National Electric Power Regulatory Authority
Islamic Republic of Pakistan

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No. NEPRA/R/ADG(Trf)/TRF-573/TESCO-2022/8665-8667
June 2, 2022

Subject: **DETERMINATION OF THE AUTHORITY IN THE MATTER OF PETITION FILED BY TRIBAL AREAS ELECTRICITY SUPPLY COMPANY LTD. (TESCO) FOR DETERMINATION OF DISTRIBUTION TARIFF UNDER MYT FOR THE FY 2020-21 TO FY 2024-25** [Case # NEPRA/TRF-573/TESCO (Distribution) -2022]

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 (53 Pages) in Case # NEPRA/TRF-573/TESCO (Distribution) -2022.

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-573/TESCO (Distribution)-2022

DETERMINATION OF DISTRIBUTION TARIFF PETITION

FOR

TRIBAL AREAS ELECTRICITY SUPPLY COMPANY LIMITED (TESCO)

FOR THE FY 2020-21 – FY 2024-25

UNDER

NEPRA TARIFF (STANDARDS AND PROCEDURE) RULES – 1998

Islamabad

2 - 6 -, 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
TESCO	Tribal Areas Electricity 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 TRIBAL AREAS ELECTRICITY SUPPLY COMPANY LIMITED (TESCO) FOR DETERMINATION OF DISTRIBUTION TARIFF UNDER MYT REGIME FOR THE FY 2020-21 TO FY 2024-25

CASE NO. NEPRA/TRF-573/TESCO (Distribution)-2022

PETITIONER
Tribal Areas Electricity Supply Company Limited (TESCO), 213-WAPDA House Shami Road, Sakhi Chashma Peshawar

INTERVENER
M/s PTCL
M/S Telenor
M/S Pak Telecom Mobile Ltd.
M/s PMCL (Jazz)

COMMENTATOR
NIL

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, Tribal Areas Electricity Supply Company Limited (TESCO), 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, has requested for a distribution cost for the five years period as detailed below;

Statement of Revenue Requirement of Distribution Business						
Description	Unit	2020-21	2021-22	2022-23	2023-24	2021-25
Distribution Margin	Rs. Mln	1,300	2,118	2,553	3,085	3,557
Financial Charges	Rs. Mln	14	12	9	8	7
Total	Rs. Mln	**1,314**	**2,130**	**2,562**	**3,093**	**3,564**
Units Sold	MkWh	**2,023**	**2,264**	**2,547**	**2,891**	**3,324**
Average Tariff	Rs./kWh	**0.650**	**0.942**	**1.009**	**1.073**	**1.075**

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. 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 initially scheduled on November 11, 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. However the hearing was rescheduled and was held on November 16, 2021.

3. <u>Issues of Hearing</u>

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 T&D loss targets stated in the instant MYT petition are justified?

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

vi. Whether the projected O&M is justified?

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

viii. Whether requested financial charges are justified?

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

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

xi. Whether TESCO 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.

xii. 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

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

xiv. 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?

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

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

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

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

xix. What is the load-shedding criteria in the jurisdiction of TESCO?

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

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

xxii. 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 Telenor, M/S Pak Telecom Mobile Ltd. & M/s 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.

4.3. The Authority during the tariff determinations of 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".

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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 determination of the Petitioner.

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;

6. <u>Whether the request of Petitioner to allow MYT for a period of five years is justified?</u>

6.1. The Petitioner has filed its MYT Petition for a period of five years i.e. FY 2020-21 to FY 2024-25 and the Authority decided to deliberate on the matter.

6.2. 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, as its Distribution license is valid till August 2033. It has also been noted that Section 23E(1) of the Amended Act, provides that 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 including the Petitioner.

6.3. 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 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.

7. <u>Whether the Petitioner has complied with the direction of the Authority given in the tariff determination of FY 2019-20?</u>

7.1. 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. Here it is pertinent to mention that the Petitioner during the hearing did not submit any reply regarding compliance status on the directions. In view of the above the Petitioner is directed to provide the compliance status on the directions issued by June 30, 2022 and the same would be deliberated upon separately.

8. <u>Whether the projected energy purchases are justified?</u>

8.1. The Petitioner has projected the following Units Received and Units Billed;

Description	2019-20 NEPRA Determined MkWh	2019-20 Actual MkWh	2020-21 Actual MkWh	2021-22 Projected MkWh	2022-23 Projected MkWh	2023-24 Projected MkWh	2024-25 Projected MkWh
Units Received	1943	2001	2236	2504	2817	3198	3677
Units Billed	1711	1803	2023	2264	2547	2891	3324

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8.2. 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 TESCO for the MYT control period.

9. <u>What are the basis used by the Petitioner for bifurcation of its costs into supply and distribution segments?</u>

9.1. The Petitioner during the hearing provided the following basis for bifurcation of cost in terms of supply and distribution;

SUPPLY OF POWER	DISTRIBUTION OF POWER
• Superintending Engineer (Operation) • Deputy Commercial Manager • Revenue Officers • Meter Reading Supervisors, Meter Readers and Bill Distributors. • Expenses of above activities will be charged to Supply of Power. • Salaries and other expenses of head quarter are allocated on the basis of services provided. • 80% expenses of computer center	• Chief Engineer (PMU) • Director (P&E), Director (CM&O) • 5 Operation Divisions, 23 Subdivisions • XEN (GSC), XEN (Construction), XEN (SS&TL), XEN (M&T) • Expenses of above activities will be charged to Distribution of Power. • Salaries and other expenses of head quarter expenses are allocated on the basis of services provided • 20% expenses of computer center

9.2. 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.

9.3. 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."

9.4. 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.

10. <u>Whether the projected O&M is justified?</u>

10.1. The Petitioner in its petition has submitted that O&M expenses of distribution component include Salaries & Wages, Repair & Maintenance, Travelling, Vehicle Running, damages and injuries, rent & rates and other miscellaneous expenses. The Petitioner has provided the following break-up for O&M cost;

Operating & Maintenance Expenses for Distribution Business							
Description	Unit	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Salaries, Wages & Benefits	Rs. Mln	581	685	959	1103	1269	1459
Retirement Benefits	Rs. Mln	142	157	177	191	206	220
Total Employee Cost	Rs. Mln	723	842	1136	1294	1475	1679
Repair & Maintenance	Rs. Mln	15	17	20	17	17	17
Travelling	Rs. Mln	14	15	18	15	15	15
Transportation	Rs. Mln	12	13	15	13	13	13
Consultancy, audit & legal fee, management fee, mgt, bod	Rs. Mln	4	5	11	10	10	10
Damages & Injuries	Rs. Mln	0	3	5	5	5	5
Rent, Rates & Postages	Rs. Mln	4	4	5	4	4	4
Miscellaneous Expenses	Rs. Mln	7	9	9	9	9	9
Total O&M	Rs. Mln	779	908	1217	1368	1549	1753

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Salaries, Wages & Other Benefits:

10.2. The Petitioner during the hearing submitted that employment cost including salaries, wages and employee's retirement benefits is the major component of O&M expenses. Regarding projection of cost the Petitioner submitted that disparity reduction allowance of 25% on running basic pay with effect from 1st March 2021, adhoc relief allowance @ 10% of Basic Pay w.e.f. 1/7/2021, annual Increment 5%, increase in the house rent ceiling, increase in orderly allowance w.e.f. 1/7/2021, up gradation of dead cadre employees, drivers, meter reading section supervisor, meter supervisor grade-II, store system supervisor, meter mechanic etc., increase in maternity charges etc. and hiring of line staff initially 200 ALM`s, 28 officers to meet the shortage of staff in TESCO has been considered.

10.3. Further, the Petitioner has submitted that its employment cost will also rise because of creation of Market Implementation and Regulatory Affairs Department (MIRAD) to implement CTBCM for which budget has been prepared and included in Tariff petition.

Repair & Maintenance

10.4. For Repair & Maintenance expenses the Petitioner has submitted that the increase in this cost has occurred because it has to maintain its old and over loaded system in order to ensure un-interrupted power supply to the consumers, moreover cost of material has also increased due to inflationary pressure. Similarly, repair & maintenance of grid station equipment has also increased as most of these have already consumed their useful life.

10.5. Other factors include repair & maintenance of high voltage transmission lines, 249 Nos of 11kV feeders, 10,368 km HT lines, 6341 km LT lines and 18,538 Nos. of distribution transformers.

Transportation Expenses

10.6. For Transportation expenses the Petitioner submitted that the Government of Pakistan has enhanced the rates of daily allowances on official duty within the country.

10.7. Further the Petitioner submitted that there are many new department which have been properly established like Surveillance & intelligence (S&I) etc. GSC and Construction staff also have to travel all over the Tribal belt in order to complete development works which contributed towards the increase in the transportation expense.

Vehicle Running Expenses

10.8. Regarding Vehicle Running Expenses the Petitioner has submitted that it has a fleet of more than 98 vehicles, most of them have completed useful life of 10 years and need major over hauling. Further, the Petitioner submitted that the financial position of the company doesn't allow to replace most of the old vehicles and the distribution system of the company is spread over 27,034 Sq.km. Moreover, the cost of POL and spare parts are increasing due to inflation.

10.9. 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;"

10.10. 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.

10.11. 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 accounts of the Petitioner for the FY 2019-20 as base year.

10.12. 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.

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

Salaries, Wages and Other benefits (excluding post-retirement benefits)

10.14. The Authority noted that head of Salaries, Wages and Other Benefits include employees Pay & Allowances and Post-retirement benefits and accounts for major part of the Petitioner's total O&M costs. The Authority understands that employees of XWDISCOs are hired on Government pay scales, thus, any salary increase announced by the Federal Government in Fiscal Budget is also considered for 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.

10.15. 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.

10.16. 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.702 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.775 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.

10.17. 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.622 million.

10.18. The assessed Salaries & Wages costs for the FY 2020-21 i.e. Rs.622 million, shall be considered as the reference cost for working out future Salaries & Wages expenses, in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

Additional Recruitment

10.19. 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 any future 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 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.

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Hiring for MIRAD

10.20. The Authority observed that detailed design and implementation plan of the Competitive Trading Bilateral Contract Market (CTBCM) has been approved on November 12, 2020 to make a competitive wholesale electricity market functional in near future. Pursuant thereto, DISCOs have created a Market Implementation & Regulatory Affairs Department (MIRAD). The department would be a dedicated central interface between DISCOs and the competitive electricity market equipped with staff having specialized knowledge and competency and supported by necessary infrastructure, inter-alia, to administer the market operations including bilateral contracts portfolio management, short and medium-term demand forecasting, transmission planning, and overseeing legal and regulatory affairs.

10.21. Regarding recruitment for MIRAD, the Authority has decided to allow hiring for MIRAD in principal and allow the incremental financial impact of the same as part of PYA in the subsequent adjustment requests and would also be made part of reference cost for future indexations, once the Petitioner completes its recruitment process and submits complete details in this regard. Here it is pertinent to mention that impact of employees internally transferred to MIRAD has already been largely accounted for while assessing the salaries & wages cost.

Post-Retirement Benefits

10.22. Since the Petitioner was incorporated as company in compliance with power sector reform policy of Government of Pakistan and the WAPDA employees working in Area Electricity Board gradually become employees of the company in terms of the Man Power Transition Plan, therefore it had to maintain the GOP pay scales and the terms of employment for the employees which were prevalent in WAPDA.

10.23. The Authority noted that the head of Post-retirement benefit includes employees' pension, free electricity and medical facility. The Authority also understands that employees of XWDSICSOs are hired on Government pay scales, thus thus, any pension increase announced by the Federal Government in the Budget is also considered by the Petitioner for its retired employees.

10.24. The amount for the first year is Rs.207 million for the FY 2020-21, based on the amount requested by the Petitioner.

10.25. 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.157 million, to be adjusted in the MYT Control period as per the adjustment mechanism provided in the instant determination.

Repair & Maintenance Costs

10.26. The Petitioner has requested the following repair and maintenance cost during the control period;

Rs.in million

Description	Unit	2019-20 Actual	2020-21 Unaudited	2021-22 Projected	2022-23 Projected	2023-24 Projected	2021-25 Projected
Repair & Maintenance	Rs. Mln	15	17	20	17	17	17

10.27. For Repair & Maintenance expenses the Petitioner has submitted that the increase in this cost has occurred because it has to maintain its old and over loaded system in order to ensure un-interrupted power supply to the consumers, moreover cost of material has also increased due to inflationary pressure. Similarly, repair & maintenance of grid station equipment has also increased as most of these have already consumed their useful life.

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10.28. Other factors include repair & maintenance of high voltage transmission lines, 249 Nos of 11kV feeders, 10,368 km HT lines, 6341 km LT lines and 18,538 Nos. of distribution transformers.

10.29. The last three years pension payment as provided by the Petitioner is as under;

Sr.	Paid Rs in mln	FY 2020	FY 2019	FY 2018
1	Post retirement benefits	188	261	208
2	Medical Facilities	21	1	3
3	Free Electricity	-	24	17
4	Leave Encashment	-	-	-
	Total	209	286	228

10.30. 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	141	159	172	185	198
Medical Facilities	16	18	19	21	22
	157	177	191	206	220

10.31. In view of the foregoing and keeping in view the current approved tariff methodology, the Authority has decided to allow an amount of Rs.18.74 million under R&M head, for the FY 2020-21, after incorporating the inflationary impact on the R&M cost as per the accounts of the Petitioner for the FY 2019-20 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.

10.32. 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 by the Petitioner has been used. Accordingly, the cost of R&M for the FY 2020-21 pertaining to the Distribution Function works out as Rs.16.77 million.

10.33. The assessed repair and maintenance cost for the FY 2020-21 i.e. Rs.16.77 million, shall be considered as the reference cost for working out future repair and maintenance expenses, in the remaining control period as per the adjustment mechanism prescribed in the instant determination.

Other O&M Expenses

10.34. Other O&M expenses includes Travelling costs, Transportation and Other Expenses. The Petitioner requested the following under the heads;

Rs. in million

Description	Unit	2019-20 Actual	2020-21 Unaudited	2021-22 Projected	2022-23 Projected	2023-24 Projected	2021-25 Projected
Travelling	Rs. Mln	14	15	18	15	15	15
Transportation	Rs. Mln	12	13	15	13	13	13
Consultancy, audit & legal fee, management fee, mgt, bod	Rs. Mln	4	5	11	10	10	10
Damages & Injuries	Rs. Mln	0	3	5	5	5	5
Rent, Rates & Postages	Rs. Mln	4	4	5	4	4	4
Miscellaneous Expenses	Rs. Mln	7	9	9	9	9	9
Total Other O&M	Rs. Mln	41	49	63	56	56	56

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10.35. 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 has decided to accept the actual figures of the FY 2019-20 as such and allowed an inflationary increase of 9.49 % over the same and accordingly has assessed the other O&M expenses as Rs.83 million for both the Distribution and Supply of Power Function.

10.36. Since the Audited accounts of the Petitioner, do not provide bifurcation of the Other O&M costs in terms of Distribution and Supply of Power 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 costs for the FY 2020-21 pertaining to the Distribution function works out as Rs.40 million.

10.37. By considering the figures as per actual financial statement, the Authority has incorporated all the costs including bill collection, building rent, NEPRA fee, insurance cost, rent, rates & taxes, and travelling 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.

10.38. The aforementioned assessment for the FY 2020-21 shall be considered as reference for working out future Other Operating Expenses for remaining tariff control period to be adjusted as per the adjustment mechanism provided in the instant determination.

11. **<u>Whether the requested Return on Regulatory Asset base (RORB), Depreciation & Other Income is justified?</u>**

Depreciation

11.1. The Petitioner has requested the following depreciation charges in its distribution of power petition;

Rs in Mln

Description	FY 2019-20 Actual	FY 2020-21 Unaudited	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected
Depreciation (Rs. Mln)	322	402	493	576	655	741

11.2. The Petitioner regarding projected depreciation expense has stated that it is calculated on the basis of the value of existing assets plus the addition in assets during the year. Further, the Petitioner has submitted that all the assets are depreciated on straight line method as per utility practice based on the following rates;

i. Buildings and civil works @ 2%
ii. Plant and machinery @ 3.5%
iii. Office equipment and vehicles @ 10%
iv. Other assets @ 10%

11.3. 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.

11.4. 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.9,386 million. Accordingly, the depreciation charge for the FY 2020-21 has been assessed as Rs.348 million calculated on actual depreciation rates for each category of Assets as per the company policy,

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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.

11.5. 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.289 million for the FY 2020- 21. Accordingly, the consumers would bear net depreciation of Rs.59 million.

11.6. 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 for the FY 2020-21 pertaining to the Distribution Function works out as Rs.343 million. The same would be adjusted during the MYT control period as per the mechanism provided in the instant determination.

Return on Rate Base (RORB)

11.7. The Petitioner has requested the following RoRB charges in its distribution of power petition;

Rs in Mln

Description	FY 2019-20 Actual	FY 2020-21 Unaudited	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected
Return on Rate Base (Rs. Mln)	820	929	1,206	1,428	1,722	1,849

Average Regulatory Asset Base:

11.8. The Petitioner has submitted that in order to calculate the value of the Regulatory Assets Base for the financial years from 2020-21 to 2024-25, projected Net fixed assets and closing balance of work in progress are added and projected deferred credit is deducted Total of two years Regulatory Asset base is divided by two in order to calculate Average Regulatory Asset Base Rate of return (WACC) is applied on Average Regulatory Asset base to calculate Return on Rate Base (RORB).

Weighted Average Cost of Capital (WACC)

11.9. The Petitioner regarding WACC has submitted that NEPRA allowed it WACC of 15.02% in its tariff determination for FY 2019-20. It comprise cost of debt and cost of equity. Furhter the Petitioner submitted that, for assessment of Return of Equity (RoE) component for FY 2020-21, TESCO has estimated 16.92% RoE by using the Capita! Asset Pricing Model (CAPM), being the most widely accepted model, applied by Regulatory agencies all over the world to estimate the cost of capital for regulated utilities. In addition the Petitioner submitted that in order to calculate Cost of debt TESCO considered cost of debt as 3 month's KIBOR + 5.00% spread as reasonable. Consequently, the cost of debt has been worked out as 12.03% i.e. 3 Months KIBOR of 7.03% as of July 2021 plus a spread of 5.00% As per the methodology, in case of negative equity the NEPRA considers a minimum of 20% equity and any equity in excess of 30% is considered as debt. Accordingly, the WACC has been worked out as under;

WACC= ((Ke x (E/V) + (Kd x (Dill))

Where B/V and D/V are equity and debt ratios respectively taken as 30% and 70%

WACC= [16.92%*30%] + [12.03%*70%] = 13.50%

11.10. In view of the above the Petitioner has projected WACC of 14.00%, 14.50%, 15.00%, 15.00% for FY 2021-22 to 2024-25 respectively while incorporating same methodology.

11.11. 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;

11.12. 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 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.

11.13. 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%.

11.14. 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.

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11.15. 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.

11.16. 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.

11.17. 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).*

11.18. 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%;

$WACC = ((14.47\% \times 30\%) + (9.03\% \times 70\%)) = 10.66\%$

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

11.19. 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;

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

11.20. 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

11.21. 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.

11.22. 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.

11.23. Based on above WACC of 10.66% on RAB by including allowed investment for the year and excluding therefrom the amount of CWIP, and allowing RoE at 30% of the closing value of CWIP, is hereby allowed as basis for calculating of RORB for the future control period during the MYT.

11.24. 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.

11.25. Similarly for the FY 2018-19, 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.

11.26. 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, after excluding therefrom cash/ bank balances and amount of stores & Spares available with the Petitioner as on 30-06-2019 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.

11.27. The Authority for the FY 2019-20, has again observed that the Petitioner has insufficient cash balance as on 30th June 2020, against their 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. Thus, it would be unfair and unjust with the consumers to suffer due to the unlawful act of the Petitioner. Accordingly, the amount of receipts against deposit works has been considered 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 DISCOs. The Petitioner is directed 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.

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11.28. For the FY 2020-21 till FY 2022-23, the Authority noted that the RAB of the Petitioner have been financed through consumer finance /grant etc. (after accounting for the above in deferred credit), in view thereof, the Petitioner is not being allowed any amount under the head of RoRB for the FY 2020-21 till FY 2022-23. However, based on the allowed investment, the adjustment mechanism given in the instant MYT determination and the above WACC/RAB mechanism, the Authority will workout the Petitioner's RAB and RoRB if any, on annual basis.

Other Income

11.29. The Petitioner has requested the following other income for its distribution function;

Rs in Mln

Description	FY 2019-20 Actual	FY 2020-21 Unaudited	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected
Less Other Income (Rs. Mln)	(967)	(939)	(798)	(819)	(840)	(786)

11.30. The Petitioner regarding Other Income has submitted that the whole other income (rental & service income, amortization of deferred credit, profit on deposits) is charged to Distribution of Power because of its nature. The Petitioner provided the following break-up of the requested other Income;

Rs in Mln

Other Income of Distribution Function						
Description	Unit	2020-21	2021-22	2022-23	2023-24	2021-25
Rental & Service Income	Rs. Mln	204	192	204	231	231
Profit on Deposits	Rs. Mln	324	195	192	192	180
Amortization of Def. Credits	Rs. Mln	267	258	237	252	255
Other Income	Rs. Mln	144	153	186	165	150
Total	Rs. Mln	939	798	819	840	786

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11.31. 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 decided to consider the amount based on actual for the FY 2019-20, including the amount of amortization of deferred credit but exclusive of the amount of late payment charges. In view thereof, the Authority has assessed Rs. 967 million as Other Income for the Distribution of Power function for the FY 2020-21, which does not include late payment charge but includes amortization of deferred credit.

11.32. 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.

11.33. The Authority, therefore, directs the Petitioner to provide the required details of late payment charges recovered from the consumers and any invoice raised by CPPA (G) under the head of mark-up on delayed payments for the period from FY 2020-21 to FY 2022-23, in its subsequent tariff adjustment request.

11.34. The total amount of Other Income as worked out above has been allocated to Distribution 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.967 million, which is hereby allowed.

12. **Whether requested financial charges are justified?**

12.1. The Petitioner has requested the following under the head of financial charges for distribution function;

Description	FY 2019-20	FY 2020-21 Unaudited	FY 2021-22 Proj	FY 2022-23 Proj	FY 2023-24 Proj	FY 2024-25 Proj
Financial Charges (Distribution) Rs. mln	12	14	12	9	8	7

12.2. The Petitioner regarding financial charges has submitted that they are calculated in the light of supplementary business transfer agreement (SBTA) between WAPDA and TESCO.

12.3. 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.

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

13.1. The Petitioner has not provided any submission on the matter. 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.

13.2. 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;

Salaries & Wages and Post-retirement Benefits;

13.3. 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.

Post-retirement benefits

13.4. Similarly, the allowed amount of post-retirement benefits would also 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.

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O&M Costs

13.5. 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)]

RORB

13.6. 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;

Revised RoRB = WACC X Revised RAB

13.7. In addition the allowed RAB 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 RAB, 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.

13.8. 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. 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.

Depreciation Expenses

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

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

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

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13.10. 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.

<u>Other Income</u>

13.11. 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.

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

14.1. The Petitioner has requested the T&D losses target of 9.60% during the MYT control period of 5-years i.e. from FY 2020-21 to FY 2024-25 as follows:

Year	2019-20 (Actual)	2020-21	2021-22	2022-23	2023-24	2024-25
Losses	9.92 %	9.60 %	9.60 %	9.60 %	9.60 %	9.60 %

14.2. The petitioner provided the following detailed breakup regarding requested losses:

Year	Units Purchased (GWh)	Units Sold (GWh)	Units Lost (GWh)	Total T&D (%)	Breakup of Technical Losses (%)	
					132 kV	11 kV
2019-20 (Actual)	2001	1803	198	9.92	-	-
2020-21	2236	2023	213	9.6	1.7	7.9
2021-22	2504	2264	240	9.6	1.6	8
2022-23	2817	2547	270	9.6	1.6	8
2023-24	3198	2891	307	9.6	1.5	8.1
2024-25	3677	3324	353	9.6	1.5	8.1

14.3. The Petitioner in its instant MYT petition has mentioned that as per directions of NEPRA the technical evaluation of T&D Losses was completed by M/s PPI. Further, PPI evaluated total T&D loss of 17.93% in FY 2017-18. Moreover, NEPRA determined a loss target of 11.96% for FY 2019-20 whereas TESCO achieved a figure of 9.92% losses target. The summary of losses as per independent engineer's assessment is given below:

Description	Transmission Losses 132 kV	Distribution loss	Total Loss
Third Party Assessment	4.08%	13.85%	**17.93%**

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<u>Submissions during the MYT Hearing:</u>

14.4. The Petitioner during the hearing shared following historic trend of its T&D losses during hearing of MYT dated 16-11-2021:

Description	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Units Received	1397.95	1261.67	1448.93	1695.83	1820.72	2001
Units Billed	1101.43	1020.30	1227.07	1481.79	1603.05	1803
Unit Loss	296.52	240.74	221.86	220.84	217.68	198
% Loss	21.20	17.40	15.40	12.60	12.00	9.92
NEPRA Target	**22.30**	**20.00**	**18.90**	**12.50**	**11.96**	**11.96**

14.5. The Petitioner claimed that in order to maintain loss target of 9.60% in MYT control period, 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 Petitioner provided the following summary of proposed additions as provided by petitioner in Optimally Achievable Case is given below:

Description	No.	MVA	Km
New Grid Stations	8	600	-
Conversions	9	340	-
Augmentation	7	124	-
Extension T/F	10	331	-
New 132 kV T/Lines	-	-	603
Rehabilitation/Re-conductoring/up-gradation of existing 132 kV Lines	-	-	87.5
Re-routing of existing 132 kV Line	-	-	-
New HT Lines	85	-	1,275
HT Line reconductoring	-	-	255
Distribution Transformers	3,376	-	-
11 kV Capacitors	-	193 kVARs	-
New LT Lines	-	-	855
LT Line Reconductoring	-	-	15

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Transmission Losses pertaining to Instant MYT Control Period:

14.6. The Authority has noted that the Petitioner has requested following transmission losses for MYT control period:

Description	2020-21	2021-22	2022-23	2023-24	2024-25
Transmission Losses at 132kV (%)	1.70	1.60	1.60	1.50	1.50

14.7. The Authority has noted that Petitioner's requested transmission losses as mentioned above are much lower than its transmission losses of 4.08% as assessed by the third party consultant on the basis of the transmission network conditions in FY 2017-18. It is also noted that the requested transmission losses by TESCO for MYT control period of 5-years are also lower than the transmission loss targets of 2.00% as determined earlier by the Authority vide its determination for FY 2019-20 in respect of TESCO.

14.8. In view of the above, the Authority approves the requested transmission losses as following:

Year	2020-21	2021-22	2022-23	2023-24	2024-25
Allowed Transmission Losses	1.70 %	1.60 %	1.60 %	1.50 %	1.50 %

Distribution Losses pertaining to Instant MYT Control Period:

14.9. The Petitioner has requested the following distribution losses:

2020-21	2021-22	2022-23	2023-24	2024-25
7.90%	8.00%	8.00%	8.10%	8.10%

14.10. While considering the above distribution losses, it is noted that the above requested losses are much lower than the losses of 13.85% as assessed in the distribution loss study conducted by third party consultant i.e. M/s PPI. It is also noted that the above requested distribution losses are also lower than the loss targets of 9.96% as determined by the Authority in its earlier determination pertaining to FY 2019-20 in respect of TESCO. It is also noted that the Petitioner projected its distribution losses in a manner in which the technical losses will increase by a margin of 0.20% during MYT control period of next 5-years. In this regard, the Authority Department is of the view that such increased distribution losses may not be accepted. Therefore, the Authority has decided that the reduced target of 7.90% distribution losses as requested by the petitioner may be allowed as starting point for the Petitioner for FY 2020-21.

14.11. For setting the distribution loss targets for remaining control period of 4-years of MYT term, the Authority is of the view that by allowing an investment of Rs. 5,164 million in ELR component; the Petitioner is encouraged to achieve better results in the MYT control period than the requested T&D loss targets. In this regard, an overall reduction of 0.51% in distribution losses is required to be achieved by TESCO. Accordingly following distribution loss targets are approved for the Petitioner during the control period:

Description	2021-22	2022-23	2023-24	2024-25
Requested Distribution Losses (%)	8	8	8.1	8.1
Investment Allowed for ELR Projects (Million Rs.)	1,925	973	1,013	1,153
Recommended Reduction in Distribution Losses (%)	0.19	0.1	0.1	0.12
Allowed Distribution Losses (%)	**7.71**	**7.61**	**7.51**	**7.39**

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

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

Year	Transmission Losses (%)	Distribution Losses (%)	Total T&D Losses (%)
2020-21	1.7	7.9	**9.6**
2021-22	1.6	7.71	**9.31**
2022-23	1.6	7.61	**9.21**
2023-24	1.5	7.51	**9.01**
2024-25	1.5	7.39	**8.89**

15. **<u>Whether TESCO had prepared and submitted the IGTDP? If yes, what are the achievements of the last five years in this regard? Provide the detail.</u>**

16. **<u>Whether the requested investment along-with its prospective benefits are justified?</u>**

16.1. The Petitioner in its MYT petition has claimed the total investment for Best Case Scenario is Rs 10,063 Million and investment required under Optimally Achievable Scenario is Rs 5,031 Million. In order to deliberate on the requested investment plan (DIIP), the Authority desired a presentation by TESCO management on its DIIP. Accordingly, TESCO team gave a detailed presentation before the Authority on 21-02-2022. The Authority during the presentation directed the Petitioner to revise its investment plan (if needed) keeping in view the prudent utility practices for reduction of T&D losses, improvement in recovery ratio, performance standards, quality of service to end consumers, safety of employees and public and strategic agreement signed between the Ministry of Energy (Power Division) and the Petitioner.

Submission of the Petitioner after DIIP Presentation dated 21-02-2022:

16.2. Accordingly, the Petitioner submitted its revised DIIP plan vide its letter dated 31-03-2022. In the revised DIIP, the Petitioner claimed a cost of Rs. 26,423 Million under optimally achievable case and 47,572.56 million rupees for best case scenario. The Petitioner further stated that the resources requirement for Best Case Scenario were far more than its capacity to fund and execute. Therefore, initiatives have been identified and prioritized under the optimally achievable scenario keeping in view, the following factors:

a) The reliable dispersal of power, especially the power that will be injected within TESCO in next five years, including the variable renewables.

b) Funding availability as TESCO can arrange funding only up to Rs. 23,177.9 million as required under the achievable scenario and not Rs. 47,572 million as required under best case.

c) Capacity to procure and execute is another constraint that has limited TESCO's capability to implement the achievable scope, not the larger scope envisaged under best scenario developed.

Meeting the technical parameters specified in the Grid Code, Distribution code performance standards and consumer service manual.

Loss reduction from 9.93% in 2019-21 to 9.6% in 2024-25, the loss improvement potential saturates as the losses are further decreased and improving/maintaining collections.

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f) Improving internal controls, faster information availability and quality of data through back-office automation.

g) Improving the competencies of the employees and their morale, through training capacity building and incentives.

h) Improving corporate brand image by improving internal and external communications.

i) Safety of line-staff is a key part of DIIP, includes special focus on LM safety.

j) Return on investment is also considered while planning and prioritizing the interventions.

k) Other objectives (social uplift e.g., village electrification) are part of the plan as well.

16.3. The scope of STG, DOP, ELR and other measures to improve commercial and operational efficiency of TESCO as highlighted in Optimally Achievable Case is as under:

A. STG SCOPE (Grid Stations):

Sr. No	Description	Total No.	Total Capacity (MVA)	2020-21	2021-22	2022-23	2023-24	2024-25
1	New							
a	132 KV	8	600	-	2	1	2	3
2	Conversion							
a	66 to 132 KV	9	340	2	3	4	0	0
3	Augmentation							
a	132 KV	7	124	1	3	3	0	0
4	Extension (Transformer)							
a	132 KV	9	318	0	3	2	2	2
b	66 KV	1	13	1	0	0	0	0

B. STG SCOPE (Transmission Lines):

Sr. No.	Description	Total Length (km)	2020-21	2021-22	2022-23	2023-24	2024-25
New Transmission Lines							
1	132 KV D/C	121	0	10	38	47	26
2	132 KV SDT	449	33	66	77	181	92
Total		**570**	**33**	**76**	**115**	**228**	**118**
Rehabilitation/Reconductoring/Up-gradation							
132 KV D/C		87.5	87.5	0	0	0	0

C. Distribution Expansion (DOP):

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Sr. No.	Description	Unit	Quantities					
			2020-21	2021-22	2022-23	2023-24	2024-25	Total
Scope of Work for 11 kV and Below Expansion								
1	New HT Lines							
	Number of proposals	Nos	12	12	18	22	21	85
	Length of new HT line	Km	180	180	270	330	315	1275
2	Transformers							
	400 KVA	Nos	12	10	20	20	10	72
	200 KVA	Nos	20	18	30	30	18	116
	100 KVA	Nos	40	36	30	108	130	344
	Sub Total	Nos	72	64	80	158	158	532
3	11 KV Panel	Nos	12	12	18	22	21	85
4	11KV 500 MCM S/C Cable	Km	3.6	3.6	5.4	6.6	6.3	25.5
5	11KV Capacitors Fixed 450KVAR	KVAR	25	30	35	48	55	193
6	Shifting of HT Lines from PESCO grids	Km	4	9	10	13	20	56
7	New HT Lines (For Village connectivity)	Km	65	70	75	80	85	375
Scope of Work for LT Expansion (Village Electrification on Cost Deposit Basis)								
1	New LT Lines							
	Number of proposals	Nos	80	180	240	260	320	1080
	Length of new LT line	Km	5	11	14	16	19	65
2	Transformers							
	25 KVA	Nos	35	60	90	80	105	370
	50 KVA	Nos	40	280	420	480	507	1727
	Sub Total	Nos	75	340	510	560	612	2097
3	New LT Lines (For Housing societies)	Km	60	135	150	195	300	840

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D. Distribution Rehabilitation (ELR):

Scope of Work for 11 kV and Below Rehabilitation		unit	2020-21	2021-22	2022-23	2023-24	2024-25	Total
A	Rehabilitation of HT Lines							
1	Number of proposals	Nos	11	23	19	22	20	95
	Bifurcation	Nos	8	16	12	12	10	58
	Reconductoring	Nos	1	3	3	5	5	17
	Re-routing	Nos	2	4	4	5	5	20
2	New HT Lines	Km	120	240	180	180	150	870
3	HT Line Reconductoring	Km	15	45	45	75	75	255
4	11KV Capacitors	Nos	15	20	15	15	13	78
5	11KV Panels	Nos	11	23	19	22	20	95
6	Replacement of T/F Earthing	Nos	-	-	-	-	-	0
7	11-kv Sectionalizers	Nos	-	-	-	-	-	0
8	11-Kv 500 MCM Cable	Km	3	7	6	7	6	29
B. Scope of Work for LT Rehabilitation								
	LT Lines Rehabilitation							
1	Number of proposals	Nos	25.0	60.0	65.0	70.0	70.0	290
2	New LT Lines	Km	1.26	3.00	2.70	3.60	4.20	14.76
3	LT Line Reconductoring	Km	1.26	3.00	2.70	3.60	4.20	14.76
4	New HT Lines (For New T/F Substations)	Km	1.40	2.00	3.00	3.50	4.20	14.1
5	Replacement of D-Fittings	Nos	110.00	120.00	130.00	135.00	140.00	635
6	Augmentation of Overloaded Transformers							0
	a. 50 KVA	Nos	30	32	35	40	45	182
	b. 100 KVA	Nos	10	15	18	22	25	90
	c. 200 KVA	Nos	5	10	15	20	30	80
	Sub Total	Nos	45	57	68	82	100	352

7	New Transformer Substations						0
	a. 50 KVA	Nos	40	40	45	50	55	230
	b. 100 KVA	Nos	20	20	30	40	20	130
	c. 200 KVA	Nos	5	5	10	15	0	35
	Sub Total	Nos	65	65	85	105	75	395
8	Others							
	11 KV Panel Out Going	NO	20	28	30	34	26	138
	Termination Kit Indoor	No	60	84	90	102	78	414
	Termination Kit Out door	No	60	84	90	102	78	414
	500 MCM Cable	Mtr	6	8.4	9	10.2	7.8	41.4
	H.T Structure 45 Feet	No	2467	31619	3481	4969	4400	46936
	H.T Structure 36 Feet	NO	1066	1644	1206	1844	1600	7360
	L.T Structure	No	128	263	331	373	443	1538
	ACSR Dog 7/186	Mtr	740.1	9485.7	1044.3	1490.7	1320	14080.8
	ACSR Rabbit 7/132	Mtr	319.8	493.2	361.8	553.2	480	2208
	AAC 7/122	Mtr	307.2	631.2	794.4	895.2	1063.2	3691.2
	Steel X-Arm	NO	5665	36551	7099	10501	9200	69016
	50KVA Transformer	NO	125	386	522	590	627	2250
	100KVA Transformer	NO	90	91	100	185	217	683
	200KVA Transformer	NO	30	33	55	50	53	221
	Single Pole Adda	NO	125	386	522	590	627	2250
	Double Pole Adda	NO	120	124	155	235	270	904
	D/Out, C/Out	NO	620	1668	2243	2595	2778	9904
	Pin Insulator	NO	5665	36551	7099	10501	9200	69016
	11 KV Pin Steel	NO	5665	36551	7099	10501	9200	69016
	Disc Insulator	NO	505	4752	670	973	857	7757
	Tension Clamp	NO	504.7143	4751.8571	669.571	973.286	857.1429	7756.5713
	Eye Nut	NO	504.7143	4751.8571	669.571	973.286	857.1429	7756.5713
	Spool Insulator	NO	512	1052	1324	1492	1772	6152
	D-Bracket	NO	512	1052	1324	1492	1772	6152
	Earthing Unit with Thimble	NO	3661	33526	5018	7186	6443	55834
	Stay Rod with Elbow & Thimble	NO	3661	33526	5018	7186	6443	55834
	GSL Wire 10MM	KG	18305	167630	25090	35930	32215	279170
	P.G Connector T-110	NO	504.7143	4751.8571	669.571	973.286	857.1429	7756.5713
	Double Arming Bolt 14x5/8	NO	504.7143	4751.8571	669.571	973.286	857.1429	7756.5713
	Nuts Bolt 2x5/8	NO	19523	57923	22777	34473	30000	164696
	Nuts Bolt 9x5/8	NO	3114	5852	6502	7812	8688	31968
	Nuts Bolt 14x5/8	NO	11969.6	152034.2	17039.8	24224.2	21563	226830.8
	ABC Cable	Mtr	45	30	20	30	30	155

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E. Installation of ABC Cables:

Circle	Division	No. of Feeders	Length of ABC Cable (Km)
FATA circle	Northern	4	35.800
	Hangu	3	40.350
	Tank	1	6.450
	Bannu	2	12.900
	Khyber	3	60.350

F. GIS Mapping:

Sr. No.	Description	Unit	2021-22	2022-23	2023-24	2024-25	2025-26
1	HT Mapping						
	No of 11KV Feeders	Nos	48	20	25	25	27
	Length of HT Lines Mapped	Km	960	300	375	375	405
	Tools Required						
	GIS Mapping Software License	Nos					
	Simulation Software License	Nos	Google Earth Pro License 01 No.				
	Hardware including plotters, computers, PS devices etc	Nos	1. A3 size colour printer 01 No. 2. Plotter 01 No. 3. Photostat Machine 01 No. 4. GPS Devices 08 No. 5. External Hard Drive of capacity one TB 02 No.				

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G. Other Functional Improvement Plans:

a. Financial Management and Improvement Plan: TESCO is implementing ERP. Further TESCO started work to improve the internal audit function and audit and accounting manuals. Under this plan TESCO envisages to conduct specialized studies like Assets tagging and valuation.

b. HR Improvement Plans: The Human Resource Improvement Plan (HRIP) broadly aims to increase the functional capacity of DISCO staff by providing the institutional model for technical and behavioral skills among the company's employees. It also aims to increase the productivity and quality of services provided both internally and externally, creating a foundation for sustainable HR operations.

c. Communication Improvement Plans: This plan covers the communications improvement activities including but not limited to improving the internal communication amongst employees and external communication with customers to improve image of the company etc. Under this section scope of work is provided to be done in each of the five years under best case.

d. Linemen Training, Tools and Equipment: TESCO has provided quality tools, vehicles and equipment, and also conducted different trainings of line staff on the latest tools and equipment that are used worldwide to make line work effective and prevent lineman from fatal and severe non-fatal accidents. A hundred purpose-built vehicles have been provided making the line staff able to carry all necessary tools and equipment that are mandatory to perform their job safely. TESCO's senior and middle managers are also trained so that they can realize the importance of lineman safety in quality work production and elimination of these accidents. The point of consensus has developed in the TESCO due to safety trainings at all levels of management and line staff is "all these accidents are avoidable and can be eliminated". To reach such point, unwavering commitment is required at every level of DISCO to show zero tolerance attitudes on any accident in future. The management can't justify its position by initiating disciplinary actions against SDOs and Supervisors only, but the management has to have allocated good number of resources in lineman safety.

16.4. The year wise breakup of cost for above heads is given below:

A. STG Cost:

i. Grid Stations: **(Million Rs.)**

Sr. No	Description	Total Cost	Total Capacity (MVA)	2020-21	2021-22	2022-23	2023-24	2024-25
1	**New**							
a	132 KV	2800	280	1100	400	600	700	0
2	**Conversion**							
a	66 to 132 KV	1920	280	440	360	576	0	0
b	33 to 132 KV							
3	**Augmentation**							
A	132 KV	730	110	530	200	0	0	0
B	66 KV							
4	**Extension (Transformer)**							
A	132 KV	0	0	0	0	0	0	0
B	66 KV	60.5	13	60.5				
5	**Rehabilitation**							
A	132 KV							
B	66 KV							
Total Grid Stations		**5510.5**	**683**	**2130.5**	**960**	**1176**	**700**	**0**

ii. Transmission Lines: **(Million Rs.)**

Sr. No.	Description	Total Cost	2020-21	2021-22	2022-23	2023-24	2024-25
1	New T/Line D/C	2662	0	220	836	1034	572
2	New T/Line SDT	3745	395	990	955	1215	1180
3	Rehabilitation of 132 KV D/C	2315.2	2315.2	0	0	0	0
Total Transmission Lines		**8722.2**	**2710.2**	**1210**	**1791**	**2249**	**1752**

B. DOP Cost (11 kV & Below Expansion):

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(Million Rs.)

Sr. No.	Description	Quantities					
		2020-21	2021-22	2022-23	2023-24	2024-25	Total
A	H.T Expansion						
1	New Line	34.56	43.2	54	82.08	71.28	285.12
2	Transformers						
	400 KVA	2.76	2.3	4.6	4.6	2.3	16.56
	200 KVA	14	12.6	10.5	37.8	9.45	84.35
	100 KVA	9	8.1	13.5	13.5	8.1	52.2
3	11 KV Panel	16	20	25	38	33	132
4	11KV 500 MCM S/C Cable	5.04	5.04	6.84	9.72	17.253	43.893
5	11KV Capacitors Fixed 450KVAR	5	6	7	4	8	30
B	L.T Expansion						
	New LT line cost	13.68	10.2	13.77	14.28	17.34	69.27
C	Village Electrification						
1	New HT Line	522.04	971.44	888.21	976.98	914.223	4272.893
2	New LT Line	3.423	4.401	5.053	6.683	8.313	27.873
3	Transformers						
	25 kVA	8.5	11.9	18.36	19.72	20.4	78.88
	50 kVA	11.5	16.1	24.84	26.68	27.6	106.72
4	Independent Feeder	174.15	258	281.2	387	516	1616.37
5	11 kV Panels for Independent Feeder	30.13	19.65	20.96	23.58	26.2	120.52
	Sub Total (A+B+C)	**849.783**	**1388.931**	**1373.833**	**1644.623**	**1679.459**	**6936.649**

C. ELR Cost:

(Million Rs.)

11 kV and Below Rehabilitation		2020-21	2021-22	2022-23	2023-24	2024-25	Total
A	**Rehabilitation of 11 kV**						
2	New HT Lines	199.5	427.5	256.25	356.25	270.75	1610.25
3	HT Line Reconductoring	210.9	364.8	344.85	256.5	495.9	1672.95
5	11KV Panels	12	24	18	18	3.6	75.6
8	11-Kv 500 MCM Cable	4.68	4.68	7.8	10.92	14.04	42.12
B	**L.T Lines Rehabilitation**						
2	New LT Lines	180	185	190	170	150	875
3	LT Line Reconductoring	130	140	130	170	180	750
C	**Transformers**						
	a. 50 KVA	3.94	3.94	4.75	5.7	6.65	24.7
	b. 100 KVA	10.32	10.32	11.61	12.9	14.19	59.34
	c. 200 KVA	6.77	6.77	10.1	13.14	16.926	54.16
	Total ELR	**758.11**	**1167.01**	**973.36**	**1013.41**	**1152.056**	**5164.12**

D. Cost of ABC Cable:

Circle	Division	No. of Feeders	Amount (Million)
FATA circle	Northern	4	7.16
	Hangu	3	8.07
	Tank	1	1.29
	Bannu	2	2.58
	Khyber	3	12.07
	Total	13	31.17

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E. Capital Expenditure and additional operating cost for other functional requirement

The cost of functional plans as claimed by petitioner is given below:

(Million Rs.)

Description		2020-21	2021-22	2022-23	2023-24	2024-25	Total
1	HR Improvement Plan	6.08	8	9.5	9	8	40.58
2	Financial Improvement Plan / ERP	0	7.486	4.335	2.054	2.054	15.929
3	Communication Improvement Plan	0	0.5	0.5	0.5	0.5	2
	Total	6.08	15.986	14.335	11.554	10.554	58.509

The summary of claimed costs as per details provided by TESCO for optimally achievable case are given below:

(Million Rs.)

DESCRIPTION	2020-21	2021-22	2022-23	2023-24	2024-25	TOTAL
Secondary Transmission & Grid (STG)	2,439	4,640	1,500	3,379	2,276	**14,233**
Distribution of Power (DOP)	850	1,389	1,374	1,645	1,679	**6,937**
Energy Loss Reduction (ELR)	758	1,167	973	1,013	1,152	**5,164**
Other Functional Improvement Plan	6	16	14	12	11	**59**
ABC Cable	-	-	-	-	-	**31**
Total	**4,053**	**7,212**	**3,862**	**6,048**	**5,118**	**26,423**

16.5. The Petitioner stated following benefits will be achieved through above mentioned investment:

i. Loss Reduction up to 9.60%.

ii. Improvement of collection efficiency up to 79%.

iii. Improvement of SAIFI up to 3,449 Nos.

iv. Improvement of SAIDI up to 25,820 minutes.

v. Reduction of commercial loss by 2.5%.

vi. Achieve zero accident goals.

vii. Reduction of billing complains up to 1%.

viii. Energy saving of 243.41 MkWh.

ix. Improvement in voltage profile.

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Observations & Recommendations on Investments Claimed under Best Case:

16.6. The Authority noted that the above submitted DIIP Investment Plan under Best Case Scenario has been reviewed in detail. While analyzing the submissions including the justifications which were considered by TESCO for preparation of Investment Plan under Best Case, it is revealed that the investment plan under Best Case amounting to Rs. 47,572.56 million has been prepared by the Petitioner keeping in view certain targets. However, the Petitioner has admitted that it can arrange funding up to Rs. 26,423 million required to undertake the investment plan under Optimally Achievable Case and not be able to arrange financing of Rs. 47,572.56 million required for the implementation of investments requested under Best Case. Further, the Petitioner has also stated that considering limited capabilities and procurement constraints, the implementation of Best Case is not possible.

16.7. In view of the above statements by the Petitioner, it is concluded that it showed its inability to undertake proposed investments under Best Case Scenario due to certain Technical and Financial limitations and constraints. Therefore the Authority has decided not to allow that proposed investment plan under Best Case Scenario.

General Observations on Investments claimed under Optimally Achievable Case:

16.8. It is observed that the earlier submissions by the Petitioner 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 the Petitioner 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 TESCO 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.

16.9. 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
		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

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Observations on Submission of Investment Plans under Optimally Achievable Case:

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

16.11. Pursuant to above requirements, the Petitioner has submitted its revised 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. 26,423 Million against following heads:

(Million Rs.)

DESCRIPTION	2020-21	2021-22	2022-23	2023-24	2024-25	TOTAL
Secondary Transmission & Grid (STG)	2,439	4,640	1,500	3,379	2,276	**14,233**
Distribution of Power (DOP)	850	1,389	1,374	1,645	1,679	**6,937**
Energy Loss Reduction (ELR)	758	1,167	973	1,013	1,152	**5,164**
Other Functional Improvement Plan	6	16	14	12	11	**59**
ABC Cable	-	-	-	-	-	**31**
Total	**4,053**	**7,212**	**3,862**	**6,048**	**5,118**	**26,423**

Observations on Strategy Adopted for Preparation of Investment Plans:

16.12. As discussed in the preceding paragraph, the investment plans prepared by the Petitioner 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 TESCO (As on 30-June-2021):

Description	Unit	Quantity
a. Grid Stations		
132 kV Grid Stations	No.	11
66 kV Grid Stations	No.	9
33 kV Grid Stations	No.	Nil
132 kV Consumer Owned Grid Stations	No.	Nil
66 kV Consumer Owned Grid Stations	No.	1
Power Transformers	No.	55
Capacity of Power Transformers	MVA	975
b. Transmission Lines (132 kV & 66 kV)		
Total Length of 132kV Transmission Lines	KM	441
Total Length of 66kV Transmission Lines	KM	384
Total Length of 33kV Transmission Lines	KM	123
c. Distribution System		
11 kV Feeders	No.	275
Total Length of 11 kV Lines	KM	10567
Total Length of LT Lines	KM	6285
Distribution Transformers	No.	18903
Capacity of Distribution Transformers	KVA	2093400
Existing HT / LT Ratio	Ratio	1.68
Average Length of 11kV Feeder	KM	38.43

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Constraints in Existing System of TESCO:

Description	Unit	Quantity
Overloaded Power Transformers	No.	14
Overloaded 11 kV Feeders	No.	144
Overloaded Distribution Transformers	No.	3491

Assessment & Analysis of the Investments Claimed under Optimally Achievable Case:

16.13. In order to assess the above investment requirements of the Petitioner, a 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	1,013	971	770	2,150	5,134	10,038
Allowed	1,013	971	770	2,150	2,500	7,404
Actual	814	971	744	2,150	2,500	7,179
Excess/(Less)	-199	-	-26	-	-	-225
%age	80.36	100	96.62	100	100	96.96

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16.14. From above, it is observed that during last 5-years, the Petitioner has utilized 100% of the allowed investment in FY 2016-17, FY 2018-19 and FY 2019-20. It is also observed that TESCO spent a maximum of Rs. 2,500 million in FY 2019-20 in last five years period.

Allowed INVESTMENTS:

16.15. Based on the aforementioned observations, analysis, assessment, discussion and keeping in view the historical capability of the Petitioner to utilize the allocated budget against investment requirements, it is expected that it 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 the Petitioner for MYT control period of 5-years from FY 2020-21 to FY 2024-25:

(Million Rs.)

DESCRIPTION	Requested under Optimal Case	Recommended Investments
Secondary Transmission & Grid (STG)	14,233	14,233
Distribution of Power (DOP)	6,937	6,937
Energy Loss Reduction (ELR)	5,164	5,164
Other Functional Improvement Plan	59	59
ABC Cable	31	31
Total	**26,423**	**26,423**

Target Additions and Improvements Expected after Implementation of Investments:

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

Total MVA Addition at 132 kV Grids:	600 MVA
Total MVA Addition at through Conversion:	340 MVA
MVA Addition through Augmentation:	124 MVA
MVA Addition through Extension of Transformer Bays:	331 MVA

New Transmission Lines at 132kV:	570 kMs
New HT (11 kV) Lines:	2145 kMs
New LT (415/230 V) Overhead Lines:	1075 kMs
New Distribution Transformers Addition:	3024 Nos.

Year-wise Recommended Investments under Optimally Achievable Case:

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

(Million Rs.)

DESCRIPTION	2020-21	2021-22	2022-23	2023-24	2024-25	TOTAL
Secondary Transmission & Grid (STG)	2,439	4,640	1,500	3,379	2,276	**14,233**
Distribution of Power (DOP)	850	1,389	1,374	1,645	1,679	**6,937**
Energy Loss Reduction (ELR)	758	1,167	973	1,013	1,152	**5,164**
Other Functional Improvement Plan	6	16	14	12	11	**59**
ABC Cable	-	-	-	-	-	**31**
Total	**4,053**	**7,212**	**3,862**	**6,048**	**5,118**	**26,423**

REVIEW OF ALLOWED INVESTMENT PLANS:

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

DIRECTIONS TO TESCO REGARDING ALLOWED INVESTMENTS:

16.19. The Petitioner 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.

17. **Whether TESCO 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 June 2021.**

17.1. 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. The petitioner was further directed to provide detail of pending connections till 30 June 2021.

17.2. The Petitioner during the hearing submitted the following details;

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Connection Pending for the month of 09-2021	
Domestic	11
Commercial	6
Industrial	21
Irrigation	17
Grand Total	55

17.3. The Authority has considered the submissions of the Petitioner and is of the opinion that its submissions are not in line with the issue framed. Although the number of pending connections is on the lower side, this doesn't show whether it is within 5% and the remaining 95% were provided or otherwise. Therefore, TESCO is directed to clear all pending connections and submit a detailed report to NEPRA on a monthly basis.

18. 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.

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

18.2. The Petitioner hasn't submitted any information in this regard. The Authority took displeasure on the non-submission of the details and strictly directed TESCO to submit the detailed report in this regard for consideration of the Authority.

19. 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?

19.1. The Authority in the previous tariff determination directed the Petitioner to submit the details of 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.

19.2. The Petitioner hasn't submitted any information in this regard. The Authority took serious notice on the non-submission of the details and strictly directed TESCO to submit the remedial measures taken for the achievement of performance standards particularly in term of improvement in SAIFI/SAIDI for consideration of the Authority.

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

20.1. The Authority in the previous tariff determination directed the Petitioner to improve loading position of Power Transformers, Distribution Transformers and 11 kV feeder and submit the details of last three years.

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

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11 KV FEEDERS UNDER CONSTRAINT AS ON 31-10-2021							
DISCO	Total No. of feeders	No. of feeders above 400 Amps	Action taken to provide Relief				Feeders Still Under Constraint
			HT Proposal				
			Prepared (Nos.)	Under process	Executed (No.)	Under Execution (No.)	
TESCO	284	100	30	70	9	21	70

132 KV SYSTEM CONSTRAINTS OF TESCO				
DISCO's	Total constraints identified	Removed	Remaining	Remarks
TESCO	3	2	1	The line profile is prepared and approved from TSW IESCO. Rs 1133 Million is required for removal of constraints. USAID & KPK Govt. has been approached for funding of the scheme.

NPCC SYSTEM CONSTRAINTS RELATED TO TESCO					
Sr. No	Grid Stations	CIRCUITS/ EQUIPMENTS	Action Required	REMARKS /Progress by PD GSC	Key Targets
1	132 KV BANNU	132 KV CCT. Bannu-Mir Ali-Miran Shah	Addition/ Up gradation of conductor with enhanced circuit carrying capacity	The line profile is prepared and approved from TSW IESCO. Rs 1133 Million is required for removal of constraints. USAID & KPK Govt. has been approached for funding of the scheme	2022-23
2	132 KV WANNA	132 KV Wanna-Gomal Zam CCT	Fault of circuit removed and circuit brought into service	The line has been energized successfully by replacing 5616 faulty disc insulators in Oct 2021.	2021-22

20.3. 5.3. The Authority has considered the submissions of TESCO and is of the view that the performance of TESCO is poor regarding 11 kV feeder constraints, as still 70 feeders are under constraints which are around 25% of the total feeders. Further, regarding 132 kV System Constraints, as far as one constraint is remaining, TESCO should have submitted its serious efforts along with concrete timelines for its removal, however, no such information has been shared by TESCO. Furthermore, regarding NPCC System Constraints, TESCO is directed to coordinate with NTDC for removal of such constraints submit a progress report on quarterly basis to NEPRA.

21. <u>Provide details of preventive measures taken during FY 2020-21 to cater for the safety incidents?</u>

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

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

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- Established an independent safety directorate and posted director/staff.
- Approved the safety policy/manual and implementing in letter and spirit.
- Toolbox Performa has been developed / implemented
- Tender for hiring of safety consultancy services has been floated.
- The following safety trainings have been conducted:
- Training on approved safety manual to all officers / officials of TESCO.
- Conduction of monthly safety seminar at Divisional / sub-divisional level.
- Cameras installation is under process to monitor and record the operational activities in the Grid Stations control rooms as per NEPRA instructions.
- Process regarding purchase of bucket mounted trucks has been completed and delivery will be made by December 2021.
- Process of purchase of safety vehicles has been completed to make the sub-divisions more resourceful.
- Safety audit and Divisional / sub-divisional level has been started which will be completed by the end of Nov-2021. Safety audit is regularly conducted.
- Improvement of complaint management system has been initiated and will be completed by the end of Nov-2021
- Committee for determination of linemen assessment has been constituted as per NEPRA instructions the process will be finalized by end of Dec-2021
- Contractors for elimination of hazardous points have been hired and removal of hazardous points will be completed shortly
- Started daily morning assembly at sub-divisional level is compulsory regular feedback is taken.
- Enquiries of fata/non-fatal accidents with focus on identifying cases and loopholes to be addressed and lessons learned to avoid future incidents.
- Safety talks committee at Circle, Divisional & Sub-divisional level has been constituted to ensure compliance of SMS.
- A WhatsApp Safety group has been developed for effective and timely communication / monitoring of daily activities.
- Safety KPI's
- Compliance / Implementation of the NEPRA directed circulated vide minutes of CEO`S conference held at NEPRA.

21.3. The Authority has considered the submissions of the Petitioner and is of the view that it 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 public occurred in TESCO during the years 2020-21 is 07 which is more as compared to previous years, i.e. 02 number of accidents in 2018-19 and 04 number of accidents in FY 2017-18. Therefore, Petitioner should initiate measures on a war footing basis to achieve ZERO number of fatal accidents and submit a concrete plan to NEPRA in this regard.

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

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

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

TOU METERS		
Sr. No	Tariff	TOU Meters Installed 2020-21
1	B-III	48
2	B-IV	1
3	B-II	690
4	B-I	11
5	C-2	4
6`	C-1	12

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22.3. The Authority has considered the submissions of the Petitioner and is of the view that it has submitted that it has provided TOU meters to 766 number of eligible consumers, however, it has not clarified whether there was a total of 766 consumers or otherwise, which are yet to be connected. The Petitioner is directed to clear all pendency and install TOU meters within one month and submit a compliance report to NEPRA in this regard.

23. <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>

23.1. The Authority in the previous tariff determination directed the Petitioner to submit 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.

23.2. The Petitioner during the hearing submitted the following information:

- In order to eliminate theft /direct hooks and to reduce losses the ABC is proposed on distribution lines presently in commercial areas which will result in improving recovery of TESCO.
- PC-1 for providing independent feeders to commercial markets (10 No.) having ABC is submitted for approval. Approximately 90 km ABC is proposed.
- Tender for four types of ABC including 4x95 mm2, 4x70 mm2, 4x25 mm2 , 2x16 mm2 was opened on October, 21 2021, only two bidders participated quoting rates for 4x95 mm2 cable of 60.2 km in length.
- The said tender has been evaluated by TSW and LOI has been issued on November 09, 2021. Other three types have been re-tendered and due to be opened on November 11, 2021.
- Tender for allied material of ABC has also been opened on August 21, 2021.
- After procurement of material the project will be outsourced for execution in Bara, Jamrud, Landi-kotal in 1st phase and Khar Bajour, Parachinar & Ghallani in 2nd Phase.

23.3. The Authority has considered the submissions of the Petitioner and is of the opinion that it has submitted that the execution of the project pertaining to the conversion of bare conductors into ABC cable is under process. The Petitioner is directed to submit specific timelines for the completion of this project.

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

24.1. The Authority in the previous tariff determination directed the Petitioner to provide the load shedding criteria in the jurisdiction of TESCO.

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

Load Shedding Schedule of TESCO for 2021				
S.NO.	Feeder Category	No of Feeders	Scheduled LM Program	Category Wise
1	Independent Steel Furnace	44	00-06	1
2	Independent Industry	12	00-10	1
3	Independent Army	3	00-04	1
4	Independent Feeder (Atomic Energy)	1	00-00	1
5	Independent for water supply scheme	1	00-00	1
6	Mix Industrial+ Domestic Feeder	10	12-Jun	2
7	Mix Army+ Domestic	12	18-Dec	7
8	Hospital Feeder	7	00-00	1
9	University Feeder	2	00-08	1
10	Commercial (Bazar)	4	00 -10	1
11	Domestic Feeder shared with PESCO	4	18	7
12	Domestic Feeders	184	18	7
	Total	284		

24.3. The Authority has considered the submissions of the Petitioner and is of the considered opinion that the load shedding criteria submitted by it is not in accordance with Rule 4 (f) of Performance Standard (Distribution) Rules, 2005. NEPRA has never recognized the same as it creates discrimination among the consumers. The Petitioner being a distribution licensee is bound to follow the requirements of PSDR 2005 and shall carry out load shedding only when instructed by NTDC in case of power shortage or transmission system constraints.

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

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

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

- Special teams are constituted on sub division, division, circle and head quarter level for surveillance, to control the theft of electricity.
- Several surprised visits are routinely conducted by S&I, and M&T teams to root out theft of electricity.
- Awareness of public through media campaign, Jirga system and religious scholars.
- Several FIR's have been lodged against consumers, who are involved in electricity theft.

25.3. The Authority has considered the submissions of the Petitioner and is of the view that it has admitted that there is a theft in its service territory and submitted the efforts made by it. However, the Petitioner has not submitted the %age improvement of losses due to controlling theft vide above mentioned steps.

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

26.1. 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.

26.2. 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.

27. The Authority considers that, after taking into account all the adjustments and assessments, as discussed in the instant determination, if the Petitioner still earns extra profits the same will be shared with the consumers and the Petitioner equally.

28. <u>Order</u>

28.1. 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;

Description	Unit	FY 2020-21 DOP	FY 2021-22 DOP	FY 2022-23 DOP
Units Received	[MkWh]	1,943	1,943	2,361
Units Sold	[MkWh]	1,757	1,762	2,143
Units Lost	[MkWh]	187	181	217
Units Lost	[%]	9.60%	9.31%	9.21%
Investment	[Mln. Rs.]	4,053	7,212	3,862
Pay & Allowances		622	763	846
Post Retirement Benefits		157	173	190
Repair & Maintainance		17	19	21
Traveling allowance		14	16	17
Vehicle maintenance		13	14	15
Other expenses		13	15	16
O&M Cost	[Mln. Rs.]	**836**	**999**	**1,105**
Depriciation		343	379	422
O.Income		(967)	(798)	(798)
Margin	[Mln. Rs.]	212	580	729
Revenue Requirement	[Mln. Rs.]	212	580	729
Average Tariff	[Rs./kWh]	0.12	0.33	0.34

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

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%

28.3. Tribal Areas Electricity Supply Company Limited (TESCO), 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	20.72%	36.21%	56.93%
Level of Losses	1.60%	5.60%	7.11%
UoSC Rs./kWh	0.14	0.25	0.40

28.4. 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,

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

28.6. 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;

28.7. To develop, maintain and publicly make available, with the prior approval of the Authority, an investment program for satisfying its service obligations and acquiring and selling its assets

28.8. 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.

28.9. 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.

29. **Summary of Direction**

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

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i. 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 immediately provide electricity connections to all the pending applications without further delay and submit a progress report in this regard by the end of each quarter.

iii. To immediately 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 and report be shared with the Authority by December 31, 2020.

iv. To address problems of visibility of snapshots appearing on bills and to keep the record of snapshots till one year and report be shared with the Authority by 31.03.2021.

v. To ensure that consumer's deposits are not utilized for any other purpose and the same is reflected in the Audited accounts for the FY 2020-21 & onward.

vi. To restrain from unlawful utilization of receipts against deposit works and security deposits immediately, and the same is reflected in the Audited accounts for the FY 2020-21 & onward.

vii. 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.

viii. 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.

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

x. Provide details of PEPCO Management Fees, if any, claimed previously so that same could be adjusted in the subsequent tariff determinations.

xi. Prepare such schemes to cater for future demand and for removal of system overloading/constraints. A detailed report shall be submitted as part of 5-years IGTDP for approval of the Authority before filing of next tariff petition.

xii. Target high loss feeders to bring the overall losses down and submit a detailed plan for bringing down its technical losses to lower levels in the coming years

xiii. Carry out detailed analysis about the hard and soft areas relative to claims in earlier studies.

xiv. Take remedial measures for achievement of performance standards as laid down in NEPRA Performance Standards (Distribution) Rules, 2005.

xv. To provide the compliance status on the directions issued in the tariff determination of FY 2019-20 by June 30, 2022 and the same would be deliberated upon separately.

xvi. 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.

xvii. Completes recruitment process regarding MIRAD and submits complete details in this regard.

xviii. 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

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systems through ELR and overloaded grids and 11kV feeders. The main components would include STG, DOP, ELR and Commercial Improvement.

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

xx. To provide details on 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?

xxi. To provide details on whether the loading position of Power Transformers, Distribution Transformers and 11kV Feeders has been improved. Provide the detail for last three years.

xxii. To coordinate with NTDC for removal of such constraints submit a progress report on quarterly basis to NEPRA

xxiii. To initiate measures on a war footing basis to achieve ZERO number of fatal accidents and submit a concrete plan to NEPRA in this regard.

xxiv. To clear all pendency and install TOU meters within one month and submit a compliance report to NEPRA in this regard.

xxv. To submit specific timelines for the completion of ABC project.

xxvi. 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.

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

xxviii. 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.

xxix. 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.

xxx. 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.

xxxi. 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.

xxxii. 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.

xxxiii. 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.

xxxiv. 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.

xxxv. 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.

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

30. 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

(X)

Rafique Ahmed Shaikh
Member

Engr. Maqsood Anwar Khan
Member

Tauseef H. Farooqi
Chairman

(X) My additional note is attached herewith.

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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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