kapoto area District Kalat (QESCO)	200	363.88
Construction of 132 Grid Station in Ornach area District Khuzdar (QESCO)	300	405.01
Construction of 132 Kv Bolan Mining Enterprises G/S with allied T/L	562.74	-
Construction of 132 Kv G/S new Gawadar international airport with allied T/L	925.798	-
Reallocation of electric pylons and HT/LT poles on N-50 (Kuchlak-Zhob Section) dualization of kuchlak to zhob N-50 Project	313.5	-
Mangi dam	418.5	-
NUST	283	-
Total	**3,004**	**769**

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51.4. The project wise details for DOP projects are given as under:

DOP Works:

Sr. No.	Description	Unit	Quantities				
			2020-21	2021-22	2022-23	2023-24	2024-25
Scope of Work for 11 kV and Below Expansion							
1	**New HT Lines**						
	Length of new HT line	No/ Km	5	43.8	87.5	70	52.5
	Reconductoring/Rerouting	No/ Km	1	54.5	54.5	38.9	46.7
	11kV Lines for new grids connectivity	No/ km	1	144	144	96	96
	New 11 kV lines for L.T works	Km	-	90	100	74	60
2	**Transformers (Augmentation)**						
	50 KVA	Nos.	-	25	75	50	35
	100 KVA	Nos.	-	50	125	75	60
	200 KVA	Nos.	-	150	200	100	100
	Sub Total	Nos.	-	225	400	225	195
	Transformers (Rehabilitation)						
	50 KVA	Nos.	-	25	25	25	25
	100 KVA	Nos.	-	50	75	60	50
	200 KVA	Nos.	-	150	150	100	75
	Sub Total	Nos.	-	225	250	185	150
3	**11 KV Capacitors**						
	a. Fixed 450 KVAR	Nos.	-	12	17	13	12
	b. Fixed 900 KVAR	Nos.	-	-	-	-	-
	c. Others	Nos.	-	-	-	-	-
	Sub Total	Nos.	-	12	17	13	12
4	**11 KV Panel**	Nos.	-	5	10	8	6
5	**11 kV Cable**	Km	-	1.5	3	2.4	1.8
Scope of Work for LT Expansion							
1	**New LT Lines**						
	Length of new LT line	Km	-	203	225	167	135

51.5. The cost of DoP works as provided by petitioner is summarized below:

Sr. No.	Description	Million Rs.				
		2020-21	2021-22	2022-23	2023-24	2024-25
1	New HT Lines					

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	Length of new HT line	44.04	104.12	208.42	166.74	125.05
	Reconductoring/Rerouting	1.43	62.72	62.72	44.8	53.76
	11kV Lines for new grids connectivity	11.52	347.72	347.72	231.81	231.81
	New 11 kV lines for L.T works	-	203.57	120.45	89.13	72.27
2	**Transformers Overloaded**					
	50 KVA	-	8.2	24.6	16.4	11.5
	100 KVA	-	28.6	71.6	42.9	34.4
	200 KVA	-	111.7	149	74.5	74.5
	Sub Total	-	148.6	245.2	133.9	120.4
	Transformers (Rehabilitation)					
	50 KVA	-	8.2	8.2	8.2	8.2
	100 KVA	-	30.4	45.6	36.5	30.4
	200 KVA	-	117.0	117.0	78	58.5
	Sub Total	-	155.6	170.8	122.7	97.1
3	**11 kV Capacitors**	-				
	a. Fixed 450 KVAR	-	5.73	8.12	6.21	5.74
	b. Fixed 900 KVAR					
	c. Others	-				
	Sub Total	-	5.73	8.12	6.21	5.74
4	**11 KV Panel**	-	10.22	20.45	16.36	12.27
5	**11 kV Cable**	-	2	3.99	3.19	2.39
6	**New L.T Lines**	-				
	Length of new LT line	-	235	261.1	193.2	156.7
Total Cost DOP (Million Rs.)		**57**	**1,275**	**1,478**	**1,048**	**930**

51.6. The project wise details for ELR projects are given as under:

ELR Works:

Sr. No.	**Description**	**Unit**	**Quantities**				
			2020-21	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Scope of Work for 11 kV and Below Expansion							
1	**New HT Lines**						
	Length of new HT line	No/ Km	2	211.5	210	231	262.5
	Reconductoring/Bifurcation	No/ km	11	77.8	47.5	67.8	74.6
	HT Structure	No	-	400	150	150	150
	New 11 kV lines for L.T works		-	28.5	30.9	28.5	27
2	**Transformers (Augmentation)**						
	50 KVA	Nos.	-	33	30	15	17

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	100 KVA	Nos.	-	35	32	25	28
	200 KVA	Nos.	-	42	55	40	35
	Sub Total	Nos.	-	110	117	80	80
	Transformers (Rehabilitation)		-				
	50 KVA	Nos.	-	26	28	35	33
	100 KVA	Nos.	-	31	35	30	27
	200 KVA	Nos.	-	38	40	30	30
	Sub Total	Nos.	-	95	103	95	90
3	**11 KV Capacitors**						
	a. Fixed 450 KVAR	Nos.	-	28	27	32	36
	b. Fixed 900 KVAR	Nos.	-	-	-	-	-
	c. Others	Nos.	-	-	-	-	-
	Sub Total	Nos.	-	28	27	32	36
4	**11 KV Panel**	Nos.	-	18	20	22	25
5	**11 kV Cable**	Km	-	5.4	6	6.6	7.5
Scope of Work for LT Expansion							
1	**New LT Lines**						
	Length of new LT line	Km	-	67	303	279	265

51.7. The cost of ELR works as provided by petitioner is summarized below:

Sr. No.	Description	Million Rs.				
		2020-21	**2021-22**	**2022-23**	**2023-24**	**2024-25**
1	**New HT Lines**					
	Length of new HT line	6.63	505.57	501.07	551.18	626.34
	Reconductoring/Bifurcation	119.37	89.6	55.67	79.53	87.48
	HT Structure	-	89.68	47.95	47.95	47.95
	New 11 kV lines for L.T works	-	63.07	24.81	22.89	21.68
2	**Transformers Overloaded**					
	50 KVA	-	10.8	9.9	4.9	5.6
	100 KVA	-	20	18.3	14.3	16.0
	200 KVA	-	31.3	41.0	29.8	26.1
	Sub Total	-	62.2	69.2	49	47.7
	Transformers (Rehabilitation)					
	50 KVA	-	8.5	9.2	11.5	10.8
	100 KVA	-	18.8	21.3	18.2	16.4
	200 KVA	-	29.6	31.2	23.4	23.4
	Sub Total	-	57	61.7	53.1	50.6
3	**11 kV Capacitors**	-				
	a. Fixed 450 KVAR	-	13.38	12.89	15.29	17.19
	b. Fixed 900 KVAR	-				
	c. Others	-				

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	Sub Total	-	13.38	12.89	15.29	17.19
4	**11 KV Panel**	-	36.81	40.90	44.99	51.2
5	**11 kV Cable**	-	7.18	7.98	8.78	9.98
6	**New L.T Lines**	--				
	Length of new LT line	-	76.7	349.3	322.2	305.3
Total Cost DOP (Million Rs.)		**126**	**1,001**	**1,195**	**1,243**	**1,341**

51.8. The cost for procurement of meters as provided by petitioner is summarized below:

Meters type	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Single phase	16.68	25.57	28.88	32.61	36.85
Three phase	4.65	5.24	5.91	6.67	7.52
TOU LT	9.12	11.26	14.37	8.38	23.55
TOU HT	0.03	0.03	0.04	0.04	0.04
Total	**30.48**	**42.1**	**49.2**	**47.7**	**67.96**

51.9. The cost of IT equipment as provided by petitioner is summarized below:

Type	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Desk top	2.88	8.4	5.78	2.75	3.23
Lap top	5.18	7.84	1.2	1.76	2.92
Modems	1.5	-	-	-	-
Routers	0.43	0.86	0.46	0.49	0.53
printer	1.62	4.5	0.96	0.52	0.66
UPS 750 VA	0.24	0.75	0.4	0.17	0.2
UPS Server	3	12	-	-	3.68
Software	17.95	29.42	-	-	-
Software C/S	9.57	6.86	6.86	6.86	6.86
Mobile	1.03	1.5	1.47	1.72	12.25
Heavy Duty Laser Printer	-	14	-	-	-
Customer Center	-	3.5	-	-	-
Bio Metric	-	14.04	-	-	-
Line Printer	-	18	-	-	-
Total	**43.39**	**121.67**	**17.13**	**14.27**	**30.33**

51.10. The cost of vehicles as provided by petitioner is summarized below:

Make & Model	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Heavy Vehicles	-	25	-	-	-
Light Vehicles	-	21	-	-	-
Bucket Mounted Trucks	-	72	61	50	78
Fork Lifter	-	2	2	-	-

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Hydraulic Hand Pallet	-	2	2	2	2
Loader	-	48	72	72	-
Jeep/Cars	-	9	5	5	6
Total	-	**178**	**142**	**130**	**85**

51.11. The cost for establishment of training center as provided by petitioner is summarized below:

Particulars	2021-22	2022-23	2023-24	2024-25	Total
Up gradation of RTC	15	-	-	-	15
Development of Training center in circles	-	20	20	-	40
Total	**15**	**20**	**20**	-	**55**

51.12. The petitioner also provided following details of commercial improvement plan:

Commercial Improvement Plan Items		2020-21 Total	2021-22 Total	2022-23 Total	2023-24 Total	2024-25 Total	Total Total
A	**AMR Metering**	-	193.28	212.61	303.74	334.11	1044.73
B	**Email Hosting**	0.43	0.86	0.46	0.49	0.53	2.77
C	**HHUs for meter reading**	1.03	1.50	1.47	1.72	12.25	17.96

51.13. It is observed that the earlier submissions by QESCO with respect to their investment plans were without linking those to achieve performance targets as determined by the Authority. Further the investment plans neither used to refer to the base-line conditions nor about the expected conditions post investment. It is also observed that the instant MYT petition filed by QESCO has been filed for multiyear tariff i.e. for a period of five (5) years, keeping following responsibilities and functions which include:

- STG strengthening and expansion at high voltage (132 and 66 kV) for removing constraints for power transfer from NTDC transmission system to QESCO system.
- Increasing sales in their service territory and corresponding expansion of their network at the medium (11kV) and low voltage (LT) level through DOP projects.
- Rehabilitation, Augmentation and Expansion in system through ELR projects for reduction in T&D losses and improving quality parameters including performance indices as laid down in NEPRA Performance Standards (Distribution) Rules, 2005.
- Administrative measures, financial improvements (ERP) and Commercial improvement (AMI, AMR etc.) including metering and IT development.
- Human resource and capacity building.

51.14. The above functions have been grouped as follows:

S. #	Major Area	Sub-Projects
1	**Secondary Transmission and Grid (STG) Expansion and Rehabilitation Projects**	Construction of New 132 kV Grid Stations
		Up gradation of 66 kV Grid Stations to 132 kV Grid Stations

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		Augmentation of 132 kV and 66 kV Grid Stations
		Extension of 132 kV and 66 kV Transformer Bays
		Extension of 132 kV and 66 kV Line Bays
		Erection of New 132 kV D/C Transmission Lines
		Erection of New 132 kV SDT Transmission Lines
		Circuit Stringing of New 132 kV SDT Transmission Lines
		Re-Conductoring of Existing 132 kV Transmission Lines
		Installation of Capacitors at 132 kV Grid Stations
2	**Distribution of Power (DOP) Expansion and Rehabilitation Projects**	Installation of New 11 kV Lines
		Installation of New Distribution Transformers
		Reinforcement of Overloaded Distribution Transformers
		Installation of New LT Lines
3	**Energy and Loss Reduction (ELR) Projects**	Replacement of Defective/Burnt Distribution Transformers
		Rehabilitation of Existing LT Lines
		GIS Mapping/Re-routification of 11 kV Feeders
		GIS Mapping of LT Lines
4	**Commercial Improvement Plans**	Installation of AMR Meters
		HHUs for Meter Reading
		Consumer Census
		Anti-Theft Efforts
		Installation of IT Infrastructures
5	**Human Resource Improvement Plans**	Hiring of Additional Manpower to undertake the Projects
		Capacity Building of Human Resource

51.15. As per requirement under Para 23 of NEPRA's Consumer-end Tariff Methodology Guidelines, 2015, QESCO was required to provide its investment plans for next 5-years under MTY regime. It is noted that, under Optimally Achievable Case, QESCO is required to prepare its investment plans which are foreseen to represent the minimum requirement to meet the performance targets determined by the Authority.

51.16. Pursuant to above requirements, QESCO has submitted its investment plans, required for expansion and removal of system constraints for the next five years, under Optimally Achievable Case and claimed a total investment of Rs. 76,511 Million against following heads:

(Rs. in Million)

Description	2020-21	2021-22	2022-23	2023-24	2024-25	TOTAL
7th STG	310	1,804	1,940	2,333	1,883	8,269
STG (Removing of System Constrain)	-	1,268	1,369	1,479	1,597	5,714
STG (Federal PSDP)	1,350	7,077	14,409	1,895	2,085	26,815
STG (Provincial PSDP)	250	302	567	464	510	2,093
STG (Deposit)	-	3,004	769	-	-	3,772

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Sub Total STG	**1,910**	**1,3455**	**19,054**	**6,170**	**6,075**	**46,663**
DOP	57	1,275	1,478	1,048	930	4,789
ELR	126	1,001	1,195	1,243	1,341	4,906
Village Electrification (Provincial)	1,556	2,313	2,253	2,508	2,637	11,267
Village Electrification (Federal)	63	625	776	392	398	2,254
Other deposits – Independent Feeders	300	1,002	902	764	323	3,291
Sub Total 11 kV Distribution	**2,102**	**6,216**	**6,604**	**5,955**	**5,629**	**26,507**
Meters	30	42	49	58	68	247
AMR Meters	-	193	213	304	334	1,044
MIS hardware/software	43	122	17	14	30	227
Vehicles	-	178	142	130	85	535
Other plant & Equip	8	12	12	14	15	61
IDC on cash development loan		113	-	-	-	113
Civil Works	115	161	200	145	114	735
Establishment of Training Centre	-	15	20	20	-	55
T&P Including PPE & Sports items	35	63	69	76	83	325
Total	**4,243**	**20,571**	**26,379**	**12,885**	**12,433**	**76,511**

52. **Funding Arrangements to Cater Proposed Investments:**

52.1. QESCO submitted the following funding arrangements required to undertake the aforementioned investment plans under Optimally Achievable Case:

Description	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Own Sources	694.39	6205.15	6654.51	6804.12	6413.12	**26,771**
PSDP Financing (Loan)	1350	7277	14678.67	1895	2084.50	**27,285**
PSDP Financing (Grant)	1868.56	2940.69	4,094.03	3364.04	3545.30	**15,813**
Consumer Contribution	330.48	3548.08	951.33	821.62	390.48	**6,042**
Spill Over	-	599.91	-	-	-	**600**
Total	**4,243**	**20,571**	**26,379**	**12,885**	**12,433**	**76,511**

52.2. As discussed in the preceding paragraph, the investment plans prepared by QESCO would be reflective of its current base line conditions with respect to its existing network conditions and constraints in the existing T&D networks. For the purpose, following base line conditions and network constraints have been considered as starting point for future proposed investments which will be improved accordingly after implementation of such planned investments:

Existing System of QESCO (As on 30-June-2021):

Description	Unit	Quantity

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Grid Stations		
132 kV Grid Stations	No.	72
66 kV Grid Stations	No.	3
33 kV Grid Stations	No.	32
132 kV Consumer Owned Grid Stations	No.	1
Power Transformers	No.	179
Capacity of Power Transformers	MVA	3466
Transmission Lines (132 kV & 66 kV)		
Total Length of 132kV Transmission Lines	KM	5500
Total Length of 66kV Transmission Lines	KM	106
Total Length of 33kV Transmission Lines	KM	1981
Distribution System		
11 kV Feeders	No.	688
Total Length of 11 kV Lines	KM	40822
Total Length of LT Lines	KM	17476
Distribution Transformers	No.	64119
Capacity of Distribution Transformers	KVA	3339400
Existing HT / LT Ratio	Ratio	2.34
Average Length of 11kV Feeder	KM	59.33

Constraints in Existing System of QESCO:

Description	Unit	Quantity
Overloaded Power Transformers	No.	49
Overloaded 11 kV Feeders	No.	688
Overloaded Distribution Transformers	No.	5343

52.3. In order to assess the above investment requirements of the Petitioner, a review of the historical pattern of the actual expenditure made by the Petitioner has been conducted to ensure investment utilization capability of QESCO. The following table shows actual expenditure made from FY 2015-16 to FY 2019-20 by the petitioner:

(Million Rs.)

Description	2015-16	2016-17	2017-18	2018-19	2019-20	Total
DOP	76	82	87	39	49	**333**
ELR	84	87	90	57	85	**403**
STG	680	800	288	347	550	**2,665**
Others	6,315	2,111	4,283	4,003	1,935	**18,647**
Total	**7,155**	**3,080**	**4,748**	**4,446**	**2,619**	**22,048**

52.4. Further review of the investments requested by the petitioner, allowed by NEPRA Vis a Vis actual utilization by the petitioner revealed the following:

Description	2015-16	2016-17	2017-18	2018-19	2019-20	TOTAL
Requested	7,580	6,311	13,577	2,043	9,987	**39,498**
Allowed	4,300	3,080	8,000	4,446	3,763	**23,589**
Actual	7,115	3,080	4,748	4,446	2,619	**22,008**

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Excess/(Less)	2,815	-	(3,252)	-	(1,144)	**(1,581)**
%age	165.47	100.00	59.35	100.00	69.60	**93.30**

52.5. From above, it is observed that during last 5-years, QESCO has utilized major portion (more than 93%) of the allowed investment and has spent the maximum of Rs. 7,115 million in FY 2015-16 over the last five years period.

52.6. Based on the aforementioned observations, analysis, assessment, discussion and keeping in view the historical capability of QESCO to utilize the allocated budget against investment requirements, it is expected that QESCO would make all necessary efforts to carry out its proposed investment plans under Optimally Achievable Case so that MYT regime proves to be a success. Accordingly following investment is allowed to QESCO for MYT control period of 5-years from FY 2020-21 to FY 2024-25:

(Rs. in Million)

Description	Requested under Optimal Case	Allowed Investments
7th STG	8,269	8,269
STG (Removing of System Constrain)	5,714	5,714
STG (Federal PSDP)	26,815	26,815
STG (Provincial PSDP)	2,093	2,093
STG (Deposit)	3,772	3,772
DOP	4,789	4,789
ELR	4,906	4,906
Village Electrification (Provincial)	11,267	11,267
Village Electrification (Federal)	2,254	2,254
Other deposits – Independent Feeders	3,291	3,291
Meters	247	247
AMR Meters	1,044	1,044
MIS hardware/software	227	227
Vehicles	535	535
Other plant & Equip	61	61
IDC on cash development loan	113	113
Civil Works	735	735
Establishment of Training Centre	55	55
T&P Including PPE & Sports items	325	325
TOTAL	**76,511**	**76,511**

53. <u>Target Additions in QESCO's Networks in Next Five (5) Years:</u>

53.1. Following additions in T&D networks of QESCO are expected to be included through planned investment plans under Optimally Achievable Case:

Total MVA Addition at 132 kV Grids:	498 MVA
New Transmission Lines at 132kV:	648 kMs
New HT (11 kV) Lines:	2111 kMs
New LT (415/230 V) Overhead Lines:	1644 kMs
New Distribution Transformers Addition:	2625 Nos.

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54. Improvements Expected after Implementation of Investments:

54.1. Following improvements are expected to be achieved by QESCO after implementation of investments in next five (5) years:

Transmission	Transformation Capacity of 3466 MVA will be increased to 3964 MVA for removal of overloading and constraints at Grid Level.
	Transmission Losses will be reduced from 3.75% in FY 2019-20 to 1.30% in FY 2024-25.
	As a result of reduced transmission losses, 2359 GWh additional energy will be available for sales.
Distribution	Distribution losses will be reduced from 13.40% in FY 2019-20 to 12.51% in FY 2024-25.
	Existing HT/LT ratio of 2.34 will be maintained at the same level.
	Due to additional energy of 2359 GWh, sales growth rate will be improved from 6.6% in FY 2019-20 to 9.30% in FY 2024-25.

55. Year-wise Allowed Investments under Optimally Achievable Case:

55.1. Based on the above, a year-wise detail about the allowed investments under Optimally Achievable Case are tabulated hereunder:

(Rs. in Million)

	Description	2020-21	2021-22	2022-23	2023-24	2024-25	Total
1	7th STG	310	1,804	1,940	2,333	1,883	8,269
2	STG (Removing of System Constrain)	-	1,268	1,369	1,479	1,597	5,714
3	STG (Federal PSDP)	1,350	7,077	14,409	1,895	2,085	26,815
4	STG (Provincial PSDP)	250	302	567	464	510	2,093
5	STG (Deposit)	-	3,004	769	-	-	3,772
6	DOP	57	1,275	1,478	1,048	930	4,789
7	ELR	126	1,001	1,195	1,243	1,341	4,906
8	Village Electrification (Provincial)	1,556	2,313	2,253	2,508	2,637	11,267
9	Village Electrification (Federal)	63	625	776	392	398	2,254
10	Other deposits – Independent Feeders	300	1,002	902	764	323	3,291
11	Meters	30	42	49	58	68	247
12	AMR Meters	-	193	213	304	334	1,044
13	MIS hardware/software	43	122	17	14	30	227
14	Vehicles	-	178	142	130	85	535
15	Other plant & Equip	8	12	12	14	15	61
16	IDC on cash development loan		113	-	-	-	113
17	Civil Works	115	161	200	145	114	735
18	Establishment of Training Centre	-	15	20	20	-	55

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19	T&P Including PPE & Sports items	35	63	69	76	83	325
20	TOTAL	**4,243**	**20,571**	**26,379**	**12,885**	**12,433**	**76,511**

56. REVIEW OF ALLOWED INVESTMENT PLANS:

56.1. QESCO is required to submit the report containing achievements made viz-a-viz yearly targets along with the Annual Performance Report as per PSDR 2005.

56.2. QESCO is directed to prioritize its investments claimed under STG, DOP and ELR etc. In this respect, removal of system constraints for transferring power from NTDC system must be the first priority, followed by reduction in T&D losses and improvement in metering systems through ELR and overloaded grids and 11kV feeders. The main components would include STG, DOP, ELR and Commercial Improvement.

57. It is noted that agricultural load contributes major share of the load in QESCO system whereas, recovery from such agricultural/tube well connections is least. QESCO had plan to convert these connections to solar. QESCO needs to submit details of accomplishment and future plans in this regard.

57.1. The petitioner during the course of hearing submitted that PC-I has been prepared by Energy Department, Government of Balochistan regarding solar water pumping in the province and was submitted to Ministry of Planning, Development & Special Initiatives (Energy Wing) Pakistan, for presenting it in CDWP meeting for approval. In pre-CDWP meeting held on 29.6.2021 under chairmanship of Member (Energy) following decisions were made;

a. PC-I of the subject project should be processed by power division/NTDC being main stake holders, in consultation with GoB, AEDB & QESCO. b. Power Division/NTDC were directed to include scope of efficient water utilization/conservation in consultation with Ministry of water resources, Food & Agriculture Ministry & Irrigation department, GoB and same may be made as a part of PC-I.

b. Power Division/NTDC were directed to prepare analysis report through NESPAK consultants including comparison of all options considered in feasibility study along with financial and economic impact and be made part of PC-I.

c. Modified PC-I may include governance improvement plan of DISCO in order to remove theft, subsidies and losses.

d. Project rollout strategy through community ownership and alignment of stakeholders incentive must also be part of project scope

e. PC-I will also include Consultant's independent views in likelihood of sustainable subsidy elimination over life of project (Agricultural tube well, thefts, AT&C losses, collection) after implementation of project along with risk evaluation.

57.2. It is observed that QESCO prepared PC-I for conversion of agricultural/tube well connections to solar PV and submitted to relevant forum for approval. In this regard, it is QESCO is required to follow up the matter with concerned stakeholders and expedite the approval process for timely implementation and finalization of the project.

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58. Whether QESCO has prepared schemes to cater for future demand and removal of system overloading/constraints and provided a detailed report in this regard as per requirement under NEPRA Guidelines for determination of Consumer end Tariff (Methodology and Process) 2015.

58.1. The Authority in the previous tariff determination directed the Petitioner to prepared schemes to cater for future demand and removal of system overloading/constraints and provided a detailed report in this regard as per requirement under NEPRA Guidelines for determination of Consumer end Tariff (Methodology and Process) 2015.

58.2. The Petitioner during the hearing submitted the QESCO Rehabilitates its distribution system through its System Augmentation Programme (SAP) to overcome system constraints/overloading. In this regard, QESCO has devised 5 years plan (2019 to 2024) for improvement of its distribution system.

58.3. The Authority has considered the submissions of QESCO and is of the opinion that QESCO has submitted only generic information in this regard, however, the same hasn't been shared with NEPRA. Therefore, QESCO is directed to share the detailed report including the schemes to cater for future demand and removal of system overloading/constraints for perusal and consideration of the Authority.

59. Whether QESCO has provided at least 95% of new connections to its eligible consumers as specified in the Consumer Eligibility Criteria and Performance Standard Distribution Rules, 2005? Provide detail of pending connections till 30 September 2021.

59.1. The Authority in the previous tariff determination directed the Petitioner to provide at least 95% of new connections to its eligible consumers as specified in the Consumer Eligibility Criteria and Performance Standard Distribution Rules, 2005 and submit detail of pending connections till 30 September 2021.

59.2. The Petitioner during the hearing submitted that Monthly and Quarterly reports are being submitted regularly in compliance to the Authority's directive.

59.3. The Authority has considered the submissions of QESCO and directed QESCO to clear all pending connections and submit a compliance report on a monthly basis.

60. What steps were taken by QESCO to target high loss feeders to bring down AT&C losses? Whether a detailed plan in this regard was furnished?

60.1. The Authority in the previous tariff determination directed the petitioner to provide detailed plan for the steps taken by QESCO to target high loss feeders to bring down AT&C losses.

60.2. The Petitioner during the hearing submitted that QESCO is implementing area planning and bifurcation proposals of HT & LT network under head ELR & DOP to overcome the overloading as well as to reduce the losses. Further QESCO is in continuous liaison with GoB & LEA for seeking their help in uprooting illegal connections.

60.3. The Authority has considered the submissions of QESCO and is of the considered opinion QESCO has submitted a generic statement in this regard. QESCO is directed to submit the detailed (project wise) report along with its timelines. QESCO is further directed to submit a detailed analysis regarding benefit accrued (in terms of improvement in AT&C losses) against amounts incurred under the projects of DOP and ELR.

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61. Whether project-wise detailed report for the investment carried out along with their cost-benefit analysis and technical/financial savings achieved by June 30, 2021?

61.1. The Authority in the previous tariff determination directed the Petitioner to submit project-wise detailed report for the investment carried out along with their cost-benefit analysis and technical/financial savings achieved by June 30, 2021.

61.2. The Petitioner during the hearing submitted that in previous years QESCO was unable to utilize the allowed investment due to poor recovery position. However, the detail of projects carried out along with detail analysis during FY 2019-20 is following.

Description	2018-19 Allowed	2018-19 Utilized	Difference	2019-20 Allowed	2019-20 Utilized	Difference
STG	347	347	-	600	550	50
DOP	39	39	-	300	49	251
ELR	57	57	-	389	85	304
Others	4,003	4,003	-	2,474	1,935	539
Total	4,446	4,446	-	3,763	2,619	1,144

61.3. The Authority has considered the submissions of the petitioner and is of the opinion that QESCO hasn't fully utilized the investment as allowed by NEPRA in its Tariff Determination. QESCO is directed to fully utilize allowed investment in order to improve performance standards as described in NEPRA Performance Standards (Distribution) Rules, 2005.

62. Whether QESCO had prepared and submitted the IGTDP? If yes, what are the achievements for last five years in this regard? Provide the detail?

62.1. The Authority in the previous tariff determination directed the Petitioner to prepare and submit the detailed IGTDP including the achievements for last five years.

62.2. The Petitioner hasn't submitted any information in this regard. The Authority took displeasure on non-submissions of required details and strictly directed QESCO to prepare and submit the IGTDP including the achievements for the last five year for consideration of the Authority.

63. What are the remedial measures taken for the achievement of performance standards (targets of SAIFI & SAIDI given by the Authority during FY 2019-20) as laid down in Performance Standards (Distribution) Rules 2005?

63.1. The Authority in the previous tariff determination directed the Petitioner to submit the details of the remedial measures taken for the achievement of performance standards (targets of SAIFI & SAIDI given by the Authority during FY 2019-20) as laid down in Performance Standards (Distribution) Rules 2005.

63.2. The Petitioner hasn't submitted any information in this regard. The Authority took displeasure and strictly directed QESCO to submit the details of the remedial measures taken for the achievement of performance standards (targets of SAIFI & SAIDI given by the Authority during FY 2019-20) as laid down in Performance Standards (Distribution) Rules 2005.

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64. Whether the loading position of Power Transformers, Distribution Transformers and 11kV Feeders has been improved? Provide the detail for last three years?

64.1. The Authority in the previous tariff determination directed the Petitioner to provide the detail for the last three years regarding improvement of the loading position of Power Transformers, Distribution Transformers and 11kV Feeders.

64.2. The Petitioner during the hearing submitted that overloading of 13 numbers 11 kV feeders has been reduced after bifurcation. Further, the following 11 kV feeders are in construction stage.

i. Shahnawaz Feeder
ii. Joint road feeder

64.3. QESCO also submitted that the following 11 kV feeders are under process in P&E Directorate for Engineering Analysis

i. Gulistan feeder
ii. Kirani feeder
iii. Samungli Express feeder
iv. Western bypass feeder

64.4. The Authority has considered the submissions of QESCO and is of the view that QESCO has submitted that 13 Nos of 11 kV feeders have been bifurcated in order to reduce overloading. However, QESCO hasn't submitted the details of those feeders. Furthermore, QESCO has submitted the names of feeders which are under process in order to reduce overloading. Further QESCO hasn't submitted any information regarding the reduction in overloading of Power Transformers & Distribution Transformers. Therefore, QESCO is hereby directed to submit detail of each along with benefits achieved in terms of performance improvement.

65. Provide details of preventive measures taken during FY 2020-21 to cater for the safety incidents?

65.1. The Authority in the previous tariff determination directed the Petitioner to provide details of preventive measures taken during FY 2020-21 to cater for the safety incidents.

65.2. The Petitioner during the hearing submitted the following details:

i. As per directives of NEPRA Authority, establishment of safety directorate is under process. While power safety code 2021 & safety manual provided by NEPRA Authority has been approved by the competent authority and circulated amongst the field formations for its enforcement/ implementation in letter & spirit.

ii. Monitoring mechanism for enforcement of above SOP has also been approved by the competent authority for ensuring surprise site checking so as to initiate disciplinary action in case of any violation while on the other hand recommendations of rewards in case of proper implementation of safety codes and manual.

iii. Provision of PPEs and T&Ps to Field staff from the office of material management and clear-cut directions to field formations to ensure utilization of same during course of work.

iv. Revival of safety committees in field formations.

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v. Arrangement of CTC (Central Training Centers) and S-100 short safety courses in all QESCO formations at RTC, subdivision and circle levels.

vi. Visited all QESCO operation and GSO Circles to get their stance/input for any further improvement in implementation of safety code and manual.

65.3. The Authority has considered the submissions of QESCO and observed that QESCO has tried to portray the picture that it has taken a lot of measures to avoid/reduce fatal accidents and create a safety culture, however, the number of fatal accidents for both employees and the public occurred in QESCO during the years 2020-21 is 06 which is almost same as compared to previous years, as given below:

FY 2017-18	06
FY 2018-19	07
FY 2019-20	07

65.4. Therefore, QESCO should initiate measures on a war footing basis to reduce the number of fatal accidents and submit a concrete action plan in this regard.

66. <u>Whether TOU meters installed to all the eligible connections? Submit details in this regard.</u>

66.1. The Authority in the previous tariff determination directed the Petitioner to install TOU meters for all eligible connections and submit details in this regard.

66.2. The Petitioner during the hearing hasn't submitted any information in this regard. The Authority took shows serious notice and is again directed QESCO to submit the details for consideration of the Authority.

67. <u>Progress regarding the installation of AMI meters at the consumer end.</u>

67.1. The Authority in the previous tariff determination directed the Petitioner to submit the progress regarding the installation of AMI meters at the consumer end.

67.2. The Petitioner hasn't submitted any information in this regard. The Authority took displeasure and strictly directed QESCO to submit the progress regarding the installation of AMI meters at the consumer end.

68. <u>Progress of installation of ABC cable to control theft of electricity, which is the major source of the increase in transmission and distribution losses.</u>

68.1. The Authority in the previous tariff determination directed the Petitioner to provide the progress of installation of ABC cable to control theft of electricity, which is the major source of the increase in transmission and distribution losses.

68.2. The Petitioner during the hearing submitted that the installation of ABC cable in QESCO has not been launched so far. However, a revised PC-I has been sent to MoE Power Division vide letter No. CEO/QESCO/CE(P&E)/2638 dated 17.1.2020 & followed vide letter No. CEO/QESCO/CE (P&E)/61111-13 dated 2.11.2021 for installation of ABC cable in Khuzdar City, response is still awaited.

68.3. The Authority has considered the submissions of QESCO and directed QESCO to immediately initiate the installation of ABC Cable, especially in high loss areas and submit a compliance report in this regard.

69. <u>What is the load-shedding criteria in the jurisdiction of QESCO?</u>

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69.1. The Authority in the previous tariff determination directed the Petitioner to provide details of the load-shedding criteria in the jurisdiction of QESCO.

69.2. The Petitioner during the hearing submitted that the following details:

CATEGORY WISE LOAD MANAGEMENT PLAN BASED ON AGGREGATE TECHNICAL & COMMERCIAL (AT&C) LOSSES

CATEGORY	AT&C Losses	Load Shedding Hours
i	0-10%	0 HRS
ii	10-20%	4.50 HRS
iii	20-30	5.00 HRS
iv	30-40%	6.00 HRS
v	40-60%	7.00 HRS
vi	60-80	8.00 HRS
vii	80-100%	11.00 AND ABOVE HRS
	Agri dominated feeders	Upto 16 HRS

69.3. The Authority has considered the submissions of QESCO and strictly directed QESCO to carry out load shedding in accordance with Rule 4 (f) of Performance Standard (Distribution) Rules, 2005. The criteria being followed by QESCO has never been recognized by NEPRA.

70. <u>What steps were taken to control the theft of electricity?</u>

70.1. The Authority in the previous tariff determination directed the Petitioner to submit the details of the steps taken to control the theft of electricity.

70.2. The Petitioner during the hearing submitted the following details:

- Anti-theft campaign drive has been initiated and detection units/bills have so far been recovered from large number of consumers against electricity theft.
- Defective meters were replaced with new/ healthy ones for ensuring accurate billing.
- QESCO has engaged M&T/ S&I teams Jointly with FIA task teams to detect the theft in Power connections as well as in various sensitive areas.
- It is further added that special campaigns with local administration launched over a period of last five years against illegal tube well connections and as many as 801 numbers of illegal transformers of various capacities have so far been removed/uprooted and returned to Regional store QESCO Quetta. The campaign is still underway for uprooting/ eradication of this menace.

70.3. The Authority has considered the submissions of QESCO and is of the view that QESCO has submitted that it has started anti-theft drive and taken many steps to control theft of electricity. However, there is no significant improvement in overall losses as compared to the preceding years. QESCO is directed to submit the results of such drive particularly in terms of reduction of AT&C Losses.

71. <u>Upfront Indexation/adjustment for the FY 2021-22 and FY 2022-23</u>

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Moth.

71.1. The Authority understands that by the time the instant decision is notified, the FY 2021-22 would have elapsed and the FY 2022-23 would have also started. Meaning thereby that tariff indexation/adjustment for the FY 2021-22, which ideally should have been allowed in July 2021 would have become overdue, and the indexation/adjustment for the FY 2022-23 would also have become due. In view thereof, and in order to ensure timely recovery of the allowed cost to the Petitioner, the Authority has decided to allow the indexation/adjustment for the FY 2021-22 and the FY 2022-23, upfront in the instant decision as per the adjustment /indexation mechanism provided in this determination. However, the impact of under/ over recovery due to indexation/ adjustment for the FY 2021-22 would be allowed / adjusted subsequently as part of future PYA.

71.2. Here it is pertinent to mention that indexation/adjustment for the FY 2021-22 and FY 2022-23 has been worked out based on the NCPI for the month of December 2020 and December 2021 respectively, for which the reference NCPI for the month of December 2019 has been used. Thus, for the purpose of filing future indexation/ adjustment requests, the Petitioner shall use the NCPI for the month of December for the respective year. The Petitioner is directed to submit its annual adjustment / indexation requests by February every year, so that adjustment / indexation for the next year is determined in timely manner.

72. <u>Order</u>

72.1. In view of the discussion made in preceding paragraphs and accounting for the adjustments discussed above, the allowed revenue requirement of the Petitioner, for the FY 2020-21 along-with upfront indexation/adjustment for the FY 2021-22 and FY 2022-23, to the extent of its distribution function is summarized as under;

Distribution of Power Tariff (DOP)		FY 2020-21	FY 2021-22	FY 2022-23
Description	Unit	DOP	DOP	DOP
Units Purchased	[MkWh]	6,589	6,589	7,041
Units Sold	[MkWh]	5,620	5,634	6,036
Units Lost	[MkWh]	969	955	1,005
Units Lost	[%]	14.70%	14.49%	14.27%
Investment	[Mln. Rs.]	4,243.00	20,571.00	26,379.00
Pay & Allowances		3,571	4,329	4,790
Post Retirement Benefits		1,030	1,133	1,231
Repair & Maintainance		728	867	942
Traveling allowance		210	221	269
Vehicle maintenance		254	266	324
Other expenses		261	294	319
O&M Cost	[Mln. Rs.]	**6,054**	**7,110**	**7,874**
Depriciation		1,498	1,552	1,633
RORB		2,282	2,957	3,881
O.Income		(1,072)	(1,251)	(1,251)
Margin without PYA	[Mln. Rs.]	8,761	10,368	12,136
Revenue Requirement	[Mln. Rs.]	**8,761**	**10,368**	**12,136**
Average Tariff	[Rs./kWh]	**1.56**	**1.84**	**2.01**

72.2. The Petitioner is directed to follow the following time lines for submission of its future indexation/adjustment during the MYT control period;

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Description	ADJUSTMENTS/ INDEXATION	TIME LINES
Margin		
Salaries, Wages & Benefits	Annually as per the mechanism given in the decision	Request to be submitted by Petitioner in February of every year, so that adjustment / indexation for the next year is determined in timely manner.
Post-retirement Benefit		
Other operating expenses		
Depreciation		
Return on Regulatory Asset Base		
Other Income		
Prior Year Adjustment	Annually as per the mechanism given in the decision	
KIBOR	Bi-Annually, as per the decision	
Return on Equity (ROE)	No adjustment allowed over Reference ROE	
Spread	As per the mechanism in the decision	

Ref. NCPI-General of December 2019 i.e. 9.49%

72.3. Quetta Electric Supply Company Limited (QESCO), being a distribution licensee, is allowed to charge its consumers, the following "Use of system charge" (UOSC) for the FY 2022-23;

Description	For 132 kV only	For 11 kV only	For both 132kV & 11 kV
Asset Allocation	27.90%	42.93%	70.82%
Level of Losses	1.30%	10.00%	11.17%
UoSC Rs./kWh	0.54	0.92	1.52

72.4. Responsible to provide distribution service within its service territory on a non-discriminatory basis to all the consumers who meet the eligibility criteria laid down by the Authority,

72.5. To make its system available for operation by any other licensee, consistent with applicable instructions established by the system operator.

72.6. To follow the performance standards laid down by the Authority for distribution and transmission of electric power, including safety, health and environmental protection instructions issued by the Authority or any Governmental agency [or Provincial Government;

72.7. To develop, maintain and publicly make available, its investment program for satisfying its service obligations and acquiring and selling its assets

72.8. To disconnect the provision of electric power to a consumer for default in payment of power charges or to a consumer who is involved in theft of electric power on the request of Licensee.

72.9. The Petitioner shall comply with, all the existing or future applicable Rules, Regulations, orders of the Authority and other applicable documents as issued from time to time.

73. Summary of Direction

73.1. A summary of all directions passed in this determination by the Authority are reproduced hereunder. The Authority hereby directs the Petitioner to;

i. To ensure segment reporting with clear break-up of costs in financial statements for the Distribution and Supply Functions in light of the amended NEPRA Act for the FY 2020-21 & onward.

ii. To complete tagging of its assets by December 31, 2022.

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iii. To provide the detail of PEPCO fee claimed in tariff till June 30, 2021 with its subsequent tariff adjustment/indexation request

iv. To provide its working for under/(over) recovery of quarterly adjustment along-with break-up of units sold for each category for the period from FY 2019-20 till FY 2021-22, for consideration of the Authority.

v. To share the detailed report including the schemes to cater for future demand and removal of system overloading/constraints for perusal and consideration of the Authority.

vi. To clear all pending connections and submit a compliance report on a monthly basis.

vii. To submit a detailed analysis regarding benefit accrued (in terms of improvement in AT&C losses) against amounts incurred under the projects of DOP and ELR.

viii. To fully utilize allowed investment in order to improve performance standards as described in NEPRA Performance Standards (Distribution) Rules, 2005.

ix. To prepare and submit the IGTDP including the achievements for the last five year for consideration of the Authority.

x. To submit the details of the remedial measures taken for the achievement of performance standards (targets of SAIFI & SAIDI given by the Authority during FY 2019-20) as laid down in Performance Standards (Distribution) Rules 2005.

xi. To submit detail of each along with benefits achieved in terms of performance improvement.

xii. To install TOU meters for all eligible connections and submit details in this regard.

xiii. To submit the progress regarding the installation of AMI meters.

xiv. To immediately initiate the installation of ABC Cable, especially in high loss areas and submit a compliance report in this regard.

xv. To carry out load shedding in accordance with Rule 4 (f) of Performance Standard (Distribution) Rules, 2005. The criteria being followed by QESCO has never been recognized by NEPRA.

xvi. To take all the possible preventive measures to ensure no fatal accidents occur in future and improve its HSEQ performance. Detail objectives/targets of HSE are attached as Annex-A for compliance.

xvii. To take all possible measures to facilitate consumers in terms of complaint handling, connection provision as per CSM and establish one window solutions.

xviii. To ensure that amount allowed under each head of investment shall not be used under any other head. The re-appropriation of Authority's allowed investment under different heads by DISCO shall not be acknowledged by the Authority and shall be adjusted accordingly. In case of any deviation under each head of the investment for more than 5% in the instant approved investment plans of DISCOs due to any

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regulatory decisions/interventions/approved plans, DISCOs shall be required to submit additional investment requirements for prior approval of the Authority.

xix. The HT and LT rehabilitation proposals shall be evaluated on the basis of GIS mapping through ArcGIS and load flow analysis through SynerGee Electric. The HT & LT Plans will be based on of PMS demand forecast and consistent with the STG Plan. The STG plans should be in line with the Transmission System Expansion Plan (TSEP) approved by the Authority from time to time.

xx. GIS mapping has to be updated periodically after execution of respective HT and LT rehabilitation proposals and network shall be regularly updated for the optimized future investments and avoid equipment failures through prudent and proactive planning practices.

xxi. DISCOs shall ensure Open Access to all the relevant entities/licensees without discrimination and shall objectively evaluate and make available on the website of DISCO the network available capacity, current allocation of the capacity and the future investment required to be made part of distribution system planning.

xxii. The DISCO through Market Implementation & Regulatory Affairs Department (MIRAD) shall prepare and develop the medium-term demand forecast, transmission plans and business plan for submission of the same to the Authority. All other departments of the DISCOs shall be obligated to provide their sub-plans to MIRAD for consolidation.

xxiii. MIRAD shall ensure effective reporting and monitoring of the allowed investment on monthly, quarterly and annual basis. The main components would include STG, DOP, ELR and Commercial Improvement.

xxiv. MIRAD shall be adequately staffed at all times as per the approved organochart for effective and efficient performance of its functions. MIRAD shall develop the dashboard for effective monitoring and reporting of above plans. The CEO along with the functional in-charge of each department will be responsible for presenting the above mentioned progress to the Authority and also submit the monthly, quarterly and annual progress reports in the matter.

xxv. DISCO shall ensure Data Standardization for load forecasting and coordinate with PITC for auto retrieval and analysis of data for demand forecasts and use a software based on a modern language instead of Fox-Pro based software for accurate and reliable demand forecasts.

xxvi. MIRAD shall undertake an exercise to identify and accurately use the data of captive consumers in the demand forecasts and ensure better coordination with local agencies/housing colonies/industrial consumers for potential upcoming demand for better and reliable demand forecasts.

xxvii. To submit its annual adjustment / indexation requests by February every year, so that adjustment / indexation for the next year is determined in timely manner.

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74. The determination of the Authority along-with Annex-A, is hereby intimated to the Federal Government for notification in the official gazette in terms of section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

AUTHORITY

Rafique Ahmed Shaikh
Member
2/6/22

Engr. Maqsood Anwar Khan
Member

Tauseef H. Farooqi
Chairman

My additional note is attached herewith.
2/6/22

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Additional Note:

At the outset, the multi-year tariff determination which I am signing is for the control period from financial year 2020-21 to 2024-25; the two years of its control period have already been lapsed. Timely tariff determinations depend on submission of the petition by DISCOs within the given time. However, in sheer disregard of timelines given in the NEPRA Guidelines for Consumer End Tariff-2015 as well as the Authority's direction, DISCOs have failed to submit their petitions in timely manner which reflects their indifference to the regulatory discipline which ultimately cause suffering for the power sector as well as the end-consumers.

For the period from July, 2020, beyond the tariff control period of last determined tariff, the Authority has been issuing the quarterly adjustments under the given mechanism. Such adjustments, though covers the cost increase to larger extent but not suffice to cover the entire financial impact. Therefore, I am of the opinion that quarterly adjustments beyond the tariff control period are highly undesirable and should not be allowed.

This is a fact on record that NEPRA has been allowing huge amount to DISCOs under the head of investments for up-gradation of their infrastructure, however, DISCOs could not be able to improve their T&D losses and quality of supply corresponding to the allowed investment. Therefore, comprehensive audit of DISCOs is necessary to check the utilization of funds allowed under the head of investments.

The overall recovery position of DISCOs is also below the desired level. Resultantly, the country is facing circular debt and despite certain bail out packages, the circular debt is on the rise which currently stands at more than Rs. 2.5 trillion. To get rid of the circular debt issue, immediate actions are needed which may include the structural changes in ownership and control of the DISCOs.

This has also been highlighted in the last many years that the performance of DISCOs has been marred with serious governance issues. Load shedding on account of Aggregate Technical and Commercial (AT&C) losses is one of the classic example of poor governance. Instead of improving their distribution network, checking the theft of electricity and improving the recovery, DISCOs have found an easy way of indiscriminate load shed at feeder level. This AT&C base load shedding is a stumbling block in improving the sales growth of Discos. This is a fact that sufficient generation capacity is available in the country, mostly on take or pay basis. The AT&C base load shedding is suffering the consumers in shape of not having the electricity as well as increased electricity cost due to payment of capacity payment of unutilized capacity. I am of the considered view that the burden of capacity payments due to underutilization of power plants caused by DISCO level load shedding should not be passed on to the consumers.

DISCOs are allowed sizeable amount for payments on account of pension and other post-retirement benefits which is being increased year on year basis. Although, under the agreed terms and conditions, these payments are binding but not a direct cost of product, i.e. generated electricity. Had the pension fund been established earlier in a timely manner to meet this obligation, the burden of these payments on consumers could have been avoided.

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The present centralized control of DISCOs has shown its inherent tendency for inefficiency and unless developed as independent corporate entities, autonomous in their business decisions, DISCOs will continue to burden the power sector. Therefore, immediate actions are needed to revamp DISCOs and free them of centralized control. In my view, this is time to either privatize DISCOs or transit to public private partnership to run these entities as independent business in a competitive environment. The involvement of provincial governments may help in improving the governance of DISCOs especially in controlling electricity theft and improving the recovery.

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Annex-A

HSE Objectives/Targets

Definition

1. **Goal:** Goals are general guidelines that explain what needs to be achieved by the Licensee with management intervention, providing resources and support. Goals should be specific, measurable, attainable, realistic, and time-sensitive (SMART).

2. **Objective/Target:** Objectives/Targets define strategies or implementation steps to attain the identified goals. They are more specific and outline the "who, what, when, where, and how" of reaching the goals.

3. **KPI:** A Key Performance Indicator is a measurable value that demonstrates how effectively Licensee is achieving goals and objectives. Key Performance Indicators (KPIs) in numbers for the goals and objectives to review and monitor its status for effective implementation.

HSE Objectives/Targets

DISCO's HSE Goal: Improve public and employee safety to achieve zero fatality incidents.

No.	Objective/Target	Key Performance Indicator
1.	Provide and maintain earthing/grounding to all HT/LT infrastructures, apparatus, and poles, along with stay wire. Earthing/grounding resistance shall be as per Distribution Design Code or manufacturer's instruction. In the absence of grounding instruction, the earthing resistance for HT/LT structures/ poles shall be not more than 5 Ohms and Distribution transformer shall be not more than 2.5 Ohms to determine the integrity of the grounding path to ensure protection from shock hazards. The earthing resistance for Grid Station/ Substation/ Switchyard equipment shall not be more than 2 Ohms. Verify integrity of fixed earthing/grounding by continuity and resistance measurement tests. In general, this cycle can range from 6 months to 3 years, depending on conditions and criticality. Wet locations testing should be 12 months and critical care shall be 6 months. Provide name	Earthing/grounding of infrastructures, apparatus, and poles, along with stay wire until June 30, 2022. Periodic verification of integrity of earthing/ grounding. On the basis of periodic continuity and resistance measurement tests, continually repair/rectify deteriorated earthing/grounding system within one month.

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No.	Objective/Target	Key Performance Indicator
	plate/ tag to all structures/ poles/ equipment's with numbers for tracking of earthing/ grounding testing record, etc. Original record of testing with structures/ poles/ equipment's numbers shall be retained and preserved by licensee for three (03) years.	
2.	Replace all substandard RORA fuses in each subdivision with standard fuses in accordance with approved design such as a high rupturing capacity fuse of standard size and rating. Install only standard fuses every time.	Installation of standard fuses until June 30, 2022.
3.	Conduct annual survey in each subdivision to identify hazardous points, deteriorated systems, hardware and conductors. Implement rehabilitation program to rectify/replace hazardous points, deteriorated systems, hardware and conductors.	Survey report of each subdivision until the end of each fiscal year.
		On the basis of survey report, rectify/replace hazardous points, deteriorated systems, hardware and conductors within three months.
4.	Conduct survey in each subdivision to identify conductors in narrower/ congested areas having less clearance from houses/ buildings. Re-organize/re-position or Install insulated conductors (aerial bundled cables/conductors) to achieve minimum horizontal and vertical safe clearance.	Survey report of each subdivision until the end of each fiscal year.
		On the basis of survey report, re-organize/re-position or install insulated conductors within three months.
5.	Conduct survey to identify substandard/obsolete electromechanical relays/protections for abnormal conditions (short-circuits, overloading, ground fault, broken conductor features, etc.) whose failure can result in serious injuries. Replace substandard/obsolete electromechanical relays/protections with high speed digital/programmable relays/protections.	Survey report until the end of each fiscal year.
		On the basis of survey report, replace relays/ protections within three months.
6.	Conduct a need assessment for authorized workshops. Establish authorized workshops with repair facilities having	Workshop Need Assessment Report until June 30, 2022.

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No.	Objective/Target	Key Performance Indicator
	testing facilities for transformer reliability and integrity to ensure fitness.	Established authorized workshops as per report until Dec 31, 2022.
7.	Arrange and maintain stock of following special PPE at each subdivision and Grid station for authorized employees/ contractors while working or handling energized systems against approved "Permit to Work" under the continuous direction and supervision of the job in-charge. 1. Full Face Shield (polycarbonate or similar non-melting type) 2. Insulated gloves with sleeves rated for the voltage involved. 3. Arc Flash Kit for Arc Flash Protection such as Category 4 Arc Flash Resistant Suite, Arc Flash Hood Arc-rated Gloves and Arc-rated Fall Protection while working at high voltages (more than 420 V). Arrange training at each subdivision and Grid station for these special PPE for authorized employees/ contractors. Ensure use of these special PPE in each subdivisions.	Maintain stock of full face shield, insulated gloves with sleeves and arc flash kit until June 30, 2022. Training by supplier until June 30, 2022. Use of full face shield, insulated gloves with sleeves and arc flash kit at each subdivision and Grid station until June 30, 2022.
8.	Arrange and maintain stock of Full Body Harness with front work positioning belt (positioning lanyard) along with double lanyard for 100% tie at each subdivision and Grid station for authorized employees/ contractors while working on height more than 6 feet/1.8 meter above the ground or impact level. Full Body Harness with front work positioning belt (positioning lanyard) along with double lanyard for 100% tie shall be used at heights more than 6 feet/1.8 meter above the ground when climbing poles, towers and structures including working through mobile elevated aerial platform, man-baskets,	Maintain stock of Full Body Harness with front work positioning belt (positioning lanyard) along with double lanyard until June 30, 2022. Training by supplier until June 30, 2022. Use of Full Body Harness at each subdivision and Grid station until June 30, 2022.

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No.	Objective/Target	Key Performance Indicator
	man-lift or bucket mounted vehicles. Full Body Harness with front work positioning belt is to allow an employee to be supported on an elevated vertical surface such as a wall or pole and to work with both hands free. Use of a body belt alone for fall arrest is prohibited. Full Body Harness with PVC coated hardware should be used when working in an explosive or electrically conductive environment. Anchor the safety harness lanyard on a rigged anchorage point at height, having a fall clearance safety factor of three (03) feet from impact level or ground level. Arrange training at each subdivision and Grid station for these special PPE for authorized employees/ contractors. Ensure use of these special PPE in each subdivision and Grid station.	

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