



LAHORE ELECTRIC SUPPLY COMPANY LIMITED
OFFICE OF CHIEF EXECUTIVE OFFICER LESCO H/Q

22-A Queens Road, Lahore, Ph. 042-99204820-30

www.lesco.gov.pk

SUB: PETITION FOR DETERMINATION OF USE OF SYSTEM CHARGES (UoSC) – ADDENDUM.

REF: i. Your office Letter No. NEPRA/DG(Tariff)/TRF-100/33375-84 dated 13.09.2023
ii. Your office Letter No. NEPRA/DG(Tariff)/TRF-100/33896-05 dated 22.09.2023
iii. This office Letter No. 151-56/MRD-21 dated 28.09.2023

This is in continuation of the Petition for Determination of Use of System Charge for FY 2023-24 submitted by LESCO vide this office letter dated 28.09.2023 referred to above.

2. As detailed in the Petition for the Use of System Charge (UoSC), the proposed UoSCs were calculated after incorporating:

- The Revenue Requirements and the tariff numbers as determined by the Authority for the FY 2023-24 through Annual Tariff Adjustment,
- Units sold and purchased (kWh) rounding to GWh as considered in the tariff determination,
- Sales mix of FY 2022-23 as Base Year,
- Revenue calculated on Billable MDI; and
- The Cross-Subsidy as part of UoSCs was taken as the difference of relevant Cost of Service and average Determined Tariff of relevant category.

3. However, based on the deliberation with the representatives of Ministry of Energy, calculation of revised UoSC for FY 2023-24 became necessary for considering and incorporating the followings:

- Revenue calculated on GoP applicable tariff instead of Determined Tariff and hence Cross-Subsidy forming part of UoSC is the difference of Cost of Service and average applicable GoP tariff for the relevant category.
- Units Sold and Purchased are taken in kWh instead of rounding them to GWh.
- The Sale Mix and MDI is also taken from the underlying calculations forming basis for tariff determination.

REGISTRAR OFFICE
Diary No: 16161
Date: 11-11-23

Tariff Division Record
7370
By No: 16-11-23
Dated: 16-11-23

TARIFF (DEPARTMENT)

Dir (T-I)..... Dir (T-II).....

Dir (T-III)..... Dir (T-IV).....

Dir (T-V)..... Addl. Dir (RE).....

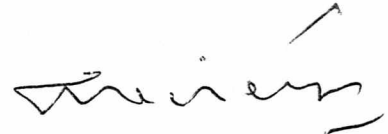
Date: 16-11-23

Forwarded please:	
☒ For nec action	☐ for information
1. DG (Lic.)	2. DG (Admn./HR)
3. DG (E&E)	4. DG (CAD)
5. DG (Trf.)	6. Dir. (Fin.)
7. Dir. (Tech.)	8. Consultant
9. LA	10. Dir. (IT)

For kind information please

Chairman	M (Tech.)
M (Lic.)	M (Trf. & Fin.)
M (Law)	

4. Foregoing in view, the revised Annex-1, and the Cost of Service (Annex-2) are being submitted attached herewith as Addendum to the UoSC Petition already submitted vide above referred letter.


Chief Executive Officer
LESCO

D.A: as Above

✓ To:
The Registrar NEPRA,
NEPRA Tower, Ataturk (East),
G-5/1, Islamabad.

Copy:

1. G.M / Technical Director LESCO
2. G.M / Operation Director LESCO
3. Customer Services Director LESCO
4. Chief Financial Officer
5. Chief Law Officer LESCO
6. Company Secretary LESCO
7. Master File.

No. 178-84 /MRD-21

Dated 10-11-2023

LAHORE ELECTRIC SUPPLY COMPANY
Proposed Use of System Charges
For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)

TARIFF CATEGORY WISE WITH RESPECT TO VOLTAGE LEVEL

Description	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Industrial (132KV)				Industrial (132KV)				Industrial (132KV)			
Tariff Category	B-4				B-4				B-4			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	12.71	12.71		4,639.66	12.49	12.49	4,639.66	12.49	1,391.90	8.74
Transmission Charges/ MOF		380.54	1.02	1.02		373.88	1.01	1.01	373.88	1.01	112.17	0.70
Distribution Use of System		525.89	1.42	1.42		516.68	1.39	1.39	516.68	1.39	155.00	0.97
Total Applicable Costs	6.86	5,628.74	15.15	22.01	6.74	5,530.23	14.88	21.62	5,530.23	14.88	1,659.07	10.42
Cost of Losses					0.12	98.50	0.27	0.39	98.50	0.27		0.27
Total Cost of Service	6.86	5,628.74	15.15	22.01	6.86	5,628.74	15.15	22.01	5,628.74	15.15	1,659.07	10.68
Cross Subsidy				12.10				12.10	4,495.73	12.10		12.10
Average GOP Tariff				34.11				34.11	10,124.47	27.25	1,659.07	22.78

Description	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (132KV)				Bulk (132KV)				Bulk (132KV)			
Tariff Category	C-3a				C-3a				C-3a			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	12.12	12.12		4,639.66	11.91	11.91	4,639.66	11.91	1,391.90	8.34
Transmission Charges/ MOF		380.54	0.98	0.98		373.88	0.96	0.96	373.88	0.96	112.17	0.67
Distribution Use of System		535.29	1.37	1.37		525.93	1.35	1.35	525.93	1.35	157.78	0.95
Total Applicable Costs	6.86	5,638.14	14.47	21.33	6.74	5,539.47	14.22	20.96	5,539.47	14.22	1,661.84	9.95
Cost of Losses					0.12	98.67	0.25	0.37	98.67	0.25		0.25
Total Cost of Service	6.86	5,638.14	14.47	21.33	6.86	5,638.14	14.47	21.33	5,638.14	14.47	1,661.84	10.21
Cross Subsidy				19.49				19.49	7,590.89	19.49		19.49
Average GOP Tariff				40.82				40.82	13,229.04	33.96	1,661.84	29.69

Description	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (132KV)				Bulk (132KV)				Bulk (132KV)			
Tariff Category	C-3b				C-3b				C-3b			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	11.97	11.97		4,639.66	11.76	11.76	4,639.66	11.76	1,391.90	8.23
Transmission Charges/ MOF		380.54	0.96	0.96		373.88	0.95	0.95	373.88	0.95	112.17	0.66
Distribution Use of System		537.83	1.36	1.36		528.42	1.34	1.34	528.42	1.34	158.53	0.94
Total Applicable Costs	6.86	5,640.68	14.30	21.16	6.74	5,541.97	14.05	20.79	5,541.97	14.05	1,662.59	9.84
Cost of Losses					0.12	98.71	0.25	0.37	98.71	0.25		0.25
Total Cost of Service	6.86	5,640.68	14.30	21.16	6.86	5,640.68	14.30	21.16	5,640.68	14.30	1,662.59	10.09
Cross Subsidy				15.77				15.77	6,220.80	15.77		15.77
Average GOP Tariff				36.93				36.93	11,861.48	30.07	1,662.59	25.86

Description	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Commercial (0.4 / 11KV)				Commercial (0.4 / 11KV)				Commercial (0.4 / 11KV)			
Tariff Category	A-2c				A-2c				A-2c			
Generation Cost - Energy	7.61			7.61	6.74			6.74				
Generation Cost - Capacity		5,237.99	19.52	19.52		4,639.66	17.29	17.29	4,639.66	17.29	1,391.90	12.10
Transmission Charges/ MOF		422.10	1.57	1.57		373.88	1.39	1.39	373.88	1.39	112.17	0.98
Distribution Use of System		772.24	2.88	2.88		684.03	2.55	2.55	684.03	2.55	205.21	1.78
Total Applicable Costs	7.61	6,432.34	23.97	31.57	6.74	5,697.58	21.23	27.97	5,697.58	21.23	1,709.27	14.86
Cost of Losses					0.87	734.76	2.74	3.61	734.76	2.74		2.74
Total Cost of Service	7.61	6,432.34	23.97	31.57	7.61	6,432.34	23.97	31.57	6,432.34	23.97	1,709.27	17.60
Cross Subsidy				7.61				7.61	2,041.24	7.61		7.61
Average GOP Tariff				39.18				39.18	8,473.58	31.57	1,709.27	25.20

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Industrial(11KV)				Industrial(11KV)				Industrial(11KV)			
Tariff Category	B-3				B-3				B-3			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	12.24	12.24		4,639.66	11.21	11.21	4,639.66	11.21	1,391.90	7.85
Transmission Charges/ MOF		408.19	0.99	0.99		373.88	0.90	0.90	373.88	0.90	112.17	0.63
Distribution Use of System		816.90	1.97	1.97		748.25	1.81	1.81	748.25	1.81	224.47	1.27
Total Applicable Costs	7.36	6,290.43	15.20	22.56	6.74	5,761.80	13.92	20.66	5,761.80	13.92	1,728.54	9.75
Cost of Losses					0.62	528.63	1.28	1.90	528.63	1.28		1.28
Total Cost of Service	7.36	6,290.43	15.20	22.56	7.36	6,290.43	15.20	22.56	6,290.43	15.20	1,728.54	11.02
Cross Subsidy				11.74				11.74	4,859.29	11.74		11.74
Average GOP Tariff				34.30				34.30	11,149.72	26.94	1,728.54	22.76

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (11KV)				Bulk (11KV)				Bulk (11KV)			
Tariff Category	C-2a				C-2a				C-2a			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	10.23	10.23		4,639.66	9.37	9.37	4,639.66	9.37	1,391.90	6.56
Transmission Charges/ MOF		408.19	0.82	0.82		373.88	0.76	0.76	373.88	0.76	112.17	0.53
Distribution Use of System		862.54	1.74	1.74		790.05	1.60	1.60	790.05	1.60	237.01	1.12
Total Applicable Costs	7.36	6,336.07	12.80	20.15	6.74	5,803.60	11.72	18.46	5,803.60	11.72	1,741.08	8.21
Cost of Losses					0.62	532.47	1.08	1.69	532.47	1.08		1.08
Total Cost of Service	7.36	6,336.07	12.80	20.15	7.36	6,336.07	12.80	20.15	6,336.07	12.80	1,741.08	9.28
Cross Subsidy				18.68				18.68	9,247.50	18.68		18.68
Average GOP Tariff				38.83				38.83	15,583.56	31.48	1,741.08	27.96

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (11KV)				Bulk (11KV)				Bulk (11KV)			
Tariff Category	C-2b				C-2b				C-2b			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	13.49	13.49		4,639.66	12.36	12.36	4,639.66	12.36	1,391.90	8.65
Transmission Charges MOF		408.19	1.09	1.09		373.88	1.00	1.00	373.88	1.00	112.17	0.70
Distribution Use of System		795.26	2.12	2.12		728.43	1.94	1.94	728.43	1.94	218.53	1.36
Total Applicable Costs	7.36	6,268.79	16.70	24.06	6.74	5,741.98	15.30	22.04	5,741.98	15.30	1,722.59	10.71
Cost of Losses					0.62	526.82	1.40	2.02	526.82	1.40		1.40
Total Cost of Service	7.36	6,268.79	16.70	24.06	7.36	6,268.79	16.70	24.06	6,268.79	16.70	1,722.59	12.11
Cross Subsidy				13.19				13.19	4,950.83	13.19		13.19
Average GOP Tariff				37.25				37.25	11,219.63	29.89	1,722.59	25.30

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	General (0.4 / 11KV)				General (0.4 / 11KV)				General (0.4 / 11KV)			
Tariff Category	A3				A3				A3			
Generation Cost - Energy	7.61			7.61	6.74			6.74				
Generation Cost - Capacity		5,237.99	15.06	15.06		4,639.66	13.34	13.34	4,639.66	13.34	1,391.90	9.34
Transmission Charges/ MOF		422.10	1.21	1.21		373.88	1.08	1.08	373.88	1.08	112.17	0.75
Distribution Use of System		817.10	2.35	2.35		723.77	2.08	2.08	723.77	2.08	217.13	1.46
Total Applicable Costs	7.61	6,477.20	18.62	26.23	6.74	5,737.32	16.50	23.23	5,737.32	16.50	1,721.19	11.55
Cost of Losses					0.87	739.88	2.13	3.00	739.88	2.13		2.13
Total Cost of Service	7.61	6,477.20	18.62	26.23	7.61	6,477.20	18.62	26.23	6,477.20	18.62	1,721.19	13.67
Cross Subsidy				11.08				11.08	3,853.45	11.08		11.08
Average GOP Tariff				37.31				37.31	10,330.65	29.70	1,721.19	24.75

LAHORE ELECTRIC SUPPLY COMPANY
Proposed Use of System Charges
For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)

TARIFF CATEGORY WISE WITH RESPECT TO VOLTAGE LEVEL

Description	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Industrial (132KV)				Industrial (132KV)				Industrial (132KV)			
Tariff Category	B-4				B-4				B-4			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	12.71	12.71		4,639.66	12.49	12.49	4,639.66	12.49	463.97	11.24
Transmission Charges/ MOF		380.54	1.02	1.02		373.88	1.01	1.01	373.88	1.01	37.39	0.91
Distribution Use of System		525.89	1.42	1.42		516.68	1.39	1.39	516.68	1.39	51.67	1.25
Total Applicable Costs	6.86	5,628.74	15.15	22.01	6.74	5,530.23	14.88	21.62	5,530.23	14.88	553.02	13.39
Cost of Losses					0.12	98.50	0.27	0.39	98.50	0.27		0.27
Total Cost of Service	6.86	5,628.74	15.15	22.01	6.86	5,628.74	15.15	22.01	5,628.74	15.15	553.02	13.66
Cross Subsidy				12.10				12.10	4,495.73	12.10		12.10
Average GOP Tariff				34.11				34.11	10,124.47	27.25	553.02	25.76

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (132KV)				Bulk (132KV)				Bulk (132KV)			
Tariff Category	C-3a				C-3a				C-3a			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	12.12	12.12		4,639.66	11.91	11.91	4,639.66	11.91	463.97	10.72
Transmission Charges/ MOF		380.54	0.98	0.98		373.88	0.96	0.96	373.88	0.96	37.39	0.86
Distribution Use of System		535.29	1.37	1.37		525.93	1.35	1.35	525.93	1.35	52.59	1.22
Total Applicable Costs	6.86	5,638.14	14.47	21.33	6.74	5,539.47	14.22	20.96	5,539.47	14.22	553.95	12.80
Cost of Losses					0.12	98.67	0.25	0.37	98.67	0.25		0.25
Total Cost of Service	6.86	5,638.14	14.47	21.33	6.86	5,638.14	14.47	21.33	5,638.14	14.47	553.95	13.05
Cross Subsidy				19.49				19.49	7,590.89	19.49		19.49
Average GOP Tariff				40.82				40.82	13,229.04	33.96	553.95	32.54

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (132KV)				Bulk (132KV)				Bulk (132KV)			
Tariff Category	C-3b				C-3b				C-3b			
Generation Cost - Energy	6.86			6.86	6.74			6.74				
Generation Cost - Capacity		4,722.31	11.97	11.97		4,639.66	11.76	11.76	4,639.66	11.76	463.97	10.59
Transmission Charges/ MOF		380.54	0.96	0.96		373.88	0.95	0.95	373.88	0.95	37.39	0.85
Distribution Use of System		537.83	1.36	1.36		528.42	1.34	1.34	528.42	1.34	52.84	1.21
Total Applicable Costs	6.86	5,640.68	14.30	21.16	6.74	5,541.97	14.05	20.79	5,541.97	14.05	554.20	12.65
Cost of Losses					0.12	98.71	0.25	0.37	98.71	0.25		0.25
Total Cost of Service	6.86	5,640.68	14.30	21.16	6.86	5,640.68	14.30	21.16	5,640.68	14.30	554.20	12.90
Cross Subsidy				15.77				15.77	6,220.80	15.77		15.77
Average GOP Tariff				36.93				36.93	11,861.48	30.07	554.20	28.67

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Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Commercial (0.4 / 11KV)				Commercial (0.4 / 11KV)				Commercial (0.4 / 11KV)			
Tariff Category	A-2c				A-2c				A-2c			
Generation Cost - Energy	7.61			7.61	6.74			6.74				
Generation Cost - Capacity		5,237.99	19.52	19.52		4,639.66	17.29	17.29	4,639.66	17.29	463.97	15.56
Transmission Charges/ MOF		422.10	1.57	1.57		373.88	1.39	1.39	373.88	1.39	37.39	1.25
Distribution Use of System		772.24	2.88	2.88		684.03	2.55	2.55	684.03	2.55	68.40	2.29
Total Applicable Costs	7.61	6,432.34	23.97	31.57	6.74	5,697.58	21.23	27.97	5,697.58	21.23	569.76	19.11
Cost of Losses					0.87	734.76	2.74	3.61	734.76	2.74		2.74
Total Cost of Service	7.61	6,432.34	23.97	31.57	7.61	6,432.34	23.97	31.57	6,432.34	23.97	569.76	21.84
Cross Subsidy				7.61				7.61	2,041.24	7.61		7.61
Average GOP Tariff				39.18				39.18	8,473.58	31.57	569.76	29.45

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Industrial(11KV)				Industrial(11KV)				Industrial(11KV)			
Tariff Category	B-3				B-3				B-3			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	12.24	12.24		4,639.66	11.21	11.21	4,639.66	11.21	463.97	10.09
Transmission Charges/ MOF		408.19	0.99	0.99		373.88	0.90	0.90	373.88	0.90	37.39	0.81
Distribution Use of System		816.90	1.97	1.97		748.25	1.81	1.81	748.25	1.81	74.82	1.63
Total Applicable Costs	7.36	6,290.43	15.20	22.56	6.74	5,761.80	13.92	20.66	5,761.80	13.92	576.18	12.53
Cost of Losses					0.62	528.63	1.28	1.90	528.63	1.28		1.28
Total Cost of Service	7.36	6,290.43	15.20	22.56	7.36	6,290.43	15.20	22.56	6,290.43	15.20	576.18	13.81
Cross Subsidy				11.74				11.74	4,859.29	11.74		11.74
Average GOP Tariff				34.30				34.30	11,149.72	26.94	576.18	25.55

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (11KV)				Bulk (11KV)				Bulk (11KV)			
Tariff Category	C-2a				C-2a				C-2a			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	10.23	10.23		4,639.66	9.37	9.37	4,639.66	9.37	463.97	8.43
Transmission Charges/ MOF		408.19	0.82	0.82		373.88	0.76	0.76	373.88	0.76	37.39	0.68
Distribution Use of System		862.54	1.74	1.74		790.05	1.60	1.60	790.05	1.60	79.00	1.44
Total Applicable Costs	7.36	6,336.07	12.80	20.15	6.74	5,803.60	11.72	18.46	5,803.60	11.72	580.36	10.55
Cost of Losses					0.62	532.47	1.08	1.69	532.47	1.08		1.08
Total Cost of Service	7.36	6,336.07	12.80	20.15	7.36	6,336.07	12.80	20.15	6,336.07	12.80	580.36	11.63
Cross Subsidy				18.68				18.68	9,247.50	18.68		18.68
Average GOP Tariff				38.83				38.83	15,583.56	31.48	580.36	30.30

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	Bulk (11KV)				Bulk (11KV)				Bulk (11KV)			
Tariff Category	C-2b				C-2b				C-2b			
Generation Cost - Energy	7.36			7.36	6.74			6.74				
Generation Cost - Capacity		5,065.34	13.49	13.49		4,639.66	12.36	12.36	4,639.66	12.36	463.97	11.12
Transmission Charges/ MOF		408.19	1.09	1.09		373.88	1.00	1.00	373.88	1.00	37.39	0.90
Distribution Use of System		795.26	2.12	2.12		728.43	1.94	1.94	728.43	1.94	72.84	1.75
Total Applicable Costs	7.36	6,268.79	16.70	24.06	6.74	5,741.98	15.30	22.04	5,741.98	15.30	574.20	13.77
Cost of Losses					0.62	526.82	1.40	2.02	526.82	1.40		1.40
Total Cost of Service	7.36	6,268.79	16.70	24.06	7.36	6,268.79	16.70	24.06	6,268.79	16.70	574.20	15.17
Cross Subsidy				13.19				13.19	4,950.83	13.19		13.19
Average GOP Tariff				37.25				37.25	11,219.63	29.89	574.20	28.36

Description	Cost of Service				Cost of Service				Open Access Charges			
	Variable	Fixed		Total	Variable	Fixed		Total	MDI Based	Volumetric	Hybrid	
	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kWh	Rs./kW /Mnth	Rs./kWh	Rs./kW /Mnth	Rs./kWh
Consumption Category	General (0.4 / 11KV)				General (0.4 / 11KV)				General (0.4 / 11KV)			
Tariff Category	A3				A3				A3			
Generation Cost - Energy	7.61			7.61	6.74			6.74				
Generation Cost - Capacity		5,237.99	15.06	15.06		4,639.66	13.34	13.34	4,639.66	13.34	463.97	12.01
Transmission Charges/ MOF		422.10	1.21	1.21		373.88	1.08	1.08	373.88	1.08	37.39	0.97
Distribution Use of System		817.10	2.35	2.35		723.77	2.08	2.08	723.77	2.08	72.38	1.87
Total Applicable Costs	7.61	6,477.20	18.62	26.23	6.74	5,737.32	16.50	23.23	5,737.32	16.50	573.73	14.85
Cost of Losses					0.87	739.88	2.13	3.00	739.88	2.13		2.13
Total Cost of Service	7.61	6,477.20	18.62	26.23	7.61	6,477.20	18.62	26.23	6,477.20	18.62	573.73	16.97
Cross Subsidy				11.08				11.08	3,853.45	11.08		11.08
Average GOP Tariff				37.31				37.31	10,330.65	29.70	573.73	28.05

LAHORE ELECTRIC SUPPLY COMPANY



The Life for Progress

Cost of Service Study

For the Tariff Control Period 2023-24

22/A QUEEN'S ROAD, 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.

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
- ii. Classification
- iii. Allocation

3. Key Assumptions & Parameters:

- i. LESCO submitted its Distribution of Power & Supply of Power Multi-Year Tariff Petitions for control period FY 2023-24 to FY 2027-28 on 31-Jan-2023. Following to it, the hearing was held on 08-Aug-2023; therefore, the decision is awaited.
- ii. For the sake of revenue requirement, LESCO used the revenue requirement as determined by NEPRA in Interim Tariff for the FY 2023-24 for its Distribution and Supply of power functions (Case # NEPRA/TRF-603 & TRF-604/LESCO dated 14th July, 2023) which was notified on 26th July, 2023.
- iii. Model Year, Prior Year and Base year perceived as FY 2023-24, FY 2022-23 and FY 2021-22 respectively
- iv. Energy Transfer Rate, Capacity Transfer Rate, and Transmission Charge including Market Operator Fee assumed in line with the above NEPRA determination at



average price of Rs. 6.74 Rs/kWh, Rs. 7,735 Rs/kW/month, and Rs. 623 Rs/kW/month

- v. Consumer Growth were taken as per average growth of last five years at 6%
- vi. LESCO Line losses for the FY 2023-24 assumed as 10% in line with the NEPRA determination regarding Investment Plan for the tariff control period 2023-24 to 2027-28 consisting of 132KV at 1.75%, 11KV at 6.10%, and 440V/220V at 2.15%
- vii. The average monthly demand has been computed based on the actual billing for the financial year 2022-23 and stands at 4,454 kW per month while we also considered average monthly demand in line with NEPRA determination for FY 2023-24.
- viii. The single coincidental peak (CP1) has been used as allocation factor. CP1 was arrived on the basis of LESCO's system peak on 11KV feeders on 05-July-2022 at 15:00 hours, the then allocated among tariff categories on the basis of sanctioned load

4. Revenue Requirement:

According to the Section 6(u) of NFPRA Guidelines for determination of consumer end tariff, Revenue Requirement is the minimum amount of revenue required by a company to run its operations smoothly. Moreover, Section 13(b) elucidates that it comprising inter-alia of cost of power purchase, cost of transmitting such power, Distribution Margin (cost of capital for rate base, depreciation of assets and expenses for operation and maintenance). Further, the Section 16, explains for formula as under:

Revenue Requirement = Power Purchase Price (PPP) + Distribution Margin (DM) + Prior Year Adjustment (PYA)

$$RR_D = PPP_D + DM_D \pm PYA_D$$

Table 1: Revenue Requirement:

Description	FY 2023-24	
	Rs.million	Rs/KWh (Adjusted)
Units Received [MkWh]	25,518	
Units Sold [MkWh]	22,966	
Units Lost [MkWh]	2,552	
Units Lost [%]	10.0%	
Energy Transfer Charge	171,942	7.49
Capacity Transfer Charge	369,610	16.09
Transmission Charge/ MOF	29,785	1.30
Power Purchase Price	571,337	24.88
Pay & Allownces	23,990	1.04
Post Retirement Benefits	19,514	0.85

Repair & Maintainance	3,367	0.15
Travelling Allownce / Vehicle maintenance	3,105	0.14
Depreciation	5,721	0.25
Return on Assets	14,092	0.61
Other Income	-13,159	-0.57
Margin	56,631	2.47
Revenue Requirement	627,968	27.34

5. Cost of Service Analysis:

5.1. Customer Classification:

The customer categories mapped in line with the respective voltage levels. It is worth mentioning here that some of the tariff categories at different voltages level have been classified as under.

Table 2: Customer Classification with Voltage level:

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 H1	Electric Vehicles A2(d)	Single Point Supply C1(a)
	Railway Traction H2	Industrial B1(b)	Temporary Supply E1(i)
		Industrial B2(a)	Temporary Supply E1(ii)
		Industrial B2(b)	Temporary Supply E2
		Single Point Supply C1(b)	
		Single Point Supply C1(c)	
		Agricultural D1(a)	
		Agricultural D1(b)	
		Agricultural D2(a)	
		Agricultural D2(b)	
		Public Lighting G	

Among this classification, the BPCs has been selected according to defined criteria i.e., Load of 1MW and above.

5.1. Functionalization:

These include identification of each cost element as one of the basic utility service "functions" including Generation, Transmission, and Distribution. Therefore, the cost elements staged against each function as under.

Table 3: Functionalization of Utility Service:

Description	Generation	Transmission	Distribution
Energy Transfer Charge	✓		
Capacity Transfer Charge	✓		
Transmission Charge/ MOF		✓	
Pay & Allowances			✓
Post-Retirement Benefits			✓
Repair & Maintenance			✓
Vehicle maintenance			✓
Depreciation			✓
Return on Assets			✓
Other Income			✓

5.2. Classification:

The classification of the functionalized costs based on the billing component/determinant that each is associated with i.e. kW of capacity, kWh of energy, and number of customers. The cost was classified according to minimum system classification coefficients.

Table 4: Classification of the Functionalized Costs:

Description	Energy	Demand	Customer
Generation Cost (Energy)	100%		
Generation Cost (capacity)		100%	
Transmission UoSC		100%	
MOF		100%	
O&M		75%	25%
Depreciation		84%	16%
Other Income		93%	7%
RORB		86%	14%
Margin		75%	15%
PYA		-	-
Revenue Requirement	27.4%	70.3%	2.3%

5.1. Allocation:

The allocation of the functionalized and classified costs to voltage levels and customer classes was made based on each class's respective service requirements including kW of capacity, kWh of energy, and the number of customers. The Voltage and customer categories wise cost allocation is detailed as under:

Table 5: Functionalized Cost by Voltage Level Customer Classification:

Line No	Voltage Class	Customer		Sales	Demand	Generation Cost		Transmission	Distribution Cost		Total Cost
		No.		MkWh	MW	Energy (PKR.M)	Demand (PKR.M)		Demand (PKR.M)	Customer (PKR.M)	
1	0.2 kV	6,110,415		8,456	2,541	64,328	159,690	12,869	18,922	6,197	262,006
2	0.4kV	434,788		7,640	1,985	58,119	124,745	10,053	14,781	4,315	212,014
3	11kV	1,731		4,783	968	35,187	58,839	4,741	6,788	2,688	108,242
4	132/66 kV	63		2,086	465	14,308	26,336	2,122	1,849	1,091	45,706
Total		6,546,998		22,966	5,958	171,942	369,610	29,785	42,340	14,291	627,968

Table 6: Functionalized Rates by Voltage Level Customer Classification:

Line No	Voltage Class	Generation Tariff		Transmission Tariff	Distribution Tariff		Total Tariff
		Energy (Rs/kWh)	Demand (Rs/kW/Month)		Demand (Rs/kW/Month)	Customer/Month	
1	0.2 kV	7.61	5,237.99	422.10	620.66	84.51	30.98
2	0.4kV	7.61	5,237.99	422.10	620.66	827.11	27.75
3	11kV	7.36	5,065.34	408.19	584.34	129,359.55	22.63
4	132/66 kV	6.86	4,722.31	380.54	331.60	1,435,098.10	21.91
Total		7.49	5,169.72	416.60	592.21	131.90	27.34

Table 7: Functionalized Cost by Existing Customer Classification:

Tariff	Voltage Class	Customer	Sales	Demand	Generation Cost		Transmission	Distribution Cost		Total Cost
		No.	MkWh	MW	Energy (PKR.M)	Demand (PKR.M)	Demand (PKR.M)	Demand (PKR.M)	Customer (PKR.M)	(PKR.M)
Residential										
A1(a)	0.2kV	5,384,002	7,804	2,256	59,366	141,773	11,425	16,799	5,719	235,081
A1(b)	0.4kV	204,020	1,126	350	8,568	22,014	1,774	2,609	636	35,601
Commercial										
A2(a)	0.2kV	686,599	564.5	246	4,294	15,437	1,244	1,829	414	23,217
A2(b)	0.4kV	519	17.2	10	131	629	51	75	10	894
A2(c)	0.4kV	58,700	1,154.8	359	8,785	22,539	1,816	2,671	652	36,462
A2(d)	0.4kV	1	0.2	0.07	2	4	0.4	1	0.1	7
Industrial										
B1(a)	0.2kV	23,989	38	20	293	1,240	100	147	28	1,807
B2(a)	0.4kV	2,754	19	6	147	384	31	46	11	619
B1(b)	0.4kV	51,404	607	162	4,618	10,204	822	1,209	343	17,197
B2(b)	0.4kV	18,233	2,344	602	17,829	37,862	3,051	4,486	1,324	64,553
B3	11kV	1,357	4,398	886	32,351	53,825	4,337	6,209	2,471	99,195
B4	132/66kV	49	1,818	408	12,470	23,108	1,862	1,623	951	40,014
Single Point Supply / Bulk										
C1(a)	0.2kV	133	0.16	0.09	1.20	5.36	0.43	0.64	0.12	8
C1(b)	0.4kV	117	2	0.77	14	48	4	6	1	73
C2(a)	11kV	39	61	10	447	622	50	72	34	1,226
C3(a)	132/66kV	1	127	27	873	1,543	124	108	67	2,715
C1(c)	0.4kV	126	30	13	225	806	65	95	17	1,208
C2(b)	11kV	63	317	70	2,330	4,275	345	493	178	7,621
C3(b)	132/66kV	13	141	30	965	1,685	136	118	74	2,978
Agricultural										
D1(a)	0.4kV	3,016	1	0.1	4	7	1	1	0	12
D2(a)	0.4kV	18,205	76	14	580	896	72	106	43	1,698
D2(b)	0.4kV	53,421	1,273	235	9,681	14,774	1,191	1,751	719	28,116
D1(b)	0.4kV	232	1	1	9	58	5	7	1	79
Temporary Supply/ General / Others										
E1(i)	0.2kV	6,860	0.4	0	3.1	10	0.8	1.2	0.3	15
E1(ii)	0.2kV	8,657	45.9	17	349.2	1,040	83.8	123.2	33.6	1,630
E2	0.2kV	175	2.9	3	22.4	186	15.0	22.0	2.2	247
G	0.4kV	2,986	139.9	28	1,064.3	1,729	139.4	204.9	79.0	3,217
H1	11kV	139	7.8	2	57.3	116	9.3	13.4	4.4	200
H2	11kV	133	0.0	0	0.2	0.3	0.0	0.0	0.0	1
A3	0.4kV	21,054	849	203	6,461	12,791	1,031	1,516	480	22,277
Total		6,546,998	22,966	5,958	171,942	369,610	29,785	42,340	14,291	627,968

Table 8: Functionalized Rates by Existing Customer Classification:

Tariff	Voltage Class	Generation Tariff		Transmission Tariff	Distribution Tariff		Total Tariff
		Energy (Rs/kWh)	Demand (Rs/kW/Month)	Cost (Rs/kW/Month)	Demand (Rs/kW/Month)	Customer/ Month	Energy (Rs/kWh)
Residential							
A1(a)	0.2kV	7.61	5,237.99	422.10	620.66	88.52	30.12
A1(b)	0.4kV	7.61	5,237.99	422.10	620.66	259.84	31.61
Commercial							
A2(a)	0.2kV	7.61	5,237.99	422.10	620.66	50.20	41.13
A2(b)	0.4kV	7.61	5,237.99	422.10	620.66	1,558.35	52.08
A2(c)	0.4kV	7.61	5,237.99	422.10	620.66	926.00	31.57
A2(d)	0.4kV	7.61	5,237.99	422.10	620.66	10,809.98	31.57
Industrial							
B1(a)	0.2kV	7.61	5,237.99	422.10	620.66	97.95	46.97
B2(a)	0.4kV	7.61	5,237.99	422.10	620.66	330.79	31.97
B1(b)	0.4kV	7.61	5,237.99	422.10	620.66	555.88	28.33
B2(b)	0.4kV	7.61	5,237.99	422.10	620.66	6,050.46	27.54
B3	11kV	7.36	5,065.34	408.19	584.34	151,726.02	22.56
B4	132/66k V	6.86	4,722.31	380.54	331.60	1,605,165.49	22.01
Single Point Supply / Bulk							
C1(a)	0.2kV	7.36	5,237.99	422.10	620.66	74.78	47.53
C1(b)	0.4kV	7.61	5,237.99	422.10	620.66	742.54	39.58
C2(a)	11kV	7.36	5,065.34	408.19	584.34	72,223.41	20.15
C3(a)	132/66k V	6.86	4,722.31	380.54	331.60	5,120,898.15	21.33
C1(c)	0.4kV	7.61	5,237.99	422.10	620.66	11,051.30	40.79
C2(b)	11kV	7.36	5,065.34	408.19	584.34	234,528.32	24.06
C3(b)	132/66k V	6.86	4,722.31	380.54	331.60	475,262.69	21.16
Agricultural							
D1(a)	0.4kV	7.61	5,237.99	422.10	620.66	8.90	21.90
D2(a)	0.4kV	7.61	5,237.99	422.10	620.66	197.29	22.25
D2(b)	0.4kV	7.61	5,237.99	422.10	620.66	1,121.35	22.09
D1(b)	0.4kV	7.61	5,237.99	422.10	620.66	249.69	64.24
Temporary Supply/ General / Others							
E1(i)	0.2kV	7.61	5,237.99	422.10	620.66	3.67	36.60
E1(ii)	0.2kV	7.61	5,237.99	422.10	620.66	323.83	35.51
E2	0.2kV	7.61	5,237.99	422.10	620.66	1,028.72	83.87
G	0.4kV	7.61	5,237.99	422.10	620.66	2,205.75	22.99
H1	11kV	7.36	5,065.34	408.19	584.34	2,629.95	25.72
H2	11kV	7.36	5,065.34	408.19	584.34	8.09	25.72
A3	0.4kV	7.61	5,237.99	422.10	620.66	1,898.69	26.23
Total		7.49	5,169.72	416.60	592.21	181.90	27.34

Table 9: Volumetric Cost / Rates by Voltage Level Customer Classification:

Line No	Voltage Class	Sales	Allocated Cost			Fixed Charge	Variable Charge	Total Rate
		MkWh	Fixed Cost (PKR.M)	Variable Cost (PKR.M)	Total Cost (PKR.M)	Rs/kW/Month	Rs/kWh	Rs/kWh
1	0.2 kV	8,456	191,481	70,525	262,006	6,280.75	8.34	30.98
2	0.4kV	7,640	149,579	62,435	212,014	6,280.75	8.17	27.75
3	11kV	4,783	70,368	37,874	108,242	6,057.87	7.92	22.63
4	132/66 kV	2,086	30,307	15,399	45,706	5,434.45	7.38	21.91
Total		22,966	441,735	186,233	627,968	6,178.52	8.11	27.34

Table 10: Volumetric Rates by Existing Customer Classification:

Tariff	Voltage Class	Sales	Allocated Cost			Fixed Charge	Variable Charge	Total Rate
		MkWh	Fixed Cost (PKR.M)	Variable Cost (PKR.M)	Total Cost (PKR.M)	Rs/kW/Month	Rs/kWh	Rs/kWh
Residential								
A1(a)	0.2kV	7,804	169,997	65,084	235,081	6,280.75	8.34	30.12
A1(b)	0.4kV	1,126	26,397	9,204	35,601	6,280.75	8.17	31.61
Commercial								
A2(a)	0.2kV	564	18,510	4,708	23,217	6,280.75	8.34	41.13
A2(b)	0.4kV	17	754	140	894	6,280.75	8.17	52.08
A2(c)	0.4kV	1,155	27,025	9,437	36,462	6,280.75	8.17	31.57
A2(d)	0.4kV	0.2	5.4	1.9	7	6,280.75	8.17	31.57
Industrial								
B1(a)	0.2kV	38	1,486	321	1,807	6,280.75	8.34	46.97
B2(a)	0.4kV	19	461	158	619	6,280.75	8.17	31.97
B1(b)	0.4kV	607	12,236	4,961	17,197	6,280.75	8.17	28.33
B2(b)	0.4kV	2,344	45,400	19,153	64,553	6,280.75	8.17	27.54
B3	11kV	4,398	64,372	34,823	99,195	6,057.87	7.92	22.56
B4	132/66kV	1,818	26,593	13,421	40,014	5,434.45	7.38	22.01
Single Point Supply / Bulk								
C1(a)	0.2kV	0.2	6	1	8	6,280.75	8.09	47.53
C1(b)	0.4kV	1.8	58	15	73	6,280.75	8.17	39.58
C2(a)	11kV	60.8	744	482	1,226	6,057.87	7.92	20.15
C3(a)	132/66kV	127.3	1,775	939	2,715	5,434.45	7.38	21.33
C1(c)	0.4kV	29.6	966	242	1,208	6,280.75	8.17	40.79
C2(b)	11kV	316.8	5,113	2,508	7,621	6,057.87	7.92	24.06
C3(b)	132/66kV	140.7	1,939	1,039	2,978	5,434.45	7.38	21.16
Agricultural								
D1(a)	0.4kV	0.6	8	5	12	6,280.75	8.17	21.90
D2(a)	0.4kV	76.3	1,075	624	1,698	6,280.75	8.17	22.25
D2(b)	0.4kV	1,272.7	17,716	10,400	28,116	6,280.75	8.17	22.09
D1(b)	0.4kV	1.2	69	10	79	6,280.75	8.17	64.24
Temporary Supply/ General / Others								
E1(i)	0.2kV	0.4	12	3	15	6,280.75	8.34	36.60

E1(ii)	0.2kV	45.9	1,247	383	1,630	6,280.75	8.34	35.51
E2	0.2kV	2.9	223	25	247	6,280.75	8.34	83.87
G	0.4kV	139.9	2,074	1,143	3,217	6,280.75	8.17	22.99
H1	11kV	7.8	139	62	200	6,057.87	7.92	25.72
H2	11kV	0.02	0.41	0.18	0.59	6,057.87	7.92	25.72
A3	0.4kV	849.29	15,336.85	6,940.31	22,277.16	6,280.75	8.17	26.23
Total		22,966	441,735	186,233	627,968	6,178.52	8.11	27.34

Table 11: Unbundled Cost/ Rates by Voltage Level Customer Classification:

Line No	Voltage Class	Sales	Generation	Transmission	Distribution	Generation	Transmission	Distribution	Total Rate
		MkWh	Cost(PKR.M)	Cost(PKR.M)	Cost(PKR.M)	per kWh	per kWh	per kWh	per kWh
1	0.2 kV	8,456	224,019	12,869	25,119	26.49	1.52	2.97	30.98
2	0.4kV	7,640	182,865	10,053	19,097	23.93	1.32	2.50	27.75
3	11kV	4,783	94,025	4,741	9,475	19.66	0.99	1.98	22.63
4	132/66 kV	2,086	40,644	2,122	2,940	19.48	1.02	1.41	21.91
Total		22,966	541,553	29,785	56,631	23.58	1.30	2.47	27.34

Table 12: Unbundled Cost/ Rates by Existing Customer Classification:

Tariff	Voltage Class	Sales	Generation	Transmission	Distribution	Generation	Transmission	Distribution	Total Rate
		MkWh	Cost(PKR.M)	Cost(PKR.M)	Cost(PKR.M)	per kWh	per kWh	per kWh	per kWh
Residential									
A1(a)	0.2kV	7,804	201,139	11,425	22,518	25.77	1.46	2.89	30.12
A1(b)	2	1,126	30,582	1,774	3,245	27.15	1.58	2.88	31.61
Commercial									
A2(a)	3	564	19,730	1,244	2,243	34.95	2.20	3.97	41.13
A2(b)	4	17	759	51	84	44.22	2.95	4.90	52.08
A2(c)	5	1,155	31,323	1,816	3,323	27.12	1.57	2.88	31.57
A2(d)	6	0.2	6	0.36	1	27.12	1.57	2.88	31.57
Industrial									
B1(a)	7	38	1,532	100	175	39.83	2.60	4.55	46.97
B2(a)	8	19	531	31	56	27.45	1.60	2.92	31.97
B1(b)	9	607	14,822	822	1,552	24.42	1.35	2.56	28.33
B2(b)	10	2,344	55,692	3,051	5,810	23.76	1.30	2.48	27.54
B3	11	4,398	86,177	4,337	8,680	19.60	0.99	1.97	22.56
B4	12	1,818	35,578	1,862	2,573	19.57	1.02	1.42	22.01
Single Point Supply / Bulk									
C1(a)	13	0.2	7	0.43	1	40.25	2.65	4.63	47.53
C1(b)	14	2	62	4	7	33.80	2.11	3.67	39.58
C2(a)	15	61	1,070	50	106	17.59	0.82	1.74	20.15
C3(a)	16	127	2,415	124	175	18.98	0.98	1.37	21.33
C1(c)	17	30	1,031	65	112	34.81	2.19	3.79	40.79
C2(b)	18	317	6,606	345	671	20.85	1.09	2.12	24.06
C3(b)	19	141	2,650	136	192	18.83	0.96	1.36	21.16

Agricultural									
D1(a)	20	1	11	1	1	19.05	0.92	1.92	21.90
D2(a)	21	76	1,477	72	149	19.35	0.95	1.96	22.25
D2(b)	22	1,273	24,456	1,191	2,469	19.22	0.94	1.94	22.09
D1(b)	23	1	67	5	8	54.37	3.77	6.11	64.24
Temporary Supply/ General / Others									
E1(i)	24	0.4	13	1	1	31.18	1.90	3.53	36.60
E1(ii)	25	46	1,389	84	157	30.26	1.83	3.42	35.51
E2	26	3	208	15	24	70.60	5.08	8.20	83.87
G	27	140	2,794	139	284	19.97	1.00	2.03	22.99
H1	28	8	173	9	18	22.24	1.20	2.28	25.72
H2	29	0.02	1	0.03	0.05	22.24	1.20	2.28	25.72
A3	32	849	19,251	1,031	1,995	22.67	1.21	2.35	26.23
Total		22,966	541,553	29,785	56,631	23.58	1.30	2.47	27.34

5.2. Revenue to Cost Ratio:

For the sake of analysis, LESCO used the regulated rates as determined by NEPRA in Interim Tariff for the FY 2023-24 for its Distribution and Supply of power functions (Case # NEPRA/TRF-603 & TRF-604/LESCO dated 14th July, 2023) which was then notified on 26th July, 2023:

Table 13: Applicable Tariff Rates:

TARIFF CATEGORIES		NEPRA		GOP
		Fixed Charges	Variable Charges	Variable Charges
		Rs/kW/M	Rs/kWh	Rs/kWh
A1 (a)	RESIDENTIAL -A1			
i	Up to 50 Units Life line		6.80	3.95
ii	51-100 units Life line		10.74	7.74
iii	01-100 Units		10.74	7.74
iv	101-200 Units		13.06	10.06
v	01-100 Units		16.33	16.48
vi	101-200 Units		21.80	22.95
vii	201-300 Units		24.99	27.14
viii	301-400Units		28.38	32.03
ix	401-500Units		30.59	35.24
x	501-600Units		32.01	36.66
xi	601-700Units		33.15	37.80
xii	Above 700 Units		38.07	42.72
A1(b)	Time of Use (TOU) - Peak		37.24	41.89
	Time of Use (TOU) - Off-Peak		30.92	35.57
E-1(i)	Temporary E-1 (i)		37.38	42.03
	COMMERCIAL - A2			
A2 (a)	Commercial		33.04	37.75
A2 (b)	Sanctioned load 5 kw and above	500	34.71	39.43
A2 (c)	Time of Use (TOU) - Peak (A-2)	500	36.64	41.35
	Time of Use (TOU) - Off-Peak	500	30.67	35.38
A2 (d)	Electric Vehicles		27.79	39.43
E-1 (ii)	Temporary E-1 (ii)		33.39	38.14
	INDUSTRIAL			
B1(a)	B1		29.42	34.33
B1(b)	B1- TOU (Peak)		32.98	37.89
	B1 - TOU (Off-peak)		27.42	32.33
B2 (a)	B2	500	28.92	33.83
B2 (b)	B2 - TOU (Peak)	500	32.92	37.83
	B2 - TOU (Off-peak)	500	27.21	32.12
B3	B3 - TOU (Peak)	460	32.92	37.83
	B3 - TOU (Off-peak)	460	27.12	32.03
B4	B4 - TOU (Peak)	440	32.92	37.83

	B4 - TOU (Off-peak)	440	27.02	31.93
E-2	Temporary E-2		30.50	35.41
	BULK			
C1 (a)	C1(a) up to 5 kW		33.72	38.43
C1 (b)	C1(b) exceeding 5 kW	500	33.22	37.93
C1 (c)	Time of Use (TOU) - Peak	500	36.64	41.35
	Time of Use (TOU) - Off-Peak	500	30.04	34.75
C2 (a)	C2 Supply at 11 kV	460	33.02	37.73
C2 (b)	Time of Use (TOU) - Peak	460	36.64	41.35
	Time of Use (TOU) - Off-Peak	460	29.84	34.55
C3 (a)	C3 Supply above 11 kV	440	32.92	37.63
C3 (b)	Time of Use (TOU) - Peak	440	36.64	41.35
	Time of Use (TOU) - Off-Peak	440	29.74	34.45
	AGRICULTURAL TUBE WELLS - Tariff D			
D1 (a)	D1 Scarp		29.72	34.43
D2 (a)	D2 Agricultural Tube-wells	200	19.39	24.10
D1 (b)	Time of Use (TOU) - Peak	200	32.64	37.35
	Time of Use (TOU) - Off-Peak	200	25.39	30.10
D2 (b)	Time of Use (TOU) - Peak	200	19.39	24.10
	Time of Use (TOU) - Off-Peak	200	19.39	24.10
G	Public Lighting G		32.75	37.43
H	Residential Colonies H		32.74	37.43
K1	Special Contracts - Tariff K (AJK)			
K1 (i)	Time of Use (TOU) - Peak			
	Time of Use (TOU) - Off-Peak			
A3	General Service		32.68	37.31

Table 14: Revenue (NEPRA) by Voltage Level Customer Classification:

Line No	Voltage Class	Sales	Revenue (NEPRA)			Avg. Tariff
		MkWh	Fixed (PKR.M)	Variable (PKR.M)	Total (PKR.M)	Rs/kWh
1	0.2 kV	8,456	68	198,409	198,477	23.47
2	0.4kV	7,640	10,706	214,696	225,401	29.50
3	11kV	4,783	6,754	135,121	141,876	29.66
4	132/66 kV	2,086	3,110	59,105	62,215	29.82
Total		22,966	20,638	607,332	627,969	27.34

Table 15: Revenue (GOP) by Voltage Level Customer Classification:

Line No	Voltage Class	Sales	Revenue (GOP)			Avg. Tariff
		MkWh	Fixed (PKR.M)	Variable (PKR.M)	Total (PKR.M)	Rs/kWh
1	0.2 kV	8,456	68	209,714	209,781	24.81
2	0.4kV	7,640	10,706	252,637	263,342	34.47
3	11kV	4,783	6,754	158,530	165,284	34.56
4	132/66 kV	2,086	3,110	69,295	72,405	34.71
Total		22,966	20,638	690,175	710,813	30.95

Table 16: Revenue by Existing Customer Classification:

Tariff	Voltage Class	Sales	Revenue			Avg. Tariff (NEPRA)	Avg. Tariff (GOP)
		MkWh	Fixed (PKR.M)	Variable (NEPRA) (PKR.M)	Variable (GOP) (PKR.M)	Rs/kWh	Rs/kWh
Residential							
A1(a)	0.2kV	7,804	0	175,488	185,206	22.49	23.73
A1(b)	0.4kV	1,126	0	36,135	41,374	32.08	36.73
Commercial							
A2(a)	0.2kV	564	0	18,650	21,308	33.04	37.75
A2(b)	0.4kV	17	34	596	677	36.68	41.40
A2(c)	0.4kV	1,155	3,149	36,658	42,097	34.47	39.18
A2(d)	0.4kV	0	0	6	9	27.79	39.43
Industrial							
B1(a)	0.2kV	38	0	1,132	1,321	29.42	34.33
B2(a)	0.4kV	19	33	560	655	30.62	35.53
B1(b)	0.4kV	607	0	17,039	20,019	28.07	32.98
B2(b)	0.4kV	2,344	6,015	65,683	77,191	30.59	35.50
B3	11kV	4,398	6,249	122,989	144,582	29.39	34.30
B4	132/66kV	1,818	2,540	50,546	59,473	29.20	34.11
Single Point Supply / Bulk							
C1(a)	0.2kV	0	0	5	6	33.72	38.43
C1(b)	0.4kV	2	2	61	70	34.29	39.00

C2(a)	11kV	61	67	2,008	2,295	34.12	38.83
C3(a)	132/66kV	127	405	4,189	4,789	36.11	40.82
C1(c)	0.4kV	30	42	912	1,052	32.21	36.92
C2(b)	11kV	317	439	9,869	11,361	32.54	37.25
C3(b)	132/66kV	141	165	4,370	5,033	32.22	36.93
Agricultural							
D1(a)	0.4kV	1	0	17	20	29.72	34.43
D2(a)	0.4kV	76	68	1,480	1,839	20.28	24.99
D2(b)	0.4kV	1,273	1,430	24,677	30,671	20.51	25.22
D1(b)	0.4kV	1	1	34	40	28.53	33.24
Temporary Supply/ General / Others							
E1(i)	0.2kV	0	0	15	17	37.38	42.03
E1(ii)	0.2kV	46	0	1,533	1,751	33.39	38.14
E2	0.2kV	3	0	90	104	30.50	35.41
G	0.4kV	140	0	4,582	5,237	32.75	37.43
H1	11kV	8	0	255	291	32.74	37.43
H2	11kV	0	0	1	1	32.76	37.43
A3	0.4kV	849	0	27,753	31,687	32.68	37.31
Total	22,966	27.34	27.34	30.95	3.61	0.00	Total

Table 17: (Subsidy)/Cross Subsidy by Voltage Level Customer Classification:

Line No	Voltage Class	Sales	CoS	Avg. Tariff (NEPRA)	Avg. Tariff (GOP)	GOP Tariff - (Subsidy)/Cross Subsidy	NEPRA Tariff - (Subsidy)/Cross Subsidy
		MkWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh
1	0.2 kV	8,456	30.98	23.47	24.81	(6.18)	(7.51)
2	0.4kV	7,640	27.75	29.50	34.47	6.72	1.75
3	11kV	4,783	22.63	29.66	34.56	11.93	7.03
4	132/66 kV	2,086	21.91	29.82	34.71	12.80	7.91
Total		22,966	27.34	27.34	30.95	3.61	0.00

Table 18: (Subsidy)/Cross Subsidy by Existing Customer Classification:

Tariff	Voltage Class	Sales	CoS	Avg. Tariff (NEPRA)	Avg. Tariff (GOP)	GOP Tariff - (Subsidy)/Cross Subsidy	NEPRA Tariff - (Subsidy)/Cross Subsidy
		MkWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh	Rs/kWh
Residential							
A1(a)	0.2kV	7,804	30.12	22.49	23.73	(6.39)	(7.64)
A1(b)	0.4kV	1,126	31.61	32.08	36.73	5.13	0.47
Commercial							
A2(a)	0.2kV	564	41.13	33.04	37.75	(3.38)	(8.09)
A2(b)	0.4kV	17	52.08	36.68	41.40	(10.68)	(15.40)
A2(c)	0.4kV	1,155	31.57	34.47	39.18	7.61	2.90
A2(d)	0.4kV	0	31.57	27.79	39.43	7.86	(3.78)
Industrial							
B1(a)	0.2kV	38	46.97	29.42	34.33	(12.64)	(17.55)
B2(a)	0.4kV	19	31.97	30.62	35.53	3.55	(1.36)
B1(b)	0.4kV	607	28.33	28.07	32.98	4.65	(0.26)
B2(b)	0.4kV	2,344	27.54	30.59	35.50	7.96	3.05
B3	11kV	4,398	22.56	29.39	34.30	11.74	6.83
B4	132/66kV	1,818	22.01	29.20	34.11	12.10	7.19
Single Point Supply / Bulk							
C1(a)	0.2kV	0	47.53	33.72	38.43	(9.10)	(13.81)
C1(b)	0.4kV	2	39.58	34.29	39.00	(0.58)	(5.29)
C2(a)	11kV	61	20.15	34.12	38.83	18.68	13.97
C3(a)	132/66kV	127	21.33	36.11	40.82	19.49	14.78
C1(c)	0.4kV	30	40.79	32.21	36.92	(3.86)	(8.57)
C2(b)	11kV	317	24.06	32.54	37.25	13.19	8.48
C3(b)	132/66kV	141	21.16	32.22	36.93	15.77	11.06
Agricultural							
D1(a)	0.4kV	1	21.90	29.72	34.43	12.53	7.82
D2(a)	0.4kV	76	22.25	20.28	24.99	2.73	(1.98)
D2(b)	0.4kV	1,273	22.09	20.51	25.22	3.13	(1.58)
D1(b)	0.4kV	1	64.24	28.53	33.24	(31.00)	(35.71)
Temporary Supply/ General / Others							
E1(i)	0.2kV	0	36.60	37.38	42.03	5.43	0.78
E1(ii)	0.2kV	46	35.51	33.39	38.14	2.63	(2.12)

E2	0.2kV	3	83.87	30.50	35.41	(48.46)	(53.37)
G	0.4kV	140	22.99	32.75	37.43	14.44	9.76
H1	11kV	8	25.72	32.74	37.43	11.71	7.02
H2	11kV	0	25.72	32.76	37.43	11.71	7.04
A3	0.4kV	849	26.23	32.68	37.31	11.08	6.45
Total		22,966	27.34	27.34	30.95	3.61	0.00

6. Use of System Charges (UoSC):

Use of System Charges (UoSC) 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. Lately, applicable Transmission Use of System (TUoS) Charges, as already determined by the honorable Authority, compositely represent the charges relating to use of Transmission System, System Operator Services, Metering Service Provider services. 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 Charges will be recovered by Market Operator as per the mechanism provided in the Market Commercial Code. It should be noted that, any other charges may 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.

6.1. Stranded Cost:

We assume that the "Stranded Assets" are synonymous with "capacity" that is no longer on average economic. Despite the uneconomic characteristics of this capacity, there may be periods when the system operator can and will decide to use the available capacity due to legacy contracts. Thus, while the capacity is uneconomic and is, therefore, "stranded" it is available for the system operator to use. Around 30% of the revenue is recovered through BPCs in LESCO and capacity cost is the major component to be recovered. If the BPCs opt for other supplier, then this cost may be recovered through shifting the burden on non-eligible BPCs or otherwise. Therefore, we assume that capacity charges would be recovered even if the BPCs leave the LESCO.

6.2. Cross Subsidy Charge:

Prior to implementing open access, including wheeling, and the associated re-structuring of the power sector, cross subsidies are a common characteristic. The intent of implementing a cross subsidy is to mitigate the costs of electricity, primarily to low income consumers. A cross subsidy, which occurs when one class or group of electricity consumers is charged a higher price in order to provide a subsidy to another class of electricity consumers who are charged a lower price. The cross-subsidy charge (CSC) will be the amount that will be lost if the BPCs leaves the LESCO. In order to arrive at the CSC, the Revenue based on latest GOP rates notified on 26th of July, 2023 and Cost of Service for each eligible tariff categories are compared. The following formula has been used:

Cross-Subsidy Charge = (Revenue as per GOP – Cost of Service)

6.1. Tariff Options:

i. Volumetric (Rs./kWh):

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 at the Market this option may not provide a balanced approach to promised sharing of risks and rewards under CTBCM regime (Annex-1).

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 (Annex-1).

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 (Annex-1).

▪ Proposal-I

In the hybrid proposal, it has been assumed that 70% of the total cost including Stranded cost, Transmission use of system charges and MOF, and Distribution use of system charges would be recovered through Rs./kWh, and 30% of the cost would be recovered through Rs./kW/Month.

▪ Proposal-II

In the hybrid proposal, it has been assumed that 90% of the total cost including Stranded cost, Transmission use of system charges and MOF, and Distribution use of system charges would be recovered through Rs./kWh, and 10% of the cost would be recovered through Rs./kW/Month.

Other Important Aspects:

- Cost of Service under tariff options is based on the revenue requirement determined by NEPRA for the financial year 2023-24. The Petitions of LESCO for Supply as well as Distribution tariff are awaited for the Authority decision. It is requested that same may be allowed for indexation/ adjustment after decision of the Authority.
- The above Cost of Service Study Report (FY 2023-24) is a sincere human effort to arrive at judicious assessment of functional (generation, transmission, market

operator, distribution and customer services). costs for each category of consumers demonstrating the needs and parameters associated with relevant category.

- The results of the study are to be used for the purposes of rate making of Use of System Charges for possible eligible Bulk Power Consumers.
- The Fully Allocated Cost of Service (FACOS) model used for the purpose of this study is realistically elaborate, professionally structured in line with international practices and reasonably accurate to provide equitable results in terms of costs associated with demonstrated needs of the customers. Human errors and omissions are; however, expected.
- The underlying assumptions made and considerations relied upon in carrying out this Cost-of-Service Study were adopted with all possible care, without any prejudice and have been disclosed in details to the extent possible.
- Inherent and unforeseen limitations of the FACOS model, assumptions made and consideration relied upon may not be as exhaustive as expected; accordingly, for the purposes of rate making of Use of System Charges, certain out of the model iterations may be necessary.
- The impact of loss has been also presented separately only, excluding energy charge.

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