LAHORE ELECTRIC SUPPLY COMPANY
Office of the Chief Executive Officer

22-A, Queens Road, Lahore, **Ph:** 042-99204820-30

Email: ceo@lesco.gov.pk

The Registrar,
National Electric Power Regulation Authority (NEPRA)
NEPRA Tower, Attaturk Avenue (East), G-5/1
Islamabad

SUB: **SUBMISSION OF PETITION FOR DETERMINATION OF USE OF SYSTEM CHARGES**

In compliance with the regulation 7 of NEPRA Open Access Regulations issued vide SRO No 1994 dated 02 Nov 2022. The petition attached herewith for determination of use of system charges is submitted for kind consideration and approval of Authority.

The working paper for authorization of CEO for signing of subject application has been submitted to LESCO Board of Directors and the requisite Resolution will be provided soon after its approval.

For any clarification, additional information or any other matter relating to this application Mr. Altaf Qadir (Director General, MIRAD) LESCO (0320-0520201, email dgmiradlesco@gmail.com) is designated as focal person.

Engr. Ch. Muhammad Amin
CHIEF EXECUTIVE OFFICER
LESCO

02/02/23

For Info and further n.a. Pl.

1. DG (M&E)	2. DG (Licensing)
3. DG (CAD)	4. DG (Admn/HR)
5. ADG (Trf)	6. ADG (Legal)
7. Dir (Finance)	8. Dir (Technical)
9. LA	10. ALA
11. Consultant	12. Consultant
13. Addl. Dir(IT)	14. Master File

CC: 1. Chairman
2. Member (Technical)
3. Member Licensing)
4. Member (Tariff & Finance)

Info:

- General Manager (Technical) LESCO
- Operation Director LESCO
- Director General (MIRAD)
- Chief Financial Officer LESCO
- Customer Services Director LESCO
- Chief Law Officer LESCO
- Master File

Tariff Division Record
Dy No. 775
Dated 3-2-23

No. 3987-93 /MRD Dated: 31 /01/2023

REGISTRAR OFFICE
Diary No. 1213
Date 2-2-23

TARIFF (DEPARTMENT)
Dir (T-I)..... Dir (T-II).....
Dir (T-III)..... Dir (T-IV).....
Dir (T-V)..... Addl. Dir (RE).....
Date. 03-02-2023

LAHORE ELECTRIC SUPPLY COMPANY

Petition for Determination of Use of System Charges

(30th Jan, 2023)

22/A QUEEN'S ROAD, LAHORE

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1. Petition Summary

1.1. Details of the Petitioner

1.1.1 Name and Address:

Lahore Electric Supply Company Limited ("LESCO" or the "Company") is a Public company limited by shares incorporated under section 32 of the repealed Companies ordinance, 1984, (Now Companies Act, 2017) with registered office, 22-A Queens Road, Lahore.

LESCO is located in the central part of Punjab. It has boundaries with the Gujranwala Electric Power Company Limited in the north, Faisalabad Electric Supply Company Limited in the east and Multan Electric Power Company Limited in the south. LESCO territory encompasses 19,064 sq. km of area and covers the districts of Lahore, Nankana, Sheikhupura, Kasur, and Okara.

1.1.2 License Details:

LESCO is a licensed public utility responsible for Distribution & Supply of electricity to its consumers. LESCO has been granted a Distribution License bearing No. 03/DL/2002 by National Electric Power Regulatory Authority (NEPRA) on April 01, 2002, which was expired on 31st March 2022. LESCO has applied for renewal of license vide letter No.56111 dated 21st Dec, 2021 before the Authority. Consequently, NEPRA has granted provisional renewal of Distribution License up to April 30th, 2023 or till the time the final determination of the Authority in the matter is made, whichever is earlier. Under clause 23E (1) of NEPRA Act, 1997 (Amended Act of 2018), LESCO is deemed to hold a license for supply of electric power for a period of 5 years. LESCO, in accordance with the requirement of NEPRA Open Access (Interconnection and Wheeling of electric power) Regulations, 2022, is required to prepare and submit a separate petition to the Authority for determination of its Use of System Charges.

1.1.3 Key Representatives:

Chief Executive Officer LESCO, Chief Financial Officer LESCO and Director General MIRAD LESCO have been authorized by the LESCO Board of Directors to sign all

necessary documents in support of the Use of System charges Petition (individually or jointly), and also to appear before NEPRA as and when required.

2. Grounds of Petition:

Pursuant to the relevant directions of National Electricity Policy (NE Policy) read with regulation 7 of NEPRA Open Access (Interconnection and Wheeling of Electric Power) Regulations, 2022 ("Open Access Regulations"), following are the grounds for petition for determination of use of system charges:

In compliance with the Clause 4.4, Clause 5.5.2(f), Clause 5.5.2(g), Clause 5.5.4, Clause 5.6.5 and Clause 5.6.7 of NE Policy and
In compliance with the regulation 7 of NEPRA Open Access Regulations, each distribution licensee, in consultation with the respective supplier of last resort shall, within ninety days following the date of notification of Open Access Regulation, shall submit a separate petition to the Authority for determination of its use of system charges.

Open access envisages non-discriminatory access to the transmission and distribution network. It enables the eligible Bulk Power Consumers to procure power at competitive price, to meet their demand, from suppliers other than supplier of last resort. DISCOs are mostly worried about losing their high-tariff paying consumers to open access, which will have an adverse impact on their financial and operational efficiencies. Therefore, determination of open access charges is necessary to ensure financial viability of distribution companies.

2.1. Directions in National Electricity Policy

The National Electricity Policy, 2021 issued under Section 14A of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 ("The Act") was prepared by the Government of Pakistan for the development, reform, improvement and sustainability of the power market and power sector.

The National Electricity Policy identifies the major goals sought to be achieved for the power sector, and in this respect, provides policy directions. It also provides the key guiding principles to develop subservient frameworks that will steer the decision making in the power sector to achieve identified goals.

Various sections of the said National Electricity Policy, 2021, as relevant to the instant case, are provided in the below lines.

Clause 4.4 (Financial Viability) of the National Electricity Policy provides that sustainability of the entire power sector pivots around the financial and commercial viability of its individual sub-sectors. This will be done by:

a) *promoting investments on least cost basis balanced with development in the underserved areas;*
b) *having cost-reflective tariffs in transmission and distribution, to the extent feasible;*
c) *timely passing of costs to the consumers, while netting off any subsidies funded by the Government; and*
d) *recovery of costs arising on account of open access, distributed generation, etc.*

Clause 5.5.2(f) of National Electricity Policy states:

"providing a level playing field to all market participants through uniform application of cross-subsidization and other grid charges to consumers of all suppliers;

Clause 5.5.2(g) of National Electricity Policy states:

"the Government shall take a decision on the recovery of costs that arise due to advent of the open access and market liberalization;"

Clause 5.5.4 of National Electricity Policy states:

"In order to ensure implementation of wholesale market design and its further evolution, the Regulator shall in a timely manner frame, modify and evolve regulatory framework for, inter alia, supply, procurement, open access / wheeling, competitive bidding, import of power, and ensure effective market monitoring and enforcement. Provided that after implementation of CTBCM, every transmission licensee and distribution licensee shall offer, to all market participants, non-discriminatory open access / wheeling to its

respective transmission or distribution system and interconnection services in accordance with CTBCM on the terms determined under the policy and legal framework."

Clause 5.6.5 of National Electricity Policy states:

"The Regulator, in order to ensure liquidity of the power sector, provide a level playing field for the development of wholesale market and to facilitate prudent projects of the Government, may impose additional charge(s) which shall be deemed to be costs incurred by the distribution companies / electric power supplier(s). Such additional charge may take into account the sustainability, socio-economic objectives and commercial viability of the sector, affordability for the consumers and the policy of uniform tariff. Similarly, the Government may also incorporate, in the consumer-end tariff, any surcharge imposed by it, which shall also be deemed to be cost incurred by the distribution companies / electric power supplier(s) and shall be collected by them in discharge of their public service obligations."

Clause 5.6.7 of National Electricity Policy states:

"The Regulator will provide for recovery of costs arising on account of distributed generation and open access in the consumer-end tariff, as decided by the Government. Further, the Government may announce, from time to time, various concessional packages to incentivize additional consumption to minimize such costs."

2.2. Legal and Regulatory Framework

The approved design of Competitive Trading and Bilateral Contract Market (CTBCM) provides the right of choice to the eligible Bulk Power Consumers (BPCs) to opt for any Supplier of Electric Power. The design, within the framework of the Act, also provides the concept of Competitive Supplier of electric power besides the Supplier of Last Resort, for the purposes of said right of choice to the BPCs within the said wholesale market design.

As directed in Clause 5.5.4 of the said National Electricity Policy, 2021, the honorable Authority promulgated / specified several Regulations to ensure effective implementation of the market regime in Pakistan. This included promulgation of National Electric Power Regulatory Authority Open Access (Interconnection and Wheeling of Electric Power) Regulations, 2022 ("Open Access Regulations").

For the purpose of this petition for determination of Use of System Charges in terms of mentioned Open Access Regulations, following terms as defined in the legal and regulatory framework are reproduced as below:

As per Section 2(ii) of the Act 1997:

"**bulk-power consumer**" means a consumer who purchases or receives electric power, at one premises, in an amount of one megawatt or more or in such other amount and voltage level and with such other characteristics as the Authority may specify and the Authority may specify different amounts and voltage levels and with such other characteristics for different areas"

Important definitions provided in Regulation 2 of Open Access Regulations are provided below:

2(1)(m) "open access" means the access to a network licensee's system or its associated facilities for movement and delivery of electric power, subject to the terms and conditions as provided in the Act, these regulations and use of system agreement, on non-discriminatory basis to:

an electric power supplier for supply of electric power to its consumer(s); or

a captive generating plant for delivery of the electric power from generation facility to the destination of its use; or

any other person, including a licensee for delivery of electric power from a designated place to another designated place;

2(1)(n) "open access user" *means any person who is availing open access under these regulations;*

*2(1)(r) **"use of system charges"** shall include all charges related to use of distribution system, use of transmission system, system operator services, market operator services, metering service provider services and any other charges as determined by the Authority that may arise due to advent of the open access and market liberalization.*

Part-III (Open Access) Regulation 5 (Obligation to provide open access) of Open Access Regulations is reproduced hereunder:

(1) "A network licensee shall establish, operate and maintain its distribution system or transmission system, as the case may be, in a manner that ensure non-discriminatory open access in accordance with the Act, these regulations, Market Commercial Code, Grid Code, Distribution Code and other applicable documents.

(2) A network licensee shall, on an annual basis, prepare an open access report demonstrating compliance with these regulations and licence terms and conditions, with the detail of its open access users, available and planned capacity, any issues identified in provision of open access, and any instances where open access was denied along with justification thereof. The said report shall also be made available on the website of the network licensee.

(3) The report required under sub-regulation (2) shall be prepared and submitted to the Authority within a period of one month from the date of end of respective financial year and shall also be made available on the website of the network licensee.

(4) The distribution company shall develop the use of system agreement in accordance with the minimum provisions provided in Schedule I within ninety days of the notification of these regulations and shall obtain the approval of the Authority and publish the same in its website."

Regulation 7 (Filing of petition and determination of use of system charges) of Open Access Regulations provides as under:

"Within ninety days following the date of notification of these regulations, each distribution licensee, in consultation with the respective supplier of last resort, shall

prepare and submit separate petition to the Authority for determination of its use of system charges. Such petition shall be accompanied with a statement which will set out the basis upon which the use of system charges shall be calculated in such manner and with such details as shall be necessary."

Regulation 8 (Wheeling of electric power) of Open Access Regulations states under:

> *"An open access user shall be entitled to wheel electric power using system of network licensee subject to compliance with these regulations and the Market Commercial Code, upon coming into effect, and use of system agreement."*

3. Technical and Financial Attributes

Adjoining the purposes of CTBCM, directions of the National Electricity Policy, 2021 and stipulations of the legal and regulatory framework; following understandings are inferred:

i) The network licensee, the LESCO for the purposes of instant petition, is obligated to provide open access, to its network, to the open access users on non-discriminatory basis.

ii) For the said obligation, the LESCO is entitled for recovery of use of system charges in line with use of system agreement, as determined by the honorable Authority.

iii) The use of system charges shall include:

   a. Transmission Use of System Charges (NTDC, PGC) irrespective of the placement of BPC and the respective generator.
   b. System Operator Charges
   c. Metering Service Provider Charges
   d. Market Operator Charges
   e. Distribution Margin Charges w.r.t. to the voltage level (132kV, 11kV etc) and consumer category wise for all possible BPCs.
   f. Cross-Subsidy Charges (consumer category wise for all possible BPCs)
   g. Stranded Cost/Capacity (consumer category wise for all possible BPCs)

h. Technical Transmission and Distribution Losses

iv) With reference to the above elements of use of system charges, following clarification shall apply for clarity of application:

a. Currently applicable Transmission Use of System (TUoS) Charges, compositely represent the charges relating to Transmission Network Operator(s)/Licensee(s), System Operator and Metering Service Provider. Accordingly, the said TUoS Charges remain part of use of system charges till separate charges for each of the said service providers are separately determined by the honorable Authority.

b. Market Operator Fee / Charges (MOF) will be recovered by Market Operator as per the mechanism provided in the Market Commercial Code. Accordingly, without prejudice to being part of Cost of Service of LESCO, these shall not form part of use of system charges to be recovered directly by LESCO.

c. Cross subsidy will be assessed based on Cost of Service analysis for the applicable consumer categories of all possible BPCs, which is according to the principles of uniformity as provided in the National Electricity Policy (referred above).

d. Subject to the decision of the Government on the recovery of costs that arise due to advent of the open access and market liberalization, the Stranded Capacity Costs will be included in the use of system charges.

e. Stranded Asset Cost and Cross-Subsidy charges are relevant costs that needs to be incorporated into the use of system charges and if these issues are not properly considered, it would have huge financial implications on the regulated consumers or the same would be borne by the GoP.

f. As the transmission and distribution losses will be charged to market participants of open access through the mechanism as explained in the Market Commercial Code, therefore, such charges shall not be levied under these use of system charges as requested under this instant petition.

The use of system charges will be determined in terms of metered quantities (kWh or kW), in consideration of allowed %age of losses and also that arrangements under the Market Commercial Code the parties (the BPC,

Competitive Supplier and/or Generator) shall be committing to the Capacity Obligation (including all losses and reserve margin up to bus-bar) through Firm Capacity, therefore, such transmission or distribution losses, as the case may be, will not be charged separately. However, for the purposes of transparency of charges, the impact of such losses may be separately disclosed.

g. The use of system charges, including the Distribution Margin Charges, as requested by LESCO and to the extent approved by Authority, will be applicable with reference to those eligible Bulk Power Consumers (BPCs) who opt for supply from a competitive supplier, other than supplier of last resort.

h. The use of system charges shall be with reference to the voltage level (132/66 kV, 11/33 kV) for the applicable consumer categories of all possible BPCs. The component-wise Cost of Service and consequent assessment, as detailed above, of component-wise Use of System Charges for the applicable BPCs is provided at Annex-A.

i. Any taxes and surcharges as imposed by the Government shall be applicable.

Summarizing the above, following is the abstract of entitled entities for each element of the use of system charges:

Sr. No.	Use of System Charge Element	Entitled Entity
1.	Transmission Use of System Charge	NTDC and other TSPs through NTDC/NGC **OR** NTDC through LESCO
2.	System Operator Charge / Fee	System Operator through NTDC.
3.	MSP Charge / Fee	MSP through NTDC
4.	Distribution Use of System Charge	LESCO as Distribution Licensee
5.	Cross Subsidy Surcharge	LESCO as SOLR (Supply Licensee)
6.	Stranded Capacity Costs	LESCO as SOLR (Supply Licensee)

4. Features of Petition:

4.1. Basis of Use of System Charges:

The instant petition for determination of use of system charges has been developed based on guidelines provided in the NEPRA Open Access (Interconnection and Wheeling of Electric Power) Regulations, 2022. Therefore, LESCO has carried out Cost of Service Study for the FY 2022-23 & FY 2023-24 to arrive at cost reflective tariffs giving proper price signals for its eligible consumers.

4.2. Method for Recovery of Use of System Charges

The instant petition is for determination of use of system charges for recovery of costs and charges relating to service providers (SO, TNO, TSP, DNO), stranded capacity costs and the cross-subsidy currently being contributed by the eligible BPCs. It is pertinent to mention that most, if not all, costs and charges are fixed in nature, the natural mode of recovery should be the fixed (in terms of Rs./kW/Month) charge in line with the NTDC. However, following options are available for consideration and determination:

i) Use of system charges recovery in term of Rs./kW/Month metered shall provide guaranteed stream of revenue to cover for costs which are fixed in nature. This may, however, over burden the relevant consumers thus undermining the very purpose of CTBCM and open access regime.

ii) Use of system charges recovery in term of Rs./kWh will render the service providers and the SOLR to face the revenue loss arising from low load factor of the eligible BPCs. On the other hand the open access users shall be benefitted for any favorable Energy or Capacity Imbalance in the Market. This option may not provide a balanced approach to promised sharing of risks and rewards under CTBCM regime.

5. Other Important Aspects

Following paragraphs of the peitition highlights other important aspects which shall be taken into account while determining the said charges.

5.1. Government Subsidies

Any subsidy provided by the Government to the industrial or any other eligible BPC, as applicable, will be dealt with according to the directions and terms and conditions thereof as decided by the Government. However, for the purposes of this petition, such subsidies are not considered.

5.2. Captive Power Producers and Users

i) A captive power producer / user using the LESCO network for wheeling of power to user destination will be considered "Market Participant" in terms of Market Commercial Code and will be dealt with accordingly. The use of system charges, except the Cross-Susidy and Stranded Capacity cost, shall fully apply.

ii) The cases of captive generation and consumption points at the same location taking additional supply from the local supplier of last resort (SOLR) shall be considered a regulated consumer of the SOLR with applicable regulated tariff. The quantum of additional sanctioned / contracted load (in terms of MW) shall be considered to determine its status as BPC in terms of the Act. In case, such BPC choose to exercise option for a competitive supplier, the use of system charges shall apply in full.

5.3. Applicability of Stranded Capacity Costs

The costs arising on account of market liberalization and advent of open access shall be the capacity charges/stranded costs to be paid by all eligible BPCs of a competitive supplier as detailed in this instant petition and the amount of such capacity charges

shall be the same as the total generation capacity charges recovered from the equally placed bulk power consumers of the suppliers of last resort either in a volumetric form (kWh) and/or through fixed charges and such charges shall continue to be paid till such time as may be decided by the Federal Government as per the National Electricity Policy.

5.4. Applicability of Use of System Charges on New Eligible BPCs

The Use of System Charges provided in the instant petition shall be applicable to all such BPCs who will opt to get supply of electric power from competitive supplier including the captive generator using the network to wheel its power to the destination of its use. Such charges shall be fully applicable to any new eligible BPC or incremental consumption, obtaining supply of electric power from competitive supplier without any exception.

Prayer:

"In view of the grounds and facts mentioned above, it is respectfully prayed that while admitting and allowing this petition, the LESCO's Use of System Charges may very graciously be determined as estimated in Annex-A which contain detailed analysis".

Annex-A

LAHORE ELECTRIC SUPPLY COMPANY

The Life for Progress

Cost of Service Study

(For Use of System Charges)

22/A QUEEN'S ROAD, MOZANG CHUNGI, LAHORE

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1. Cost of Service Study:

A Cost of Service (COS) study is the fundamental tool for evaluating and establishing utility rates. With industry and technology changes, utilities are expanding the scope and use of COS studies and are preparing studies that distinguish full and partial requirements customer classes. This is due to the increasing presence of distributed energy resources and/or to accommodate customers' expectations of having more control over their usage and utility bills.

Cost of Service is the total cost incurred by a utility company/DISCO in providing services to its customers and the allocation of the same to customer classes and/or voltage levels.

Fully Allocated Cost of Service (FACOS) is a model developed in MS Excel with the support of USAID for DISCO's for conducting Cost of Service Study. The methodology used to build the FACOS Model follows very closely the standards that are used internationally. The Model performed the standard three steps encompassed in most Cost Studies, namely, functionalization, classification, and allocation. It is pertinent to mention here that in order to arrive at the Use of System Charges the computations were carried out as below:

i. FACOS based on Supply & Distribution business and compared with the NEPRA Rates to arrive at cross subsidy, and contribution of losses
ii. FACOS based on Revenue requirement as per UoSC

2. Major Steps of Cost of Service Study:

A class cost of service study begins with a detailed documentation of the numerous budgetary elements of the total revenue requirement. The detailed revenue requirements are the data inputs to the FACOS. At a high level, the FACOS process consists of the following three (3) basic steps:

i. Functionalization – The identification of each cost element as one of the basic utility service "functions" (e.g. generation/Power Purchase Price, transmission, distribution and customer).
ii. Classification – The classification of the functionalized costs based on the billing component/determinant that each is associated with (e.g. kWs of capacity, kWhs of energy or number of customers).
iii. Allocation – The allocation of the functionalized and classified costs to customer classes, based on each class' respective service requirements (e.g. kWs of capacity, kWhs of energy and the number of customers).

3. Key Assumptions & Parameters:

i. LESCO is going to submit its Distribution of Power & Supply of Power Multi-Year Tariff Petitions for control period FY 2023-24 to FY 2027-28 separately. Therefore,

the Cost of Service for UoSC has been carried out for the FY 2023-24 because UoSC does not include the cost related to Supply Business.

ii. The segregation between Supply and Distribution cost has been made on the Audited Accounts for the FY 2018-19.

iii. The detailed revenue requirement assumptions are being accompanied in the MYT for Distribution Business FY 2023-24 to FY 2027-28

iv. Energy forecast is based on the LESCO's Power Market Survey 2022-23

v. Model Year, Prior Year and Base year will be FY 2023-24, FY 2022-23 and FY 2021-22 respectively

Description	FY24	Remarks
Energy Transfer Rate – ETR	8.97	This is in line with the information submitted for LESCO MYT FY 2023-24 to 2027-28
Stranded Cost – CTR (Rs/kW/Month)	3,334	
Transmission Charge (Rs/kW/Month)	399.19	
Consumer Growth	5.23%	This is in line with the information submitted for LESCO MYT 2023-24 to 2027-28 and Business Plan. Consumer growth assumed as 5.56% for FY 2022-23.
Units Sold (MkWh)	28,393	This is in line with the information submitted for LESCO MYT FY 2023-24 to 2027-28. Losses for 132KV: 0.32%, 11KV: 7.11%, 0.4/0.2KV: 3.03%
Demand (Avg. Monthly)	6,895	
T & D Losses	10.46%	
MDI (Avg. Monthly)	4660	Actual MDI charged for FY 2021-22 was taken as base and increased as per consumer growth rate for each category as per COS
Return on Rate Base	19.04%	It is proposed that the Company receives the Weighted Average Cost of Capital (WACC) on its Average Regulatory Assets Base (RAB) as the Return on Rate Base (RoRB).
Capital Structure	70:30	The debt/ equity ratio has been taken as prescribed in NEPRA's MYT Guidelines 2015.
Return on Equity (ROE)	16.67%	The ROE calculated on the basis of the Capital Asset Pricing Model (CAPM).
Risk Free Rate	8.97%	The Risk-Free Rate has been assumed as as used by NEPRA in previous determination.
Beta	1.1	Beta computations are proposed to be based on the average beta as used by NEPRA in previous determinations.

4. Revenue Requirement:

4.1. Supply & Distribution Business:

Revenue Requirement - Supply & Distribution (PKR Million)

Description	FY24	FY25	FY26	FY27	FY28
Energy Transfer Charge	335,846	345,627	359,771	373,497	390,426
Capacity Transfer Charge	275,853	292,129	309,364	322,073	335,304
Transmission Charge	33,028	34,976	37,040	38,562	40,146
Power Purchase Price	**644,727**	**672,732**	**706,176**	**734,132**	**765,876**
O & M Cost	58,021	67,884	76,952	85,721	95,684
Depreciation	6,067	6,670	7,323	7,975	8,674
Return on Assets	11,868	13,407	14,902	16,546	18,283
Other Income	(9,795)	(10,112)	(10,436)	(10,762)	(11,092)
Minimum Tax	8,251	8,232	8,668	9,025	9,422
Distribution Margin	**74,411**	**86,081**	**97,409**	**108,505**	**120,971**
Power Supply Margin	9,671	10,091	10,593	11,012	11,488
Prior Year Adjustments (PYA)	33,018				
TOTAL REVENUE REQUIRMENT	**761,828**	**768,904**	**814,178**	**853,650**	**898,334**

4.2. Supply Business:

Revenue Requirement- Supply Business (PKR Million)

Description	FY24	FY25	FY26	FY27	FY28
Energy Transfer Charge	335,846	345,627	359,771	373,497	390,426
Capacity Transfer Charge	275,853	292,129	309,364	322,073	335,304
Transmission Charge	33,028	34,976	37,040	38,562	40,146
Power Purchase Price	**644,727**	**672,732**	**706,176**	**734,132**	**765,876**
O & M Cost	5,147	6,022	6,826	7,604	8,488
Power Supply Margin	9,671	10,091	10,593	11,012	11,488
Other Income	(9,795)	(10,112)	(10,436)	(10,762)	(11,092)
Minimum Tax	8,251	8,232	8,668	9,025	9,422
Supply Margin	**13,274**	**14,233**	**15,651**	**16,879**	**18,306**
Prior Year Adjustments (PYA)	29,730				
TOTAL REVENUE REQUIRMENT	**687,732**	**686,965**	**721,826**	**751,011**	**784,182**

4.3. Distribution Business:

Revenue Requirement- Distribution Business (PKR Million)

Description	FY24	FY25	FY26	FY27	FY28
O & M Cost	52,874	61,862	70,126	78,117	87,196
Depreciation	6,067	6,670	7,323	7,975	8,674
Return on Assets	11,868	13,407	14,902	16,546	18,283
Distribution Margin	**70,808**	**81,939**	**92,351**	**102,638**	**114,153**
Prior Year Adjustments (PYA)	3,288				
TOTAL REVENUE REQUIRMENT	**74,096**	**81,939**	**92,351**	**102,638**	**114,153**

4.4. Use of System Charges (UoSC):

UoSC shall include all charges related to use of Distribution System, Use of Transmission System (NTDC), System Operator Services, Market Operator Services, and Metering service provider services. Lately, applicable Transmission Use of System (TUoS) Charges, as already determined by the honorable Authority, compositely represent the charges relating to Transmission Network Operator(s)/Licensee(s), System Operator and Metering Service Provider. Accordingly, the said TUoS Charges remain part of use of system charges till separate charges for each of the said service providers are separately determined by the honorable Authority. Market Operator Fee / Charges (MOF) will be recovered by Market Operator as per the mechanism provided in the Market Commercial Code. Accordingly, without prejudice to being part of Cost of Service of LESCO, these shall not form part of use of system charges to be recovered directly by LESCO.

Revenue Requirement - UoSC (PKR Million)

Description	FY24	FY25	FY26	FY27	FY28
Capacity Transfer Charge/ Stranded Cost	275,853	292,129	309,364	322,073	335,304
Transmission Charge	33,028	34,976	37,040	38,562	40,146
Distribution Margin:					
O & M Cost	52,874	61,862	70,126	78,117	87,196
Depreciation	6,067	6,670	7,323	7,975	8,674
Return on Assets	11,868	13,407	14,902	16,546	18,283
Distribution Margin	**70,808**	**81,939**	**92,351**	**102,638**	**114,153**
Prior Year Adjustments (PYA)	3,288	0	0	0	0
Distribution Margin (with PYA)	**74,096**	**81,939**	**92,351**	**102,638**	**114,153**
Revenue Requirement	**382,977**	**409,044**	**438,755**	**463,273**	**489,603**
In addition to above, Cost of Losses and Cross subsidy Charge will also part of UoSC					

It should be noted that, any other charges as determined by the Authority that may arise due to advent of the open access and market liberalization will also be part of Use of System Charges. These include but not limited to Stranded Cost, Cross Subsidy, and Cost of Losses. The cost of these would also be part of Use of System Charges.

5. Cost of Service Analysis:

5.1. Customer Classification:

Classification by Voltage Level			
Voltage			
132/66kV	**11kV**	**0.4kV**	**0.2 kV**
Industrial **B4**	Industrial **B3**	Residential **A1(b)**	Residential **A1(a)**
Single Point Supply **C3(a)**	Single Point Supply **C2(a)**	Commercial **A2(b)**	Commercial **A2(a)**

Single Point Supply **C3(b)**	Single Point Supply **C2(b)**	Commercial **A2(c)**	Industrial **B1(a)**
	Residential Colonies **H**	Industrial **B1(b)**	Single Point Supply **C1(a)**
	A3 General	Industrial **B2(a)**	
		Industrial **B2(b)**	
		Single Point Supply **C1(b)**	
		Single Point Supply **C1(c)**	
		Agricultural **D1(a)**	
		Agricultural **D1(b)**	
		Agricultural **D2(a)**	
		Agricultural **D2(b)**	
		Temporary Supply **E1(i)**	
		Temporary Supply **E1(ii)**	
		Temporary Supply **E2**	
		Public Lighting **G**	

5.1. Functionalized Allocated Cost:

The allocation of the functionalized and classified costs to customer classes is based on each class' respective service requirements i.e. kWs of capacity, kWhs of energy and the number of customers). These results are based on the revenue requirement for Use of System Charges. Moreover, the results are as under for the FY 2023-24:

Unbundled Cost by Existing Customer Classification

Sr. No.	Traiff Category	Voltage kV	Customer No.	Sales kWh	Generation Cost (Rs.Mln)	Transmission Cost (Rs.Mln)	Distribution Cost (Rs.Mln)	Total UoSC Cost (Rs.Mln)
			(1)	(2)	(3)	(4)	(5)	(6)
1	Residential -- A1(a)	0.2kV	5,349,713	10,213,121,731	136,513.8	16,344.7	37,747.5	190,606.1
2	Residential -- A1(b)	0.4kV	204,014	1,512,051,161	16,674.0	1,996.4	4,351.9	23,022.2
3	Commercial -- A2(a)	0.2kV	707,204	742,524,349	9,935.7	1,189.6	2,746.8	13,872.1
4	Commercial -- A2(b)	0.4kV	573	26,303,022	264.0	31.6	69.8	365.4
5	Commercial -- A2(c)	0.4kV	57,794	1,301,955,720	13,066.1	1,564.4	3,456.7	18,087.2
6	Industrial -- B1(a)	0.2kV	25,692	47,588,381	495.9	59.4	144.3	699.7
7	Industrial -- B2(a)	0.4kV	2,944	30,396,449	248.0	29.7	67.9	345.5
8	Industrial -- B1(b)	0.4kV	53,329	602,443,851	6,278.3	751.7	1,651.8	8,681.8
9	Industrial -- B2(b)	0.4kV	18,603	2,793,534,570	22,788.9	2,728.5	6,236.3	31,753.8
10	Industrial -- B3	11kV	1,400	5,552,385,817	29,280.7	3,505.8	7,577.8	40,364.2
11	Industrial -- B4	132/66kV	45	2,044,511,659	9,488.4	1,136.0	2,246.5	12,871.0
12	Single Point Supply -- C1(a)	0.2kV	142	452,475	3.8	0.5	1.2	5.4
13	Single Point Supply -- C1(b)	0.4kV	131	3,180,263	26.5	3.2	7.2	36.8
14	Single Point Supply -- C2(a)	11kV	44	81,609,080	493.7	59.1	123.3	676.1
15	Single Point Supply -- C3(a)	132/66kV	1	161,624,042	764.9	91.6	180.0	1,036.5
16	Single Point Supply -- C1(c)	0.4kV	135	36,984,136	307.7	36.8	83.9	428.4
17	Single Point Supply -- C2(b)	11kV	65	405,669,345	2,454.4	293.9	612.8	3,361.0
18	Single Point Supply -- C3(b)	132/66kV	12	126,180,777	597.2	71.5	140.5	809.2
19	Agricultural --D1(a)	0.4kV	3,200	1,673,917	17.4	2.1	4.6	24.1
20	Agricultural --D2(a)	0.4kV	14,661	18,489,851	192.4	23.0	50.6	266.0
21	Agricultural --D2(b)	0.4kV	4,610	60,156,307	625.9	74.9	164.7	865.5
22	Agricultural --D1(b)	0.4kV	54,875	1,428,419,608	14,861.7	1,779.4	3,910.9	20,552.0

23	Temporary Supply -- E1(i)	0.4kV	7,252	479,091	7.0	0.8	1.8	9.7
24	Temporary Supply -- E1(ii)	0.4kV	8,896	58,020,437	776.4	93.0	197.7	1,067.0
25	Public Lighting -- G	0.4kV	3,070	157,214,843	1,269.9	152.0	348.1	1,770.1
26	Residential Colonies -- H	11kV	285	9,974,875	71.1	8.5	17.1	96.7
27	A3 General	11kV	20,979	976,054,241	8,349.5	999.7	1,954.7	11,303.8
	Total		**6,539,669**	**28,393,000,000**	**275,853**	**33,028**	**74,096**	**382,977**

5.2. Cross Subsidy & Cost of Losses:

The cross-subsidy charge (CSC) will the amount that will be lost if the BPCs leaves the LESCO. In order to arrive at the CSC, the Revenue based on latest NEPRA rates notified on 25th of July,2022 and Cost of Service for each eligible tariff categories are compared. The following formula has been used:

Cross-Subsidy Charge = (Revenue as per NEPRA – Revenue as per Cost of service)

The cross subsidy for selected tariff categories demand-wise as well as energy-wise is as under:

Cross Subsidy Charge (Energy as base)					
Sr	Voltage	Tariff	Revenue	Cost of Service	Cross Subsidy
No.	kV	Category	Rs/kWh	Rs/kWh	Rs/kWh
			(1)	(2)	(3)
1	132/66kV	B4	25.18	17.60	**7.59**
2	132/66kV	C3(a)	25.26	17.72	**7.53**
3	132/66kV	C3(b)	24.94	17.72	**7.22**
4	11kV	B3	24.98	19.52	**5.46**
5	11kV	C2(a)	26.63	20.59	**6.04**
6	11kV	C2(b)	25.79	20.59	**5.20**
7	11kV	A3 General	26.36	24.05	**2.31**

Cross Subsidy Charge (Demand as base)						
Sr	Voltage	Tariff	Demand	Revenue	CoS	Cross Subsidy
No.	kV	Category	(MW)	Rs/kW/Month	Rs/kW/Month	Rs/kW/Month
			(1)	(2)	(3)	(4)
1	132/66kV	B4	262.89	16,325.81	11,406.34	4,919.47
2	132/66kV	C3(a)	21.19	16,050.52	11,262.98	4,787.54
3	132/66kV	C3(b)	16.55	15,851.42	11,262.98	4,588.44
4	11kV	B3	753.62	15,339.34	11,985.37	3,353.97
5	11kV	C2(a)	12.71	14,253.52	11,020.30	3,233.22
6	11kV	C2(b)	63.17	13,801.44	11,020.30	2,781.14
7	11kV	A3 Gen.	214.90	9,977.17	9,102.05	875.12

When we talk about the cost of losses; currently, it should be noted that the cost of losses is passed to the end users. Moreover, this allowed percentage of losses is determined by the NEPRA. The following formula has been used:

Cost of Losses = Cost of Service as per allowed losses – Cost of service without losses

It is pertinent to mention that the cost of losses would be lessor for the consumers attached on higher voltage and would be accumulated as the voltage levels goes down. Each depending voltage level would bear the loss of ascending voltage level as well.

Sr	Voltage	Tariff	CoS	Cross Subsidy	Cost of Loss	UoSC
No.	kV	Category	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh
			(1)	(2)	(3)	(4)
1	132/66kV	B4	6.30	7.59	0.06	**13.94**
2	132/66kV	C3(a)	6.41	7.53	0.06	**14.00**
3	132/66kV	C3(b)	6.41	7.22	0.06	**13.69**
4	11kV	B3	7.27	5.46	1.44	**14.18**
5	11kV	C2(a)	8.29	6.04	1.52	**15.85**
6	11kV	C2(b)	8.29	5.20	1.52	**15.01**
7	11kV	A3/A2c	11.58	2.31	1.78	**15.67**

ii. Based on Demand (Rs./kW/Month):

Use of system charges recovery in term of Rs./kW/Month metered shall provide guaranteed stream of revenue to cover for costs which are fixed in nature. This may, however, over burden the relevant consumers.

Sr	Voltage	Tariff	CoS	Cross Subsidy	Cost of Loss	UoSC
No.	kV	Category	Rs/kW/Month	Rs/kW/Month	Rs/kW/Month	Rs/kW/Month
			(1)	(2)	(3)	(4)
1	132/66kV	B4	4,079.89	4,919.47	35.97	**9,035.33**
2	132/66kV	C3(a)	4,075.36	4,787.54	35.52	**8,898.42**
3	132/66kV	C3(b)	4,075.36	4,588.44	35.52	**8,699.32**
4	11kV	B3	4,463.36	3,353.97	886.87	**8,704.20**
5	11kV	C2(a)	4,433.82	3,233.22	815.46	**8,482.50**
6	11kV	C2(b)	4,433.82	2,781.14	815.46	**8,030.41**
7	11kV	A3/A2c	4,383.43	875.12	673.52	**5,932.06**

iii. Hybrid Model:

Use of system charges recovery through a hybrid approach, i.e. partly through fixed charge in terms of Rs./kW/Month based on Demand and partly in terms of Rs./kWh may provide a balanced plausible approach for all the involved parties. It is submitted that, in order to ensure level playing field for consumers of SOLR and Competitive Supplier, the recovery of use of system charges may have same charging mechanism.

			Variable				Fixed
Sr	Voltage	Tariff	CoS	Cross Subsidy	Cost of Loss	UoSC	CoS
No.	kV	Category	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kW/Month
			(1)	(2)	(3)	(4)	(5)
1	132/66kV	B4	1.65	7.59	0.06	**9.30**	**3,007.68**
2	132/66kV	C3(a)	1.68	7.53	0.06	**9.27**	**3,007.68**
3	132/66kV	C3(b)	1.68	7.22	0.06	**8.96**	**3,007.68**

4	11kV	B3	2.00	5.46	1.44	6.90	**3,237.77**
5	11kV	C2(a)	2.23	6.04	1.52	**9.80**	**3,237.77**
6	11kV	C2(b)	2.23	5.20	1.52	**8.96**	**3,237.77**
7	11kV	A3/A2c	3.03	2.31	1.78	**7.12**	**3,237.77**

Cost of Service under tariff options is based on the revenue requirement as per use of system charges including stranded cost, Transmission charge and Distribution Charge. If any tariff category other than mentioned above qualifies for BPC at 11/66/132kV, the use of system charge will be charged as determined by authority for such tariff category.

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