SUKKUR ELECTRIC POWER COMPANY

Office of the Chief Executive Officer, SEPCO, Sukkur

Phone: 0719310044
Fax: 071-5620237

Office of The
Director General MIRAD,
Al-Sehra Building 2nd Floor,
Near Dist: Jail, Minara Road, Sukkur

No. DG//MIRAD/ SEPCO/ 1062-70 Dated: 20/ 11 2023

The Registrar,
National Electric Power Regulatory Authority (NEPRA),
NEPRA Tower, Ataturk Avenue (East), G-5/1,
Islamabad.

Subject: **SUBMISSION OF PETITION REGARDING USE OF SYSTEM CHARGES.**

Reference: - Your office letter no. NEPRA/DG/Tariff/TRF-100/33375-85/Dated/13.09.2023

As desired vide your letter under reference and in Pursuance of Section 7- of NEPRA's Open Access (Interconnection & Wheeling of Electric Power) Regulations 2022. We are pleased to submit attached herewith petition for determination of use of system charges **('UoSC Petition")** after incorporating revised tariff numbers as determined by NEPRA for the FY-2023-24 as Annex thereto , forming fundamental basis for the instant UoSC petition. Documents submitted herewith as per regulatory requirements.

It is requested that Keeping into consideration the financial health of SEPCO, It was unanimously decided by PSM committee on CTBCM that provision under Claus 04 of Open Access Regulations under head Part-II (Interconnection) may be reviewed and SEPCO, as Licensee could not Finance, construct and operate interconnection facilities for competitive generators for their access to SEPCO network for their BPCs located outside SEPCO network.

In this matter for any clarification or additional information or any other matter relating to Petition, Mr. Abdul Karim Memon (Director General MIRAD) SEPCO (0300-0338818), E-Mail: dgmiradsepco@email.com) is designated as focal person.

DA/as above.

Chief Executive Officer
SEPCO, SUKKUR

Copy to:

1. Head MOD, CPPA-G, Islamabad.
2. Chairman Policy, Strategy, Other Operations and Market Committee, for information.
3. Company Secretary BOD, SEPCO, for information of Chairman BOD and PSM members.
4. Chief Technical Officer, SEPCO, Sukkur.
5. Chief Engineer Development (PMU), SEPCO, Sukkur.
6. Chief Commercial Officer, SEPCO, Sukkur.
7. Finance Director, SEPCO, Sukkur.
8. PSO to CEO SEPCO Sukkur.

SUKKUR ELECTRIC POWER COMPANY

PETITION FOR DETERMINATION

OF

USE OF SYSTEM CHARGES *(UoSC)*

FOR

FY 2023-24

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Background

As a result, of restructuring, Sukkur Electric Power Company (SEPCO) incorporated under Companies Ordinance 1984, under certificate of incorporation NO. 0074036 on 23rd November 2010 and obtained Certificate for Commencement of Business on 18th August, 2011.

The SEPCO is responsible for Supply of Electricity to almost 0.84 Million Consumers of 10 districts of Sindh province except areas under the jurisdiction of KESC and HESCO, The project covers districts Sukkur, Jacobabad, Shikarpur, Larkana, Ghotki, Kamber, Kandhkot, Dadu, Naushero Feroze, and Khairpur as set out in SEPCO's Distribution License No.21/DL/2011, granted by NEPRA under the NEPRA Act. The Company is Headed by a Chief Executive Officer (CEO) and SEPCO Board of Directors.

Under the Provisions of Regulation of Generation, Transmission & Distribution of Electric Power (Amendment) Act, 2018, SEPCO is deemed to hold a license for Supply of Electric Power to perform the function of Sale of Electric Power in addition to existing Licensee as Distribution Company. The Distribution function now shall, under Section 20, be limited to ownership, operation, management or control of Distribution Facilities for the movement or delivery to Consumers of electric power. The deemed licensee status is expiring on May 01, 2023 and, accordingly, SEPCO has already submitted an Application for Grant of Licence for Supply of Electric Power to the Authority.

After the approval of Competitive Trading Bilateral Contract Market ***(CTBCM)*** by the honorable Authority on November 12, 2020, several implementation actions were taken. This included issuance of License for the Market Operator (MO), approval of Market Commercial Code (MCC) and promulgation of several Regulations to ensure smooth implementation of CTBCM and create balance in roles, rights and obligations of the stakeholders in the CTBCM.

Grounds of Petition:

Pursuant to the relevant directions of National Electricity Policy 2021 (***"NE Policy-2021"***) read with Section-7 of the NEPRA's 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:

a. In compliance with the NE Policy-2021 Clause ***4.4***, Clause ***5.5.2(f)***, Clause ***5.5.2(g)***, Clause ***5.5.4*** and Clause ***5.6.5*** and;

b. In compliance with the Section-7 of Open Access Regulations, each distribution licensee, in consultation with the respective supplier of last resort shall, within ninety days following the date of notification ***(i.e. 02.11.2022)*** of Open Access Regulation, submit separate petition to the Authority for Determination of Use of System Charges ***(UoSC)***.

Directions in National Electricity Policy, 2021:

The National Electricity Policy, 2021 issued under Section 14A of the NEPRA's 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 petition, are provided in the below lines.

Clause 4.4 (Financial Viability):

Clause 4.4.1 *"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 (Market Development and Operation):

Clause 5.5.2(f) *"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) *"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 *"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 (Cost of Service, Tariff and Subsidies):

Clause 5.6.5 *"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."

Legal and Regulatory Framework:

The approved design of Competitive Trading 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 per provision of 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:

Clause 2 (Definition) of the NEPRA's Act 1997 (Amended):

Clause 2(ii) *"**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 Section-2 of NEPRA's 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:*

(i) an electric power supplier for supply of electric power to its consumer(s); or
(ii) a captive generating plant for delivery of the electric power from generation facility to the destination of its use; or
(iii) 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) Section-5 (Obligation to provide open access) 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."*

Section-7 (Filing of petition and determination of use of system charges) is reproduced hereunder:

"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."

Section-8 (Wheeling of electric power) is reproduced hereunder:

"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."

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 SEPCO 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 SEPCO is entitled for recovery of Use of System Charges ***(UoSC)*** 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. 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, 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.
b. Market Operator Fee (MOF)
c. Charges 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 SEPCO, these shall not form part of use of system charges to be recovered directly by SEPCO.
d. 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, 2021 (referred above).

e. 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.

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 this use of system charges as requested under this instant petition.

Explanation:

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 SEPCO 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. (SOLR)

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

i. Power Factor Penalty as provided in applicable documents shall remain applicable in addition to the Use of System Charges.

j. 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.
2.	System Operator Charge / Fee	System Operator through NTDC.
3.	MSP Charge / Fee	MSP through NTDC
4.	Distribution Use of System Charge	SEPCO as Distribution Licensee
5.	Cross Subsidy	SEPCO as SOLR (Supply Licensee)
6.	Stranded Capacity Costs	SEPCO as SOLR (Supply Licensee)

Basis of Use of System Charges

The instant petition for determination of use of system charges has been developed based on Cost of Service Study (FY 2023-24) carried out by SEPCO forming integral part of this petition and provided separately as attached here to as ***Annex-A***.

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, MSP, 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. 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 at the Market this option may

not provide a balanced approach to promised sharing of risks and rewards under CTBCM regime.

iii) Use of system charges recovery through a hybrid approach, i.e. partly through fixed charge in terms of Rs./kW/Month (subject to minimum MDI compared to the contracted load) 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.

As already mentioned, ***Annex-B*** to this petition also include proposed rates to be charged under each of the Three (3) options narrated above.

It is, however, noted that the methodology and process as per FACOS model, for the purpose of allocation of demand (kW or MW) related costs, allocates single system peak demand (of SEPCO) to different categories to arrive at the allocation base. This allocation, irrespective of being rational, judicious and in line with international norms, results in less than actual (billable) MDIs of respective customers. Accordingly, taking the same MW demand as denominator for demand (MW) based rate making will result in higher per MW rates. In consideration thereof, a second proposal (Proposal-2) for arriving at demand based rates as per option (i) above, i.e. whole cost recovery in terms of Rs./kW and option (iii), hybrid partial cost recovery in terms of Rs./kW; has been developed **based on billable MDIs** of B-3, B-4, C-2(b) & C-3(a) customer categories and provided as ***Annex-B1*** herewith.

Mechanism for Adjustment / Indexation of Use of System Charges:

Each component of use of system charges detailed in the instant petition shall be subject to periodic adjustment / indexations. Whenever these components are adjusted for regulated consumers of the suppliers of last resort, at the same time, the corresponding adjustment in the relevant component of the proposed Use of System Charges for eligible BPCs shall simultaneously be made.

Applicable Categories / Classification of Eligible BPCs:

While, in terms of existing stipulation contained in the Act, a consumer who purchases or receives electric power, ***at one premises,*** in an amount of ***one megawatt or more*** is considered as Bulk Power Consumer, following position, with regard to consumer with one megawatt or more load at connection voltage 11 kV and above, is brought out for consideration:

Sr. No.	Consumption Category	Tariff Category	Voltage Level	Remarks
1.	Industrial Consumer ranging from 500 kW to 5000 kW.	B-3	11/33 kV	B-3 consumer ranges from 500 kW to 5000 kW. It is clarified here that the consumers of this category below 1MW shall not be treated as eligible BPCs for CTBCM. The use of system charges indicated for B-3 category will apply in case of eligible BPC.
2.	Industrial	B-4	66/132 kV	B-4 consumer ranges above 5000 kW.
3.	Bulk Supply Ranging from 500 kW to 5000 kW.	C-2(b)	11/33 kV	Bulk Supply consumer ranges from 500 kW to 5000 kW. Although, the Bulk Supply C-2(a) customers are at 11/33 KV connection level. It is clarified here that the consumers of this category below 1MW shall not be treated as eligible BPCs for CTBCM. The use of system charges indicated for C-2(b) category will apply for C-2(a). Further, the consumers falling under the resale shall not be considered as eligible BPC.
4.	Bulk Supply	C-3(a)	66/132 kV	C-3(a) consumer ranges above 5000 kW. The use of system charges indicated for C-3(a) category will apply for C-3(b).
5.	Housing Colonies attached to Industries	H	N/A	As per the existing tariffs, no kW sanctioned load quantification or connection voltage is applicable to H tariff category. Further, these connections are resale in nature. Accordingly, these are not considered BPC for the purposes of this petition.

Other Important Aspects:

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

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.

Captive Power Producers and Users:

(1) A captive power producer / user using the SEPCO's 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-Subsidy and Stranded Capacity cost, shall fully apply.

(2) 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.

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, 2021.

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 above submissions, it is, humbly requested that the Authority may kindly consider and determine the Use of System Charges as calculated in the attached *Annex-B* and/or *Annex-B1,* which contain detailed analysis.

While discussing the draft petition for Use of System Charges Under Open Access and wheeling Regulations, in the First Policy Strategy and Market Reforms (PSM) committee meeting provision of rule 4 of Open Access Regulations as under was discussed in length, which reproduced as under

4. Financing, construction and operation of the interconnection facilities.

(1) **Where a generation company intends to connect to a network licensee, the concerned network licensee shall be responsible for financing, construction, and operations of the interconnection facilities in accordance with the Grid Code or Distribution Code, as may be applicable, in accordance with its investment plan approved by the Authority.**

(2) **The network licensee may raise financing for the interconnection facilities from internal resources, local or foreign lenders or any other source including the generation company on mutually agreed terms, and may include such costs in relevant regulatory filings with the Authority. The inclusion of the interconnection facilities in the asset**

base of the network licensee shall depend on the terms and conditions of such financing or commercial agreements.

(3) In the event where network licensee shows its inability to construct the interconnection facilities due to technical and/or financial constraints following options may be exercised for the interconnection purposes:

(a) The generation company may arrange the financing required for the construction of interconnection facilities by the network licensee. The network licensee and generation company shall enter into an agreement to mutually decide the terms and conditions for reimbursement of financing to the generation company; or

(b) A special purpose company, may construct, operate and maintain the dedicated network and interconnection facilities for connecting with the national grid after obtaining relevant licence from the Authority.

It was unanimously concluded that the Financial health of SEPCO is weak therefore could not Finance, construct and operate interconnection facilities for competitive generators for their access.

Sukkur Electric Power Company (SEPCO)

Annex-B

Cost of Service & Proposed Use of System Charges

For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)

(PROPOSAL – 1)

ANNEX-B	PROPOSAL-1	

Cost of Service & Proposed Use of System Charges
For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)

Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-1)			
Consumption Category	Industrial				Industrial				Industrial B-3 (1 MW or More)			
Tariff Category	B-3				B-3				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	8.21	-	-	8.21	7.19	-	-	7.19	360.08	1.01	-	1.01
Generation Cost - Capacity		6,389.68	17.95	17.95		5,602.09	15.74	15.74	5,602.09	15.74	1,680.63	11.01
Transmission Charges		516.42	1.45	1.45		452.77	1.27	1.27	452.77	1.27	135.83	0.89
Market Operator's Fee		2.90	0.01			2.54	0.01					
Distribution Use of System		1,950.05	5.48	5.48		1,709.69	4.80	4.80	1,709.69	4.80	512.91	3.36
Total Applicable Costs	8.21	8,859.05	24.88	33.08	7.19	7,767.09	21.82	29.00	8,124.62	22.82	2,329.36	16.28
Impact of allowed losses					1.01	1,091.97	3.07	4.08	1,091.97	3.07	327.59	2.15
Total Cost of Service	8.21	8,859.05	24.88	33.08	8.21	8,859.05	24.88	33.08	9,216.59	25.89	2,656.95	18.42
Cross Subsidy				7.39				7.39	2,632.62	7.39		7.39
Average Applicable Tariff				40.4750				40.47	11,849.21	33.28	2,656.95	25.82

ANNEX-B	PROPOSAL-1				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-1)			
Consumption Category	Bulk Supply				Bulk Supply				Bulk Supply C-2(b) (1 MW or More)			
Tariff Category	C2(b)				C2(b)				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	8.21			8.21	7.19			7.19	281.06	1.01		1.01
Generation Cost - Capacity		6,389.68	22.99	22.99		5,602.09	20.16	20.16	5,602.09	20.16	1,680.63	14.11
Transmission Charges		516.42	1.86	1.86		452.77	1.63	1.63	452.77	1.63	135.83	1.14
Market Operator's Fee		2.90	0.01			2.54	0.01					
Distribution Use of System		232.50	6.78	6.78		1,652.38	5.95	5.95	1,652.38	5.95	495.71	4.16
Total Applicable Costs	8.21	7,141.50	31.64	39.84	7.19	7,709.78	27.74	34.93	7,988.30	28.75	2,312.17	20.43
Impact of allowed losses					1.01	1,083.91	3.90	4.91	1,083.91	3.90	325.17	2.73
Total Cost of Service	8.21	7,141.50	31.64	39.8387	8.21	8,793.69	31.64	39.84	9,072.21	32.65	2,637.34	23.16
Cross Subsidy				2.76				2.76	767.07	2.76		2.76
Average Applicable Tariff				42.5989				42.60	9,839.28	35.41	2,637.34	25.92

ANNEX-B	PROPOSAL-1				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-1)			
Consumption Category	Industrial				Industrial				Industrial B-4			
Tariff Category	B4				B4				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	7.30			7.30	7.19			7.19	21.00	0.10		0.10
Generation Cost - Capacity		5,681.06	27.44	27.44		5,602.09	27.06	27.06	5,602.09	27.06	1,680.63	18.94
Transmission Charges		459.15	2.22	2.22		452.77	2.19	2.19	452.77	2.19	135.83	1.53
Market Operator's Fee		2.90	0.01			2.86	0.01					
Distribution Use of System		163.07	6.52	6.52		1,330.86	6.43	6.43	1,330.86	6.43	399.26	4.50
Total Applicable Costs	7.30	6,306.18	36.19	43.47	7.19	7,388.57	35.69	42.87	7,406.71	35.77	2,215.71	25.07
Impact of allowed losses					0.10	104.15	0.50	0.60	104.15	0.50	31.25	0.35
Total Cost of Service	7.30	6,306.18	36.19	43.4707	7.30	7,492.73	36.19	43.47	7,510.86	36.28	2,246.96	25.42
Cross Subsidy				(3.8863)				(3.89)	(804.63)	(3.89)		(3.89)
Average Applicable Tariff				39.5844				39.58	6,706.24	32.39	2,246.96	21.54

ANNEX-B	PROPOSAL-1				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-1)			
Consumption Category	Bulk Supply				Bulk Supply				Bulk Supply C-3(a)			
Tariff Category	C3(a)				C3(a)				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	7.30			7.30	7.19			7.19	18.50	0.10		0.10
Generation Cost - Capacity		5,681.06	31.14	31.14		5,602.09	30.71	30.71	5,602.09	30.71	1,680.63	21.50
Transmission Charges		459.15	2.52	2.52		452.77	2.48	2.48	452.77	2.48	135.83	1.74
Market Operator's Fee		2.90	0.02			2.86	0.02					
Distribution Use of System		143.67	7.29	7.29		1,311.73	7.19	7.19	1,311.73	7.19	393.52	5.03
Total Applicable Costs	7.30	6,286.78	40.97	48.25	7.19	7,369.44	40.40	47.58	7,385.08	40.49	2,209.97	28.37
Impact of allowed losses					0.10	103.88	0.57	0.67	103.88	0.57	31.17	0.40
Total Cost of Service	7.30	6,286.78	40.97	48.25	7.30	7,473.33	40.97	48.25	7,488.96	41.06	2,770.49	35.54
Cross Subsidy				(4.73)				(4.73)	(862.67)	(4.73)		(4.729)
Average Applicable Tariff				43.5200				43.52	6,626.29	36.33	2,770.49	30.81

Sukkur Electric Power Company (SEPCO)

Annex-B-1

Cost of Service & Proposed Use of System Charges

For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)

(PROPOSAL – 2)

ANNEX-B	PROPOSAL-2				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-2)			
Consumption Category	Industrial				Industrial				Industrial B-3 (1 MW or More)			
Tariff Category	B-3				B-3				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	8.21			8.21	7.19			7.194	236.78	1.01		1.01
Generation Cost - Capacity		4,201.76	17.95	17.947		3,683.85	15.74	15.735	3,683.85	15.735	1,105.15	11.01
Transmission Charges		339.59	1.45	1.451		297.73	1.27	1.272	297.73	1.272	89.32	0.89
Market Operator's Fee		1.91	0.01			1.67	0.01					
Distribution Use of System		1,282.32	5.48	5.477		1,124.26	4.80	4.802	1,124.26	4.80	337.28	3.36
Total Applicable Costs	8.205	5,825.58	24.883	33.08	7.194	5,107.52	21.816	29.00	5,342.63	22.82	1,531.75	16.28
Impact of allowed losses					1.01	718.06	3.07	4.08	718.06	3.07	215.42	2.15
Total Cost of Service	8.205	5,825.58	24.883	33.08	8.205	5,825.58	24.883	33.08	6,060.69	25.89	1,747.17	18.42
Cross Subsidy				7.39				7.39	1,731.17	7.39		7.39
Average Applicable Tariff				40.47				40.47	7,791.86	33.28	1,747.17	25.82

ANNEX-B	PROPOSAL-2				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-2)			
Consumption Category	Bulk Supply				Bulk Supply				Bulk Supply C-2(b) (1 MW or More)			
Tariff Category	C2(b)				C2(b)				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	8.21			8.21	7.19			7.19	371.66	1.01		1.01
Generation Cost - Capacity		8,449.42	22.99	22.99		7,407.94	20.16	20.16	7,407.94	20.16	2,222.38	14.11
Transmission Charges		682.89	1.86	1.86		598.72	1.63	1.63	598.72	1.63	179.62	1.14
Market Operator's Fee		3.83	0.01			3.36	0.01					
Distribution Use of System		307.44	6.78	6.78		2,185.03	5.95	5.95	2,185.03	5.95	655.51	4.16
Total Applicable Costs	8.205	9,443.59	31.644	39.84	7.194	10,195.05	27.743	34.93	10,563.35	28.75	3,057.51	20.43
Impact of allowed losses					1.01	1,433.31	3.90	4.91	1,433.31	3.90	429.99	2.73
Total Cost of Service	8.205	9,443.59	31.644	39.84	8.205	11,628.37	31.644	39.84	11,996.66	32.65	3,487.50	23.16
Cross Subsidy				2.76				2.76	1,014.34	2.76		2.76
Average Applicable Tariff				42.60				42.60	13,011.00	35.41	3,487.50	25.92

ANNEX-B	PROPOSAL-2				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-2)			
Consumption Category	Industrial				Industrial				Industrial B-4			
Tariff Category	B4				B4				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	7.30			7.30	7.19			7.19	36.17	0.10		0.10
Generation Cost - Capacity		9,785.59	27.44	27.44		9,649.57	27.06	27.06	9,649.57	27.06	2,894.87	18.94
Transmission Charges		790.88	2.22	2.22		779.89	2.19	2.19	779.89	2.19	233.97	1.53
Market Operator's Fee		5.00	0.01			4.93	0.01					
Distribution Use of System		280.90	6.52	6.52		2,292.40	6.43	6.43	2,292.40	6.43	687.72	4.50
Total Applicable Costs	7.295	10,862.37	36.189	43.47	7.194	12,726.78	35.686	42.87	12,758.02	35.77	3,816.56	25.07
Impact of allowed losses					0.10	179.40	0.50	0.60	179.40	0.50	53.82	0.35
Total Cost of Service	7.295	10,862.37	36.189	43.47	7.295	12,906.18	36.189	43.47	12,937.42	36.28	3,870.38	25.42
Cross Subsidy				(3.89)				(3.89)	(1,385.97)	(3.89)		(3.89)
Average Applicable Tariff				39.58				39.58	11,551.46	32.39	3,870.38	21.54

ANNEX-B	PROPOSAL-2				Cost of Service & Proposed Use of System Charges For Possible Eligible Bulk Power Consumers (One MW or More at One Premises)							
Cost Assessment Level	Cost of Service (Inclusive of Energy Loss Impact)				Cost of Service (Separated Energy Loss Impact)				PROPOSED Use of System Charges (Proposal-2)			
Consumption Category	Bulk Supply				Bulk Supply				Bulk Supply C-3(a)			
Tariff Category	C3(a)				C3(a)				MDI Based	Volumatric	Hybrid	
	Variable	Fixed		Total	Variable	Fixed		Total				
	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kWh	Rs./kW/ Month	Rs./kWh	Rs./kW/ Month	Rs./kWh
Generation Cost - Energy	7.30			7.30	7.19			7.19	20.75	0.10		0.10
Generation Cost - Capacity		6,372.36	31.14	31.14		5,288.12	30.71	30.71	5,288.12	30.71	1,586.44	21.50
Transmission Charges		515.02	2.52	2.52		427.39	2.48	2.48	427.39	2.48	128.22	1.74
Market Operator's Fee		3.25	0.02			2.70	0.02					
Distribution Use of System		161.16	7.29	7.29		1,238.21	7.19	7.19	1,238.21	7.19	371.46	5.03
Total Applicable Costs	7.295	7,051.79	40.970	48.25	7.194	6,956.42	40.400	47.58	6,974.47	40.49	2,086.12	28.37
Impact of allowed losses					0.10	1,426.30	0.57	0.67	1,426.30	0.57	427.890	0.40
Total Cost of Service	7.295	7,051.79	40.970	48.25	7.295	8,382.72	40.970	48.25	8,400.77	41.06	3,013.69	35.54
Cross Subsidy				(4.7)				(4.7)	(967.65)	(4.7)		(4.7)
Average Applicable Tariff				43.52				43.52	7,433.13	36.33	3,013.69	30.81
C3(a) MDI BASED ON AS PER ACTUAL MAXIMUM BILLING 09.2023 @ 3550 KW												

SUKKUR ELECTRIC POWER COMPANY

COST OF SERVICE STUDY

FOR

FY 2023-24
(Revised)

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Cost of Service (COS) 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 Study (FACOS) Model:

FACOS is a model developed in MS Excel with the support of USAID for DISCO's to conduct Cost of Service Study. The methodology used to build the FACOS Model follows very closely the standards that are used internationally. The Model performs the standard three steps encompassed in most of Cost Studies, namely, functionalization, classification, and allocation.

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:

1. **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).
2. **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).
3. **Allocation** – The allocation of the functionalized and classified costs to customer classes, based on respective service requirements / parameters e.g. kWs of capacity, kWhs of energy and the number of customers) of each class.

Fundamental Assumptions:Table 1

Description	FY 2023-24
Allowed Rate of Return (WACC) (NEPRA Determination)	21.14%
Capital Work in Progress ("CWIP")	CWIP 100%
Working Capital Allowance to be included in Rate Base	NO
Prior Year Adjustment (Rs. In Millions)	6,365.24
Demand Allocation Methodology (highest coincident peak in the year).	1 CP
Alternative is 12CP that means average of 12 months coincident peak.	(Single Annual Peak)
Customer Growth %	3.00%
Model Year	FY 2023-24
Base Year	FY 2022-23

Projections and Revenue Requirement for Financial Year 2023-24:

The Revenue Requirement (RR) is the fundamental input to the Cost of Service of SEPCO for allocation to different categories of consumers based on Capacity (kW), Energy (kWh) and number of consumers. The Table 2 below explains the basis and sources for arriving at Revenue Requirement (or overall Cost of Service) of SEPCO.

Table 2

Description	FY 2023-24	Source
Units Purchased (M.Kwh)	4,232.00	Projections Approved by NEPRA- FY 2023-24, vide No. NEPRA/R/DG (Trf-566 & 567)/SEPCO/2021/18225-31/dated:-14.07.2023/ Page-21-22, Clauses 11.1
Units Sold (M.Kwh)	3,526.00	
Assessed T&D Losses	16.68%	Determined in MYT
Consumer Growth	3.00%	
Average Monthly MDI (MW)	884	NEPRA Projections vide NEPRA/R/DG(Tariff)/TRF-100/18249-53, Dated:- 14.07.2023, Page-03, Claus 11
(Non-Coincidence at CDPs)		
Peak Demand (MW at 11 kv Coincident	973	
Average Monthly MDI (MW) Recorded (Non Coincidental at Meters)	348.58	As per NEPRA Determination
Energy Purchase Price (Rs/kWh)	6.79	**MYT- Tariff Indexation as Approved by NEPRA, Projections Approved by NEPRA- FY 2023-24, vide No. NEPRA/R/DG (Trf-566 & 567)/SEPCO/2021/18225-31/dated:-14.07.2023**
Capacity Charges (Rs/kW/Month)	5898	
T.UoS Rate (Rs/kW/Month)/MOF	477	
Energy Charges (Rs. M)	28,725	
Capacity Charges (Rs. M)	62,594	
T.UoS Rate (Rs. M)	5,059	
Power Purchase Price (Rs. M)	96,378	
O&M Cost (Rs. M)	10,403.00	
Depreciation (Rs. M)	1705	
RORB (Rs. M)	10288	
Gross Distribution Margin	22,396	
Other Income (Rs. M)	-(1,952)	
Distribution Margin (net)	20,443.8	
Prior Year Adjustment (Rs. M)	6365.24	
Revenue Requirement (Rs. M)	123187.47	
Cost per KWH	34.94	

Summary of Revenue Requirement:

The extract of Revenue Requirement is provided in the **Table 3** below:

Table 3

Summary of Revenue Requirement	
Description	**FY 2023-24 Rs. (M)**
Energy Charges	28,725
Capacity Charges	62,594
T.UoS Rate/ MOF	5,058.94
Power Purchase Price	96,378
O&M Cost	10,403
Depreciation	1,705
RORB	10,288
Other Income (less other income)	1,952
Distribution Margin	20,443.8
Prior Year Adjustment	6,365.24
Revenue Requirement	123,187

Line Losses Charged on Voltage Levels:

Line losses taken from SEPCO's MYT Determination for FY 2023-24 as a percentage on purchased units is given in **Table 4**. Line losses as a percentage on received units at each voltage level are calculated on the basis of sales data of FY 2022-23.

Table 4

Losses FY 2023-24						
Voltage Level	**0.2 KV**	**0.4KV**	**11KV**	**132KV**	**Total**	**Source**
Losses %age charged on purchased unit	**4.44%**		**10.85%**	**1.39%**	**16.68%**	**Target as per NEPRA Determination is 16.68 on purchased units**
Losses %age on received units	**5.33%**		**13.02%**	**1.67%**	**20.02%**	**Calculated as applied on units received at each voltage level.**

Customer Classification by Voltage Level:

While the Cost of Service study is based on allocation of the Revenue Requirement on Classes (categories) of the consumers at different voltage levels; the **Table 5** below provides mapping of existing categories of consumers on the basis of applicable voltage levels.

Table 5

Classification by Voltage Level				
Voltage	**132/66kV**	**11kV**	**0.4kV**	**0.2 kV**
Customer Class	B4	B3	A1b	A1a
	C3a	C2a	A2b	A2a
	C3b	C2b	A2c	B1a
		H1	A3a	C1a
		H2	B1b	E1i
		K1a	B2a	E1ii
		K1b	B2b	E2
			C1b	
			C1c	
			D1a	
			D1b	
			D2a	
			D2b	
			G1	
			G2	

SEPCO Tariff determined by NEPRA in July-2023:

Tariffs for various categories of SEPCO consumers as determined by NEPRA vide their determination No. NEPRA/R/DG (Tariff)/567/SEPCO/18225-31, dated 14.07-2023, are provided in **Table 6** below.

Table 6

NEPRA DETERMINED TARIFF (14.07-2023)			
TARIFF CATAGORIES		**Fixed Charges** Rs/kW/M	**Variable Charges** Rs/kWh
A1 (a)	**RESIDENTIAL -A1**		
i	Up to 50 Units Life line		7.00
ii	51-100 units Life line		11.74
iii	01-100 Units		15.63
iv	101-200 Units		17.95
v	01-100 Units		26.97
vi	101-200 Units		32.44
vii	201-300 Units		35.63
viii	301-400Units		39.02
ix	401-500Units		41.23
x	501-600Units		42.65
xi	601-700Units		43.47
xii	Above 700 Units		48.39

A1(b)	Time of Use (TOU) - Peak		47.55
	Time of Use (TOU) - Off-Peak		41.23
E-1(i)	Temporary E-1 (i)		47.69
	COMMERCIAL - A2		
A2 (a)	Commercial - For peak load requirement up to 5 kW		43.32
A2 (b)	Sanctioned load 5 kw and above	500	45.00
A2 (c)	Time of Use (TOU) - Peak (A-2)	500	46.92
	Time of Use (TOU) - Off-Peak		40.95
E-1 (ii)	Temporary E-1 (ii)	-	43.71
	INDUSTRIAL		
B1(a)	B1		39.77
B1(b)	B1- TOU (Peak)		43.33
	B1 - TOU (Off-peak)		37.77
B2 (a)	B2	500	39.27
B2 (b)	B2 - TOU (Peak)	500	43.27
	B2 - TOU (Off-peak)		37.56
B3	B3 - TOU (Peak)	480	43.27
	B3 - TOU (Off-peak)		37.47
B4	B4 - TOU (Peak)	440	43.27
	B4 - TOU (Off-peak)		37.37
E-2	Temporary E-2		40.85
	BULK		
C1 (a)	C1(a) up to 5 kW		44.32
C1 (b)	C1(b) exceeding 5 kW	500	43.82
C1 (c)	Time of Use (TOU) - Peak		47.24
	Time of Use (TOU) - Off-Peak	500	40.64
C2 (a)	C2 Supply at 11 kV	500	43.62
C2 (b)	Time of Use (TOU) - Peak	460	47.24
	Time of Use (TOU) - Off-Peak		40.44
C3 (a)	C3 Supply above 11 kV	440	43.52
C3 (b)	Time of Use (TOU) - Peak	440	47.24
	Time of Use (TOU) - Off-Peak		40.34
	AGRICULTURAL TUBE WELLS - Tariff D		
D1 (a)	D1 Scarp		40.32
D2 (a)	D2 Agricultural Tube-wells	200	40.32
D1 (b)	Time of Use (TOU) - Peak	200	43.24
	Time of Use (TOU) - Off-Peak		35.99
D2 (b)	Time of Use (TOU) - Peak	200	29.99
	Time of Use (TOU) - Off-Peak		29.99
G	Public Lighting G		43.32
H	Residential Colonies H		43.32
A3	General Service		43.20

Results from FACOS Model:

Revenue Requirement Allocation (in Percentage):

While developing the Fully Allocated Cost of Service Model, the detailed study for allocation of cost of service and rate base (for each component) to cost drivers (energy, demand and customer) was developed. Overall summary of the allocation is given in **Table 7** below:

Table 7

Revenue Requirement Allocation %age					
Discription	**Distribution Margin**	**Energy**	**Demand**	**Customer**	**Total**
Energy Charges	-	100%	-		100%
Capacity Charges	-	-	100%	-	100%
T.UoSC	-	-	100%	-	100%
MOF	-	-	100%	-	100%
Distribution Margin	Distribution Margin	-	85%	15%	100%

Revenue Requirement Allocation to Energy, Demand and Customer.

Based on the allocation percentages given in above table, the revenue requirement allocated to energy, demand and customer (cost triggers) is shown in **Table 8** below.

Table 8

Revenue Requirement Allocation Rs. (M)				
Discription	**Energy**	**Demand**	**Customer**	**Total**
Energy Charges	28,725	-	-	28,725
Capacity Charges	-	62,594	-	62,594
T.UoSC / MOF	-	5,059	-	5,059
Power Purchase Price	**28,725**	**67,653**	**-**	**96,378**
Distribution Margin	**-**	**17,377**	**3,067**	**20,444**
Prior Year Adjustment	-	5,410	955	6,365
Revenue Requirements	**28,725**	**90,441**	**4,021**	**123,187**

Revenue as per NEPRA Tariff by Customer Category and Voltage Level

The Table 9 below provides detailed category-wise estimated revenue and average (Rs./kWh) thereof. Whereas the Table 10 is summary of the said category-wise estimated revenue based on the supply Voltage level of relevant customer category, with average rate (Rs./kWh) thereof. As already mentioned, the calculation of revenue is based on NEPRA Tariff determined vide* No. NEPRA/R/DG(Tariff)/567/SEPCO/18225-31, Dated 14.07.2023 *already provided in (Table 6 above).

Table 9

FY 2023-24							
Consumer Category	Voltage	MDI MW	Sales (GWh)	Fixed Charge Rs. (M)	Variable Charge Rs. (M)	Total Revenue Rs. (M)	Rs./KWH
Residential – A1(a)	0.2kV	364	1894	39600	18833	58434	30.84
Residential – A1(b)	0.4kV	10	22	1130	209	1339	60.82
Commercial – A2(a)	0.2kV	61	93	6641	925	7566	81.29
Commercial – A2(b)	0.4kV	3	17	314	163	477	27.88
Commercial – A2(c)	0.4kV	39	191	4218	1812	6029	31.64
Commercial – A2(d)	0.4kV	0	0	0	0	0	9.51
Industrial – B1(a)	0.2kV	20	19	2222	187	2409	128.26
Industrial – B2(a)	0.4kV	19	20	2011	187	2198	111.58
Industrial – B1(b)	0.4kV	31	94	3381	890	4271	45.63
Industrial – B2(b)	0.4kV	95	315	10340	2997	13336	42.31
Industrial – B3	11kV	10.4	45	1070	403	1473	33.08
Industrial – B4	132/66kV	9.6	24	846	193	1040	43.47
Single Point Supply – C1(a)	0.2kV	2	5	181	44	225	48.53
Single Point Supply – C1(b)	0.4kV	4	28	391	262	653	23.67
Single Point Supply – C1(c)	11kV	1	7	146	61	207	30.67
Single Point Supply – C2(a)	132/66kV	4	9	350	70	421	48.25
Single Point Supply – C2(b)	0.4kV	10	77	1072	730	1803	23.46
Single Point Supply – C3(a)	11kV	35	116	3558	1045	4602	39.84
Single Point Supply – C3(b)	132/66kV	0	0	0	0	0	
Agricultural –D1(a)	0.4kV	8	8	829	80	909	108.25
Agricultural –D2(a)	0.4kV	9	6	925	59	983	158.89
Agricultural –D1(b)	0.4kV	22	77	2405	732	3137	40.75
Agricultural –D2(b)	0.4kV	2	14	169	131	300	21.77
Temporary Supply – E1(i)	0.2kV	0	0	0	0	0.2	15.25
Temporary Supply – E1(ii)	0.2kV	0	0	24	4	28	73.80
Temporary Supply – E2	0.2kV	0	0	31	4	35	84.07
Public Lighting – G	0.4kV	6	192	716	1826	2542	13.23
Residential Colonies – H	11kV	0	1	44	8	52	59.97
A3 General	0.4kV	58	254	6304	2413	8717	34.34
Total		824	3526	88918.73	34268.7	123187.470	34.94

Table 10

FY 2023-24						
Consumer Class	MDI MW	Sales (GWh)	Fixed Charge Rs. (M)	Variable Charge	Total Revenue Rs. (M)	Rs./KWH
0.2 KV	448.21	2,011.74	48,700.00	19,998.21	68,698.21	34.15
0.4 KV	314.79	1,313.88	34,203.61	12,490.75	46,694.36	35.54
11 KV	46.92	167.67	4,818.53	1,516.01	6,334.54	37.78
132 KV	13.61	32.64	1,196.58	263.78	1,460.37	44.75
G. TOTAL	**823.52**	**3525.9**	**88918.7**	**34268.7**	**123187.46972**	**34.94**

Cost of Service Functionalized Rates (Tariff Wise)

Based on the allocation of overall Revenue Requirement of SEPCO to customers categories, the resultant functional amounts (Rs. in million) for each customer category are summarized at **Table 11** below.

Table 11

FY 2023-24										
Classes	No of Customers	Energy	Demand	Generation Cost		Transmission	MOF	Distribution Cost		Total Cost
		GWH	MW	Energy (Rs. M)	Demand (Rs. M)	Cost (Rs. M)	Cost (Rs. M)	Demand (Rs. M)	Customer (Rs. M)	
Residential -- A1(a)	668,764	1,894	364	16,423	29,524	2,386	13	7,690	2,411	58,446
Residential -- A1(b)	2,482	22	10	191	842	68	0	219	18	1,340
Commercial -- A2(a)	125,834	93	61	807	4,951	400	2	1,290	118	7,568
Commercial -- A2(b)	405	17	3	148	234	19	0	61	14	477
Commercial -- A2(c)	4,671	191	39	1,652	3,144	254	1	819	160	6,031
Commercial -- A2(d)	1	0	-	0	-	-	-	-	0	0
Industrial -- B1(a)	4,615	19	20	163	1,657	134	1	431	24	2,409
Industrial -- B2(a)	653	20	19	171	1,499	121	1	390	17	2,199
Industrial -- B1(b)	5,769	94	31	811	2,521	204	1	657	78	4,272
Industrial -- B2(b)	2,877	315	95	2,732	7,709	623	3	2,008	264	13,340
Industrial -- B3	32	45	10	365	799	65	0	207	37	1,473
Industrial -- B4	2	24	10	175	656	53	0	137	19	1,040
Single Point Supply -- C1(a)	187	5	2	38	135	11	0	35	6	225
Single Point Supply -- C1(b)	155	28	4	239	291	24	0	76	23	653
Single Point Supply -- C2(a)	10	7	1	55	109	9	0	28	6	207
Single Point Supply -- C3(a)	1	9	4	64	271	22	0	57	7	421
Single Point Supply -- C1(c)	184	77	10	666	799	65	0	208	64	1,803
Single Point Supply -- C2(b)	19	116	35	948	2,656	215	1	687	97	4,604
Single Point Supply -- C3(b)	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	2,000	8	8	73	618	50	0	161	7	909
Agricultural --D2(a)	3,544	6	9	54	689	56	0	180	5	984
Agricultural --D2(b)	4,073	77	22	667	1,793	145	1	467	65	3,137
Agricultural --D1(b)	41	14	2	119	126	10	0	33	12	300
Temporary Supply -- E1(i)	5	0	0	0	0	0	0	0	0	0
Temporary Supply -- E1(ii)	37	0	0	3	18	1	0	5	0	28
Temporary Supply -- E2	15	0	0	4	23	2	0	6	1	35
Public Lighting -- G	464	192	7	1,665	534	43	0	139	161	2,542
Residential Colonies -- H	21	1	0	7	33	3	0	9	1	52
A3 General	13,880	254	58	2,200	4,700	380	2	1,224	213	8,719
Total	**840,742**	**3,526**	**824**	**30,441**	**66,334**	**5,361**		**17,223**	**3,827**	**123,187.470**

Based on the cost drivers (energy, demand & customers) based allocation of overall Revenue Requirement of SEPCO to the customers categories, the resultant functional (generation, transmission, MO Fee & Distribution) rates (in terms of Rs./kWh, Rs./kW/Month and Rs./Customer / Month, as applicable) are summarized at **Table 12** below.

Table 12

Table 12

FY 2023-24

Customer Class	Voltage Level	No. oF Customers	Energy	Demand	Generation Cost		Transm	MOF	Distribution		Total Rs./ kWh
			GWh	MW	Energy (Rs /kWh)	Demand (Rs /kW/ Month)	(Rs /kW/ Month)	(Rs /kW /Month)	(Rs /kW/ Month)	(Rs /Cust/ Month)	
Residential – A1 (a)	0.2kV	668,764	1,894.43	364.46	8.67	6,750.71	545.60	2.90	1,758.33	551.17	30.85
Residential – A1 (b)	0.4kV	2,482	22.02	10.40	8.67	6,750.71	545.60	2.90	1,758.33	147.97	60.83
Commercial – A2 (a)	0.2kV	125,834	93.07	61.12	8.67	6,750.71	545.60	2.90	1,758.33	161.48	81.31
Commercial – A2 (b)	0.4kV	405	17.11	2.89	8.67	6,750.71	545.60	2.90	1,758.33	413.19	27.89
Commercial – A2 (c)	0.4kV	4,671	190.55	38.82	8.67	6,750.71	545.60	2.90	1,758.33	343.00	31.65
Industrial – B1 (a)	0.2kV	4,615	18.78	20.45	8.67	6,750.71	545.60	2.90	1,758.33	97.38	128.30
Industrial – B2 (a)	0.4kV	653	19.70	18.51	8.67	6,750.71	545.60	2.90	1,758.33	74.38	111.61
Industrial – B1 (b)	0.4kV	5,769	93.59	31.12	8.67	6,750.71	545.60	2.90	1,758.33	210.15	45.65
Industrial – B2 (b)	0.4kV	2,877	315.20	95.16	8.67	6,750.71	545.60	2.90	1,758.33	231.44	42.32
Industrial – B3	11kV	32	44.53	10.42	8.21	6,389.68	516.42	2.90	1,652.19	297.86	33.09
Industrial – B4	132/66kV	2	23.92	9.63	7.30	5,681.06	459.15	2.90	1,186.54	163.07	43.48
Single P. Supply C1(a)	0.2kV	187	4.64	1.67	8.21	6,750.71	545.60	2.90	1,758.33	295.04	48.54
Single P. Supply C1(b)	0.4kV	155	27.59	3.60	8.67	6,750.71	545.60	2.90	1,758.33	536.14	23.67
Single P. Supply C2(a)	11kV	10	6.75	1.42	8.21	6,389.68	516.42	2.90	1,652.19	331.00	30.68
Single P. Supply C3(a)	132/66kV	1	8.72	3.98	7.30	5,681.06	459.15	2.90	1,186.54	143.67	48.27
Single P. Supply C1(c)	0.4kV	184	76.83	9.87	8.67	6,750.71	545.60	2.90	1,758.33	544.06	23.47
Single P. Supply C2(b)	11kV	19	115.53	34.64	8.21	6,389.68	516.42	2.90	1,652.19	232.50	39.85
Single P. Supply C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-
Agricultural – D1(a)	0.4kV	2,000	8.39	7.63	8.67	6,750.71	545.60	2.90	1,758.33	76.89	108.29
Agricultural – D2(a)	0.4kV	3,544	6.19	8.51	8.67	6,750.71	545.60	2.90	1,758.33	50.82	158.94
Agricultural – D2(b)	0.4kV	4,073	76.96	22.13	8.67	6,750.71	545.60	2.90	1,758.33	242.97	40.76
Agricultural – D1(b)	0.4kV	41	13.78	1.56	8.67	6,750.71	545.60	2.90	1,758.33	619.15	21.77
Temporary - E1 (i)	0.2kV	5	0.01	0.00	8.67	6,750.71	545.60	2.90	1,758.33	2,171.11	15.25
Temporary - E1 (ii)	0.2kV	37	0.38	0.22	8.67	6,750.71	545.60	2.90	1,758.33	180.42	73.82
Temporary - E2	0.2kV	15	0.42	0.29	8.67	6,750.71	545.60	2.90	1,758.33	155.42	84.09
Public Lighting – G	0.4kV	464	192.11	6.59	8.67	6,750.71	545.60	2.90	1,758.33	2,037.53	13.23
Res Colonies – H	11kV	21	0.87	0.43	8.21	6,389.68	516.42	2.90	1,652.19	140.59	59.99
A3 General	0.4kV	13,880	253.82	58.02	8.67	6,750.71	545.60	2.90	1,758.33	305.70	34.35
Total	-	840,741	3,525.90	823.52	229.00	178,685.66	14,441.55	78.30	45,906.75	10,754.11	34.94

The above detailed functional rates recapitulated, in terms of Rs./kW/Month, for each function is given in **Table 13** below.

Table 13

Table 13

FY 2023-24

Customer Class	Voltage	Sales GWh	Energy	Demand	Generation Cost		Transm	MOF	Distribution		Total Rs./ kWh/ Month
			GWh	MW	Energy (Rs /kW/ Month)	Demand (Rs /kW/ Month)	(Rs /kW/ Month)	(Rs /kW /Month)	(Rs /kW/ Month)	(Rs /kW/ Month)	
Residential – A1 (a)	0.2kV	1,894	1,894.43	364.46	3,755.05	6,750.71	545.60	2.90	1,758.33	551.17	13,363.76
Residential – A1 (b)	0.4kV	22	22.02	10.40	1,529.79	6,750.71	545.60	2.90	1,758.33	147.97	10,735.29
Commercial – A2 (a)	0.2kV	93	93.07	61.12	1,100.11	6,750.71	545.60	2.90	1,758.33	161.48	10,319.12
Commercial – A2 (b)	0.4kV	17	17.11	2.89	4,271.90	6,750.71	545.60	2.90	1,758.33	413.19	13,742.62
Commercial – A2 (c)	0.4kV	191	190.55	38.82	3,546.17	6,750.71	545.60	2.90	1,758.33	343.00	12,946.70
Commercial – A2 (d)	0.4 KV	0.035	0.04	-		-	-	-	-	-	-
Industrial – B1 (a)	0.2kV	19	18.78	20.45	663.40	6,750.71	545.60	2.90	1,758.33	97.38	9,818.31
Industrial – B2 (a)	0.4kV	20	19.70	18.51	769.02	6,750.71	545.60	2.90	1,758.33	74.38	9,900.94
Industrial – B1 (b)	0.4kV	94	93.59	31.12	2,172.69	6,750.71	545.60	2.90	1,758.33	210.15	11,440.37
Industrial – B2 (b)	0.4kV	315	315.20	95.16	2,392.79	6,750.71	545.60	2.90	1,758.33	231.44	11,681.76
Industrial – B3	11kV	45	44.53	10.42	2,921.28	6,389.68	516.42	2.90	1,652.19	297.86	11,780.34
Industrial – B4	132/66k	24	23.92	9.63	1,510.44	5,681.06	459.15	2.90	1,186.54	163.07	9,003.17
Single P. Supply C1(a)	0.2kV	5	4.64	1.67	1,902.56	6,750.71	545.60	2.90	1,758.33	295.04	11,255.13
Single P. Supply C1(b)	0.4kV	28	27.59	3.60	5,543.08	6,750.71	545.60	2.90	1,758.33	536.14	15,136.75
Single P. Supply C2(a)	11kV	7	6.75	1.42	3,246.29	6,389.68	516.42	2.90	1,652.19	331.00	12,138.48
Single P. Supply C3(a)	132/66k	9	8.72	3.98	1,330.74	5,681.06	459.15	2.90	1,186.54	143.67	8,804.07
Single P. Supply C1(c)	0.4kV	77	76.83	9.87	5,624.96	6,750.71	545.60	2.90	1,758.33	544.06	15,226.55
Single P. Supply C2(b)	11kV	116	115.53	34.64	2,280.22	6,389.68	516.42	2.90	1,652.19	232.50	11,073.91
Single P. Supply C3(b)	132/66k	-	-	-		-	-	-	-	-	-
Agricultural – D1(a)	0.4kV	8	8.39	7.63	794.90	6,750.71	545.60	2.90	1,758.33	76.89	9,929.32
Agricultural – D2(a)	0.4kV	6	6.19	8.51	525.45	6,750.71	545.60	2.90	1,758.33	50.82	9,633.81
Agricultural – D2(b)	0.4kV	77	76.96	22.13	2,512.06	6,750.71	545.60	2.90	1,758.33	242.97	11,812.56
Agricultural – D1(b)	0.4kV	14	13.78	1.56	6,401.30	6,750.71	545.60	2.90	1,758.33	619.15	16,077.98
Temporary - E1 (i)	0.2kV	0.01	0.01	0.00	14,791.37	6,750.71	545.60	2.90	1,758.33	2,171	26,020
Temporary - E1 (ii)	0.2kV	0.38	0.38	0.22	1,229.19	6,750.71	545.60	2.90	1,758.33	180.42	10,467.14
Temporary - E2	0.2kV	0.42	0.42	0.29		6,750.71	545.60	2.90	1,758.33	155.42	9,212.96
Public Lighting – G	0.4kV	192	192.11	6.59	21,065.60	6,750.71	545.60	2.90	1,758.33	2,037.53	32,160.66
Res Colonies – H	11kV	1	0.87	0.04	14,858.69	6,389.68	516.42	2.90	1,652.19	140.59	23,560.48
A3 General	0.4kV	254	253.82	58.02	3,160.55	6,750.71	545.60	2.90	1,758.33	305.70	12,523.78
Total	-	3,525.93	3,525.93	823.13	4,226.9	6,161.57	497.98	2.70	1,582.99	370.8	12,406

Unbundled Rates Rs./kWh (Tariff Wise)

The functional allocation of Revenue Requirement of SEPCO (Generation, Transmission, MO Fee and Distribution Cost) to customers categories, in Rs./kWh are shown in **Table 14** below.

Table 14

FY 2023-24

Customer Class	Voltage	Sales GWh	Demand MW	Generation Rs. /kWh	T. UoSC Rs. /kWh	MOF Rs. /kWh	D. UoSC Rs. /kWh	Total Rate Rs/ kWh
Residential – A1 (a)	0.2kV	1,894	364.46	24.25	1.26	0.01	5.33	30.85
Residential -- A1 (b)	0.4kV	22	10.40	46.92	3.09	0.02	10.80	60.83
Commercial -- A2 (a)	0.2kV	93	61.12	61.86	4.30	0.02	15.13	81.31
Commercial -- A2 (b)	0.4kV	17	2.89	22.37	1.11	0.01	4.41	27.89
Commercial – A2 (c)	0.4kV	191	38.82	25.17	1.33	0.01	5.14	31.65
Commercial -- A2 (d)	0.4kv	0.04	-	8.67	-	-	0.84	9.51
Industrial -- B1 (a)	0.2kV	19	20.45	96.88	7.13	0.04	24.25	128.30
Industrial -- B2 (a)	0.4kV	20	18.51	84.77	6.15	0.03	20.66	111.61
Industrial -- B1 (b)	0.4kV	94	31.12	35.60	2.18	0.01	7.85	45.65
Industrial -- B2 (b)	0.4kV	315	95.16	33.13	1.98	0.01	7.21	42.32
Industrial -- B3	11kV	45	10.42	26.15	1.45	0.01	5.48	33.09
Industrial -- B4	132/66kV	24	9.63	34.73	2.22	0.01	6.52	43.48
Single P. Supply C1(a)	0.2kV	5	1.67	37.32	2.35	0.01	8.86	48.54
Single P. Supply C1(b)	0.4kV	28	3.60	19.23	0.85	0.00	3.59	23.67
Single P. Supply C2(a)	11kV	7	1.42	24.36	1.31	0.01	5.01	30.68
Single P. Supply C3(a)	132/66kV	9	3.98	38.44	2.52	0.02	7.29	48.27
Single P. Supply C1(c)	0.4kV	77	9.87	19.07	0.84	0.00	3.55	23.47
Single P. Supply C2(b)	11kV	116	34.64	31.20	1.86	0.01	6.78	39.85
Single P. Supply C3(b)	132/66kV	-	-	-	-	-	-	-
Agricultural -- D1(a)	0.4kV	8	7.63	82.29	5.95	0.03	20.01	108.29
Agricultural -- D2(a)	0.4kV	6	8.51	120.04	9.00	0.05	29.85	158.94
Agricultural -- D2(b)	0.4kV	77	22.13	31.97	1.88	0.01	6.91	40.76
Agricultural -- D1(b)	0.4kV	14	1.56	17.81	0.74	0.00	3.22	21.77
Temporary - E1 (i)	0.2kV	0	0.00	12.63	0.32	0.00	2.30	15.25
Temporary - E1 (ii)	0.2kV	0	0.22	56.28	3.85	0.02	13.67	73.82
Temporary - E2	0.2kV	0	0.29	63.94	4.47	0.02	15.67	84.09
Public Lighting -- G	0.4kV	192	6.59	11.45	0.22	0.00	1.56	13.23
Res Colonies -- H	11kV	1	0.43	46.23	3.07	0.02	10.67	59.99
A3 General	0.4kV	254	58.02	27.19	1.50	0.01	5.66	34.35
Total	-	3,525.93	823.52	27.45	1.52	-	5.97	34.94

Volumetric Rates at Each Customer Category

The above functional rates combined in terms of the nature (Fixed or Variable) and resultant rates in terms of Rs./kW/Month and/or Rs./kWh are provided in **Table 15** below.

Table 15

Table 15
FY 2023-24

Customer Class	Voltage	Sales GWh	Allocated Cost Rs. (M)		Fixed Charge Rs /kW /Month	Variable Charge Rs/ kWh	Total Rate Rs/ kWh
			Fixed Cost	Variable Cost			
Residential -- A1 (a)	0.2kV	1,894	39,612.98	18,833.22	9,057.53	9.94	30.84
Residential -- A1 (b)	0.4kV	22	1,130.35	209.38	9,057.53	9.51	60.82
Commercial -- A2 (a)	0.2kV	93	6,642.78	925.25	9,057.53	9.94	81.29
Commercial -- A2 (b)	0.4kV	17	314.57	162.72	9,057.53	9.51	27.88
Commercial -- A2 (c)	0.4kV	191	4,219.03	1,811.59	9,057.53	9.51	31.64
Commercial -- A2 (d)	0.2kV	0.04	-	0.34	-	9.51	-
Industrial -- B1 (a)	0.2kV	19	2,222.69	186.69	9,057.53	9.94	128.26
Industrial -- B2 (a)	0.4kV	20	2,011.53	187.31	9,057.53	9.51	111.58
Industrial -- B1 (b)	0.4kV	94	3,382.24	889.79	9,057.53	9.51	45.63
Industrial -- B2 (b)	0.4kV	315	10,343.08	2,996.69	9,057.53	9.51	42.31
Industrial -- B3	11kV	45	1,070.75	402.62	8,561.19	9.04	33.08
Industrial -- B4	132/66kV	24	846.82	193.35	7,329.65	8.08	43.47
Single P. Supply C1(a)	0.2kV	5	181.45	44.02	9,057.53	9.48	48.53
Single P. Supply C1(b)	0.4kV	28	390.80	262.29	9,057.53	9.51	23.67
Single P. Supply C2(a)	11kV	7	146.10	61.05	8,561.19	9.04	30.67
Single P. Supply C3(a)	132/66kV	9	350.24	70.45	7,329.65	8.08	48.25
Single P. Supply C1(c)	0.4kV	77	1,072.48	730.46	9,057.53	9.51	23.46
Single P. Supply C2(b)	11kV	116	3,559.03	1,044.58	8,561.19	9.04	39.84
Single P. Supply C3(b)	132/66kV	-	-	-	-	-	-
Agricultural -- D1(a)	0.4kV	8.39	829.20	79.81	9,057.53	9.51	108.25
Agricultural -- D2(a)	0.4kV	6.19	924.84	58.84	9,057.53	9.51	158.89
Agricultural -- D2(b)	0.4kV	76.96	2,405.61	731.71	9,057.53	9.51	40.75
Agricultural -- D1(b)	0.4kV	13.78	169.08	131.06	9,057.53	9.51	21.77
Temporary - E1 (i)	0.2kV	0.01	0.06	0.12	9,057.53	9.94	15.25
Temporary - E1 (ii)	0.2kV	0.38	24.44	3.80	9,057.53	9.94	73.80
Temporary - E2	0.2kV	0.42	31.20	4.18	9,057.53	9.94	84.07
Public Lighting -- G	0.4kV	192	716.05	1,826.43	9,057.53	9.51	13.23
Res Colonies -- H	11kV	1	44.28	7.86	8,561.19	9.04	59.97
A3 General	0.4kV	254	6,305.69	2,413.14	9,057.53	9.51	34.34
Total	-	**3,526**	**88,947.39**	**34,268.74**	**8,245.25**	**9.72**	**34.94**

Note: Variable Cost in **Table 15** includes energy cost and customer services cost.

Revenue, Cost of Service and Subsidies (Tariff Category Wise)

Based on assessment of revenue and the cost of service for each category of consumer, as per the details provided herein before, the Subsidy or Cross Subsidy (the difference between revenue and cost) in terms of million rupees against each customer tariff category is provided in **Table 16** below. It may be noted that the negative figure means the customer is subsidized (revenue less than cost) whereas the positive figure shows that the customer is cross subsidizing (revenue more than cost). Average, in terms of Rs./kWh, assessment of subsidy or cross-subsidy, as the case may be, is also arrived in the last column of Table 16 below.

Table 16

FY 2023-24

Customer Class	Voltage	Sales GWh	Demand MW	Revenue As Per NEPRA Tariff			Cost of Service			Difference Subsidy M.PKR	Subsidy Rs.kWh
				Demand Charge (M.PKR)	Energy Charge M.PKR	Total M.PKR	Demand Cost (M.PKR)	Energy Cost M.PKR	Total M.PKR		
Residential A1 (a)	0.2kV	1,894.43	364.46	-	55,099.66	55,099.66	-	58,433.51	58,433.51	(3,333.86)	(1.76)
Residential A1 (b)	0.4kV	22.02	10.40	-	928.57	928.57	-	1,339.36	1,339.36	(410.79)	(18.65)
Commercial A2 (a)	0.2kV	93.07	61.12	-	4,031.45	4,031.45	-	7,565.90	7,565.90	(3,534.45)	(37.98)
Commercial A2 (b)	0.4kV	17.11	2.89	15.19	770.09	785.29	314.47	162.72	477.19	308.10	18.00
Commercial A2 (c)	0.4kV	190.55	38.82	450.64	7,945.39	8,396.03	4,217.68	1,811.59	6,029.26	2,366.76	12.42
Commercial A2 (d)	0.4KV	0.04	-	-	1.59	1.59	-	0.34	0.34	1.25	35.49
Industrial B1 (a)	0.2kV	18.78	20.45	-	746.86	746.86	-	2,408.67	2,408.67	(1,661.81)	(88.49)
Industrial B2 (a)	0.4kV	19.70	18.51	54.16	773.67	827.83	2,010.89	187.31	2,198.20	(1,370.37)	(69.56)
Industrial B1 (b)	0.4kV	93.59	31.12	-	3,567.57	3,567.57	-	4,270.95	4,270.95	(703.38)	(7.52)
Industrial B2 (b)	0.4kV	315.20	95.16	827.67	12,055.78	12,883.45	10,339.77	2,996.69	13,336.46	(453.01)	(1.44)
Industrial B3	11kV	44.53	10.42	87.49	1,714.77	1,802.26	1,070.38	402.62	1,473.00	329.26	7.395
Industrial B4	132/66kV	23.92	9.63	29.51	917.36	946.87	846.48	193.35	1,039.83	(92.96)	(3.8863)
Bulk Supply C1(a)	0.2kV	4.64	1.67	-	205.86	205.86	-	225.41	225.41	(19.55)	(4.21)
Bulk Supply C1(b)	0.4kV	27.59	3.60	22.67	1,208.93	1,231.60	390.67	262.29	652.97	578.63	20.97
Bulk Supply C2(a)	11kV	6.75	1.42	7.27	294.50	301.78	146.05	61.05	207.10	94.68	14.02
Bulk Supply C3(a)	132/66kV	8.72	3.98	-	379.33	379.33	-	420.55	420.55	(41.22)	(4.72931)
Bulk Supply C1(c)	0.4kV	76.83	9.87	112.77	3,198.31	3,311.08	1,072.14	730.46	1,802.60	1,508.48	19.63
Bulk Supply C2(b)	11kV	115.53	34.64	144.61	4,776.68	4,921.29	3,557.83	1,044.58	4,602.41	318.88	2.760
Bulk Supply C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	
Agricultural D1(a)	0.4kV	8.39	7.63	-	338.47	338.47	-	908.75	908.75	(570.28)	(67.93)
Agricultural D2(a)	0.4kV	6.19	8.51	2.08	185.61	187.69	924.55	58.84	983.39	(795.70)	(128.57)
Agricultural D2(b)	0.4kV	76.96	22.13	117.70	2,308.11	2,425.81	2,404.84	731.71	3,136.55	(710.74)	(9.23)
Agricultural D1(b)	0.4kV	13.78	1.56	6.34	502.61	508.95	169.03	131.06	300.09	208.87	15.15
Temporary E1 (i)	0.2kV	0.01	0.00	-	0.56	0.56	-	0.18	0.18	0.38	32.45
Temporary E1 (ii)	0.2kV	0.38	0.22	-	16.72	16.72	-	28.23	28.23	(11.51)	(30.09)
Temporary E2	0.2kV	0.42	0.29	-	17.19	17.19	-	35.38	35.38	(18.19)	(43.22)
Public Lighting G	0.4kV	192.11	6.59	-	8,322.05	8,322.05	-	2,542.25	2,542.25	5,779.80	30.09
Residential Col. H	11kV	0.87	0.43	-	37.65	37.65	-	52.13	52.13	(14.47)	(16.65)
A3 General	0.4kV	253.82	58.02	-	10,964.92	10,964.92	-	8,716.82	8,716.82	2,248.10	8.86
Total	-	**3,525.93**	**823.52**	**1,878.11**	**121,310.26**	**123,188.38**	**27,464.78**	**95,722.68**	**123,187.47**	**0.91**	**0.00026**

Revenue, Cost of Service, Subsidy and Revenue to Cost Ratios

Revenue, Cost of Service and Subsidy in terms of million rupees for each category of the consumers is shown in **Table 17** below. The Table also provides the Revenue to Cost Ratio, which shows that:

Table 17

Table 17

FY 2023-24

Customer Class	Voltage	Sales GWh	Demand MW	Revenue As Per NEPRA Tariff		Cost of Service		Difference/ Subsidy		Revenue to Cost Ratio	
				Fixed (Rs. M)	Variable (Rs. M)	Fixed (Rs. M)	Variable (Rs. M)	Fixed Rs. M	Variable Rs. M	Fixed	Variable
Residential A1 (a)	0.2kV	1,894.43	364.46	-	55,099.66	-	58,433.51	-	(3,333.86)	1.00	0.94
Residential A1 (b)	0.4kV	22.02	10.40	-	928.57	-	1,339.36	-	(410.79)	1.00	0.69
Commercial A2 (a)	0.2kV	93.07	61.12	-	4,031.45	-	7,565.90	-	(3,534.45)	1.00	0.53
Commercial A2 (b)	0.4kV	17.11	2.89	15.19	770.09	314.47	162.72	(299.28)	607.38	0.05	4.73
Commercial A2 (c)	0.4kV	190.55	38.82	450.64	7,945.39	4,217.68	1,811.59	(3,767.04)	6,133.80	0.11	4.39
Commercial A2 (d)	0.4 KV	0.04	-	-	1.59	-	0.34	-	1.25	1.00	4.73
Industrial B1 (a)	0.2kV	18.78	20.45	-	746.86	-	2,408.67	-	(1,661.81)	1.00	0.31
Industrial B2 (a)	0.4kV	19.70	18.51	54.16	773.67	2,010.89	187.31	(1,956.73)	586.36	0.03	4.13
Industrial B1 (b)	0.4kV	93.59	31.12	-	3,567.57	-	4,270.95	-	(703.38)	1.00	0.84
Industrial B2 (b)	0.4kV	315.20	95.16	827.67	12,055.78	10,339.77	2,996.69	(9,512.10)	9,059.09	0.08	4.02
Industrial B3	11kV	44.53	10.42	87.49	1,714.77	1,070.38	402.62	(982.89)	1,312.16	0.08	4.26
Industrial B4	132/66kV	23.92	9.63	29.51	917.36	846.48	193.35	(816.97)	724.01	0.03	4.74
Bulk Suppiy C1(a)	0.2kV	4.64	1.67	-	205.86	-	225.41	-	(19.55)	1.00	0.91
Bulk Supply C1(b)	0.4kV	27.59	3.60	22.67	1,208.93	390.67	262.29	(368.00)	946.63	0.06	4.61
Bulk Supply C2(a)	11kV	6.75	1.42	7.27	294.50	146.05	61.05	(138.78)	233.46	0.05	4.82
Bulk Supply C3(a)	132/66kV	8.72	3.98	-	379.33	-	420.55	-	(41.22)	1.00	0.90
Bulk Supply C1(c)	0.4kV	76.83	9.87	112.77	3,198.31	1,072.14	730.46	(959.37)	2,467.85	0.11	4.38
Bulk Supply C2(b)	11kV	115.53	34.64	144.61	4,776.68	3,557.83	1,044.58	(3,413.22)	3,732.10	0.04	4.57
Bulk Supply C3(b)	132/66kV	-	-	-	-	-	-	-	-	1.00	1.00
Agricultural D1(a)	0.4kV	8.39	7.63	-	338.47	-	908.75	-	(570.28)	1.00	0.37
Agricultural D2(a)	0.4kV	6.19	8.51	2.08	185.61	924.55	58.84	(922.47)	126.77	0.00	3.15
Agricultural D2(b)	0.4kV	76.96	22.13	117.70	2,308.11	2,404.84	731.71	(2,287.14)	1,576.40	0.05	3.15
Agricultural D1(b)	0.4kV	13.78	1.56	6.34	502.61	169.03	131.06	(162.69)	371.55	0.04	3.84
Temporary E1 (i)	0.2kV	0.01	0.00	-	0.56	-	0.18	-	0.38	1.00	3.13
Temporary E1 (ii)	0.2kV	0.38	0.22	-	16.72	-	28.23	-	(11.51)	1.00	0.59
Temporary E2	0.2kV	0.42	0.29	-	17.19	-	35.38	-	(18.19)	1.00	0.49
Public Lighting G	0.4kV	192.11	6.59	-	8,322.05	-	2,542.25	-	5,779.80	1.00	3.27
Residential Col. H	11kV	0.87	0.43	-	37.65	-	52.13	-	(14.47)	1.00	0.72
A3 General	0.4kV	253.82	58.02	-	10,964.92	-	8,716.82	-	2,248.10	1.00	1.26
Total	-	3,525.93	823.52	1,878.11	121,310.26	27,464.78	95,722.68	(25,586.67)	25,587.58	0.07	1.27

If this ratio is less than one, the relevant customer class is subsidized, i.e. the tariff revenue is less than the allocated cost;

If this ratio is greater than one, the relevant customer class is cross subsidizing, i.e. the tariff revenue is higher than the allocated cost; and

If this ratio is equal to one, the customer class is at adequately priced vis-à-vis the allocated cost.

Revenue, Cost of Service and Subsidies (Rs./kWh)

Revenue, Cost of Service and Subsidy in terms of Rs./kWh for each category of the consumers is shown in **Table 18** below. The Table also provides the Revenue to Cost Ratio.

Table 18

FY 2023-24

Customer Class	Voltage	Sales GWh	Revenue Rs. /kWh	Cost Of Service Rs. /kWh	Subsidy Rs. /kWh	Revenue to Cost Ratio
Residential A1 (a)	0.2kV	1,894.43	29.09	30.84	(1.76)	0.94
Residential A1 (b)	0.4kV	22.02	42.16	60.82	(18.65)	0.69
Commercial A2 (a)	0.2kV	93.07	43.32	81.29	(37.98)	0.53
Commercial A2 (b)	0.4kV	17.11	45.88	27.88	18.00	1.65
Commercial A2 (c)	0.4kV	190.55	44.06	31.64	12.42	1.39
Commercial A2 (d)	0.4 KV	0.04	45.00	9.51	35.49	4.73
Industrial B1 (a)	0.2kV	18.78	39.77	128.26	(88.49)	0.31
Industrial B2 (a)	0.4kV	19.70	42.02	111.58	(69.56)	0.38
Industrial B1 (b)	0.4kV	93.59	38.12	45.63	(7.52)	0.84
Industrial B2 (b)	0.4kV	315.20	40.87	42.31	(1.44)	0.97
Industrial B3	11kV	44.53	40.47	33.08	7.39	1.22
Industrial B4	132/66kV	23.92	39.58	43.47	(3.89)	0.91
Bulk Supply C1(a)	0.2kV	4.64	44.32	48.53	(4.21)	0.91
Bulk Supply C1(b)	0.4kV	27.59	44.64	23.67	20.97	1.89
Bulk Supply C2(a)	11kV	6.75	44.70	30.67	14.02	1.46
Bulk Supply C3(a)	132/66kV	8.72	43.52	48.25	(4.73)	0.90
Bulk Supply C1(c)	0.4kV	76.83	43.10	23.46	19.63	1.84
Bulk Supply C2(b)	11kV	115.53	42.60	39.84	2.76	1.07
Bulk Supply C3(b)	132/66kV	-			-	
Agricultural D1(a)	0.4kV	8.39	40.32	108.25	(67.93)	0.37
Agricultural D2(a)	0.4kV	6.19	30.33	158.89	(128.57)	0.19
Agricultural D2(b)	0.4kV	76.96	31.52	40.75	(9.23)	0.77
Agricultural D1(b)	0.4kV	13.78	36.92	21.77	15.15	1.70
Temporary E1 (i)	0.2kV	0.01	47.69	15.25	32.45	3.13
Temporary E1 (ii)	0.2kV	0.38	43.71	73.80	(30.09)	0.59
Temporary E2	0.2kV	0.42	40.85	84.07	(43.22)	0.49
Public Lighting G	0.4kV	192.11	43.32	13.23	30.09	3.27
Residential Col. H	11kV	0.87	43.32	59.97	(16.65)	0.72
A3 General	0.4kV	253.82	43.20	34.34	8.86	1.26
Total	-	3,525.93	34.94	34.94	0.00	1.00

Revenue, Cost of Service and Subsidies (11 kV and Above)

The revenue, cost of service and subsidies for customer categories that fall under 11kv are summarized at **Table 19** below.

Table 19

FY 2023-24

Customer Class	Voltage	Sales GWh	Demand MW	Revenue As Per NEPRA Tariff			Cost of Service			Difference Subsidy M.PKR	Subsidy Rs.kWh
				Demand Charge (M.PKR)	Energy Charge M.PKR	Total M.PKR	Demand Cost (M.PKR)	Energy Cost M.PKR	Total M.PKR		
Industrial B3	11 KV	44.53	10.42	87.49	1,714.77	1,802.26	1,070.38	402.62	1,473.00	329.26	7.395
Industrial B4	132/66 KV	23.92	9.63	29.51	917.36	946.87	846.48	193.35	1,039.83	(92.96)	(3.8863)
Bulk Supply C2(a)	11 KV	6.75	1.42	7.27	294.50	301.78	146.05	61.05	207.10	94.68	14.023
Bulk Supply C3(a)	132/66 KV	8.72	3.98	-	379.33	379.33	-	420.55	420.55	(41.22)	(4.729)
Bulk Supply C2(b)	11 KV	115.53	34.64	144.61	4,776.68	4,921.29	3,557.83	1,044.58	4,602.41	318.88	2.760
Bulk Supply C3(b)	132/66 KV	-		-	-	-			-	-	
Residential Col. H	11 KV	0.87	0.43	-	37.7	37.65	-	52.13	52.13	(14.47)	(16.65)

Revenue/kWh, Cost of Service/kWh and Subsidies/kWh (BPC only)

With regard to the above analysis, the following points are emphasized:

1. The Industrial B-3 and Bulk Supply C2 customers are at 11 KV connection level, however, any of these customers may not fall within the definition of BPC as contained in NEPRA Act, 1997, being less than 1 kW.
2. The customer categories A-2 and A-3, for purposes of cost of service assessment, have been considered at 0.4 KV level. However, these costumers, based on the sanctioned load, may be connected at 11 KV level, as required.
3. Consumer category for tariff H, i.e. housing colonies attached to industries, despite being connected at 11 kV, cannot be considered as BPC for (i) principally being resale in nature and (ii) being less than 1 MW.

Based on the above clarification, the abstract of Revenue (Rs./kWh), the Cost of Service (Rs./kWh) and resultant cross-subsidy (Rs./kWh) is appended at **Table 20** below.

Table 20

FY 2023-24

Customer Class	Voltage	Sale GWH	Revenue Rs. /KWH	Costof Service Rs. /KWh	Subsidy Rs. /KWh
Industrial B3	11 KV	44.53	40.475	33.08	7.395
Industrial B4	132/66 KV	23.92	39.5844	43.47	(3.8863)
Bulk Supply C2(b)	11 KV	115.53	42.5989	39.84	2.760
Bulk Supply C3(a)	132/66 KV	8.72	43.520	48.25	(4.729)

Consumer Category Wise Subsidy/Cross Subsidy Calculation, as per GOP, NEPRA Tariff:

As per directives Consumer Category Wise Subsidy/Cross Subsidy Calculated, based on Cost of service as per FACOS Model, billing demand determined by NEPRA and as per GoP Rates, NEPRA notified Tariff, detailed sheets are attached on Table-28

Master Data for Results of SEPCO's Cost of Service Study (FY 2023-24):

For interest of the readers to glance through overall master data for result of SEPCO's Cost of Service Study (FY 2023-24), following Tables (**Table 21** to **Table 27**) are added separately.

Final Remarks:

- 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.
- While the Cost of Service is substantially (96%)p covered by the determined tariffs, inherent cross subsidization and possibility of stranded costs need considerate, careful, concerted and continuous attention for proactive mitigation thereof.
- While currently certain classes of consumers are enjoying benefit of inter and intra tariff subsidies, the other categories of consumers are paying huge (30~35%) cross-subsidies. For a robust, vibrant and successful wholesale, and later retail, power market, minimization, if not elimination, of intra and inter tariff subsidies shall remain fundamental requirement.

TABLE-21

FY 2023-24

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Cost (Rs. M)	Cost Rs./kWh sold	Cost Rs./kWh Purchased
		Sold	Purchased	at Meter	at CDP	Energy (Rs.M)	Demand (Rs.M)	Cost (Rs.M)	Cost (Rs.M)	Demand (Rs.M)	cust. Cost (Rs.M)			
Residential -- A1(a)	0.2kV	1,894.43	2,283	364.5	439.18	16,423	29,524	2,386	12.68	7,690	2,411	58,434	30.84	25.60
Residential -- A1(b)	0.4kV	22.02	27	10.4	12.53	191	842	68	0.36	219	18	1,339	60.82	50.47
Commercial -- A2(a)	0.2kV	93.07	112	61.1	73.65	807	4,951	400	2.13	1,290	118	7,566	81.29	67.46
Commercial -- A2(b)	0.4kV	17.11	21	2.9	3.49	148	234	19	0.10	61	14	477	27.88	23.14
Commercial -- A2(c)	0.4kV	190.55	230	38.8	46.78	1,652	3,144	254	1.35	819	160	6,029	31.64	26.26
Commercial -- A2(d)	0.2kV	0.04	0	-	-	0.31	-	-	-	-	0	0		
Industrial -- B1(a)	0.2kV	18.78	23	20.4	24.64	163	1,657	134	0.71	431	24	2,409	128.26	106.44
Industrial -- B2(a)	0.4kV	19.70	24	18.5	22.30	171	1,499	121	0.64	390	17	2,198	111.58	92.59
Industrial -- B1(b)	0.4kV	93.59	113	31.1	37.50	811	2,521	204	1.08	657	78	4,271	45.63	37.87
Industrial -- B2(b)	0.4kV	315.20	380	95.2	114.67	2,732	7,709	623	3.31	2,008	264	13,336	42.31	35.11
Industrial -- B3	11kV	44.53	51	10.4	11.89	365	799	65	0.36	207	37	1,473	33.08	29.00
Industrial -- B4	132/66kV	23.92	24	9.6	9.76	175	656	53	0.34	137	19	1,040	43.47	42.87
Single Point Supply -- C1(a)	0.2kV	4.64	5	1.7	2.01	38	135	11	0.06	35	6	225	48.53	42.55
Single Point Supply -- C1(b)	0.4kV	27.59	33	3.6	4.33	239	291	24	0.13	76	23	653	23.67	19.64
Single Point Supply -- C2(a)	11kV	6.75	8	1.4	1.62	55	109	9	0.05	28	6	207	30.67	26.89
Single Point Supply -- C3(a)	132/66kV	8.72	9	4.0	4.04	64	271	22	0.14	57	7	421	48.25	47.58
Single Point Supply -- C1(c)	0.4kV	76.83	93	9.9	11.89	666	799	65	0.34	208	64	1,803	23.46	19.47
Single Point Supply -- C2(b)	11kV	115.53	132	34.6	39.51	948	2,656	215	1.21	687	97	4,602	39.84	34.93
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-		
Agricultural --D1(a)	0.4kV	8.39	10	7.6	9.19	73	618	50	0.27	161	7	909	108.25	89.83
Agricultural --D2(a)	0.4kV	6.19	7	8.5	10.25	54	689	56	0.30	180	5	983	158.89	131.86
Agricultural --D2(b)	0.4kV	76.96	93	22.1	26.67	667	1,793	145	0.77	467	65	3,137	40.75	33.82
Agricultural --D1(b)	0.4kV	13.78	17	1.6	1.87	119	126	10	0.05	33	12	300	21.77	18.07
Temporary Supply -- E1(i)	0.2kV	0.01	0	0.0	0.00	0	0	0	0.00	0	0	0	15.25	12.65
Temporary Supply -- E1(ii)	0.2kV	0.38	0	0.2	0.27	3	18	1	0.01	5	0	28	73.80	61.24
Temporary Supply -- E2	0.2kV	0.42	1	0.3	0.35	4	23	2	0.01	6	1	35	84.07	69.77
Public Lighting -- G	0.4kV	192.11	231	6.6	7.94	1,665	534	43	0.23	139	161	2,542	13.23	10.98
Residential Colonies -- H	11kV	0.87	1	0.4	0.49	7	33	3	0.02	9	1	52	59.97	52.58
A3 General	0.4kV	253.82	306	58.0	69.91	2,200	4,700	380	2.02	1,224	213	8,717	34.34	28.50
Total		**3,525.93**	**4,232**	**824**	**987**	**30,441**	**66,334**	**5,361**	**-**	**17,223**	**3,827**	**123,187.47**	**34.94**	**29.11**

TABLE-22

FY 2023-24 (kW or kWh at Consumer)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Fixed Cost	Fixed Cost Rs./kWh sold	Total Cost Rs./kWh Sold
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kW/M)	Cost (Rs./kW/M)	Cost (Rs./kW/M)	Demand (Rs./kW/M)	cust. Cost (Rs./kW/M)	(Rs./kW/ M)		
Residential -- A1(a)	0.2kV	1,894	2,283	364	439	8.67	6,750.71	545.60	2.90	1,758.33	551.17	9,605.81	22.18	30.85
Residential -- A1(b)	0.4kV	22	27	10	13	8.67	6,750.71	545.60	2.90	1,758.33	147.97	9,202.60	52.17	60.83
Commercial -- A2(a)	0.2kV	93	112	61	74	8.67	6,750.71	545.60	2.90	1,758.33	161.48	9,216.11	72.65	81.31
Commercial -- A2(b)	0.4kV	17	21	3	3	8.67	6,750.71	545.60	2.90	1,758.33	413.19	9,467.82	19.22	27.89
Commercial -- A2(c)	0.4kV	191	230	39	47	8.67	6,750.71	545.60	2.90	1,758.33	343.00	9,397.63	22.98	31.65
Commercial -- A2(d)	0.4kV	0	0	-	-	8.67	-	-	-	-	-	-	-	8.67
Industrial -- B1(a)	0.2kV	19	23	20	25	8.67	6,750.71	545.60	2.90	1,758.33	97.38	9,152.01	119.63	128.30
Industrial -- B2(a)	0.4kV	20	24	19	22	8.67	6,750.71	545.60	2.90	1,758.33	74.38	9,129.01	102.94	111.61
Industrial -- B1(b)	0.4kV	94	113	31	37	8.67	6,750.71	545.60	2.90	1,758.33	210.15	9,264.78	36.98	45.65
Industrial -- B2(b)	0.4kV	315	380	95	115	8.67	6,750.71	545.60	2.90	1,758.33	231.44	9,286.07	33.65	42.32
Industrial -- B3	11kV	45	51	10.4	11.9	8.21	6,389.68	516.42	2.90	1,652.19	297.86	8,856.15	24.88	33.09
Industrial -- B4	132/66kV	24	24	9.6	9.8	7.30	5,681.06	459.15	2.90	1,186.54	163.07	7,489.83	36.19	43.48
Single Point Supply -- C1(a)	0.2kV	5	5	2	2	8.21	6,750.71	545.60	2.90	1,758.33	295.04	9,349.67	40.34	48.54
Single Point Supply -- C1(b)	0.4kV	28	33	4	4	8.67	6,750.71	545.60	2.90	1,758.33	536.14	9,590.78	15.00	23.67
Single Point Supply -- C2(a)	11kV	7	8	1	2	8.21	6,389.68	516.42	2.90	1,652.19	331.00	8,889.29	22.48	30.68
Single Point Supply -- C3(a)	132/66kV	9	9	4	4	7.30	5,681.06	459.15	2.90	1,186.54	143.67	7,470.43	40.97	48.27
Single Point Supply -- C1(c)	0.4kV	77	93	10	12	8.67	6,750.71	545.60	2.90	1,758.33	544.06	9,598.70	14.80	23.47
Single Point Supply -- C2(b)	11kV	116	132	35	40	8.21	6,389.68	516.42	2.90	1,652.19	232.50	8,790.79	31.64	39.85
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8	10	8	9	8.67	6,750.71	545.60	2.90	1,758.33	76.89	9,131.52	99.62	108.29
Agricultural --D2(a)	0.4kV	6	7	9	10	8.67	6,750.71	545.60	2.90	1,758.33	50.82	9,105.46	150.27	158.94
Agricultural --D2(b)	0.4kV	77	93	22	27	8.67	6,750.71	545.60	2.90	1,758.33	242.97	9,297.61	32.10	40.76
Agricultural --D1(b)	0.4kV	14	17	2	2	8.67	6,750.71	545.60	2.90	1,758.33	619.15	9,673.79	13.10	21.77
Temporary Supply -- E1(i)	0.2kV	0	0	0	0	8.67	6,750.71	545.60	2.90	1,758.33	2,171.11	11,225.74	6.58	15.25
Temporary Supply -- E1(ii)	0.2kV	0	0	0	0	8.67	6,750.71	545.60	2.90	1,758.33	180.42	9,235.06	65.15	73.82
Temporary Supply -- E2	0.2kV	0	1	0	0	8.67	6,750.71	545.60	2.90	1,758.33	155.42	9,210.06	75.43	84.09
Public Lighting -- G	0.4kV	192	231	7	8	8.67	6,750.71	545.60	2.90	1,758.33	2,037.53	11,092.16	4.57	13.23
Residential Colonies -- H	11kV	1	1	0	0	8.21	6,389.68	516.42	2.90	1,652.19	140.59	8,698.89	51.78	59.99
A3 General	0.4kV	254	306	58	70	8.67	6,750.71	545.60	2.90	1,758.33	305.70	9,360.33	25.68	34.35
Total		**3,526**	**4,232**	**823.52**	**987**	**8.63**	**6,712.46**	**542.51**	-	**1,742.83**	**387.31**	9,385.11	**26.30**	**34.94**

TABLE-23

FY 2023-24 (kW or kWh CDP)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Fixed Cost	Fixed Cost Rs./kWh	Total Cost Rs./kWh
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kW/M)	Cost (Rs./kW/M)	Cost (Rs./kW/M)	Demand (Rs./kW/M)	cust. Cost (Rs./kW/M)	(Rs./kW/ M)	Purchased	Purchased
Residential -- A1(a)	0.2kV	1,894	2,283	364	439	7.19	5,602.09	452.77	2.41	1,459.15	457.39	7,973.81	18.41	25.60
Residential -- A1(b)	0.4kV	22	27	10	13	7.19	5,602.09	452.77	2.41	1,459.15	122.79	7,639.20	43.29	50.48
Commercial -- A2(a)	0.2kV	93	112	61	74	7.19	5,602.09	452.77	2.41	1,459.15	134.00	7,650.42	60.29	67.48
Commercial -- A2(b)	0.4kV	17	21	3	3	7.19	5,602.09	452.77	2.41	1,459.15	342.89	7,859.30	15.95	23.14
Commercial -- A2(c)	0.4kV	191	230	39	47	7.19	5,602.09	452.77	2.41	1,459.15	284.64	7,801.05	19.07	26.26
Commercial -- A2(d)	0.4kV	0	0	-	-	7.19	-	-	-	-	-	-	-	7.19
Industrial -- B1(a)	0.2kV	19	23	20	25	7.19	5,602.09	452.77	2.41	1,459.15	80.81	7,597.22	99.28	106.47
Industrial -- B2(a)	0.4kV	20	24	19	22	7.19	5,602.09	452.77	2.41	1,459.15	61.73	7,578.14	85.43	92.62
Industrial -- B1(b)	0.4kV	94	113	31	37	7.19	5,602.09	452.77	2.41	1,459.15	174.39	7,690.81	30.69	37.88
Industrial -- B2(b)	0.4kV	315	380	95	115	7.19	5,602.09	452.77	2.41	1,459.15	192.06	7,708.47	27.93	35.12
Industrial -- B3	11kV	45	51	10	12	7.19	5,602.09	452.77	2.54	1,448.54	261.15	7,767.09	21.82	29.01
Industrial -- B4	132/66kV	24	24	10	10	7.19	5,602.09	452.77	2.86	1,170.05	160.81	7,388.57	35.69	42.88
Single Point Supply -- C1(a)	0.2kV	5	5	2	2	7.19	5,602.09	452.77	2.41	1,459.15	244.84	7,761.25	35.36	42.56
Single Point Supply -- C1(b)	0.4kV	28	33	4	4	7.19	5,602.09	452.77	2.41	1,459.15	444.92	7,961.33	12.45	19.64
Single Point Supply -- C2(a)	11kV	7	8	1	2	7.19	5,602.09	452.77	2.54	1,448.54	290.20	7,796.14	19.71	26.90
Single Point Supply -- C3(a)	132/66kV	9	9	4	4	7.19	5,602.09	452.77	2.86	1,170.05	141.68	7,369.44	40.40	47.59
Single Point Supply -- C1(c)	0.4kV	77	93	10	12	7.19	5,602.09	452.77	2.41	1,459.15	451.49	7,967.91	12.28	19.47
Single Point Supply -- C2(b)	11kV	116	132	35	40	7.19	5,602.09	452.77	2.54	1,448.54	203.84	7,709.78	27.74	34.94
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8	10	8	9	7.19	5,602.09	452.77	2.41	1,459.15	63.80	7,580.22	82.67	89.86
Agricultural --D2(a)	0.4kV	6	7	9	10	7.19	5,602.09	452.77	2.41	1,459.15	42.18	7,558.59	124.70	131.90
Agricultural --D2(b)	0.4kV	77	93	22	27	7.19	5,602.09	452.77	2.41	1,459.15	201.63	7,718.05	26.63	33.83
Agricultural --D1(b)	0.4kV	14	17	2	2	7.19	5,602.09	452.77	2.41	1,459.15	513.81	8,030.22	10.87	18.07
Temporary Supply -- E1(i)	0.2kV	0	0	0	0	7.19	5,602.09	452.77	2.41	1,459.15	1,801.70	9,318.11	5.46	12.66
Temporary Supply -- E1(ii)	0.2kV	0	0	0	0	7.19	5,602.09	452.77	2.41	1,459.15	149.72	7,666.14	54.07	61.26
Temporary Supply -- E2	0.2kV	0	1	0	0	7.19	5,602.09	452.77	2.41	1,459.15	128.98	7,645.39	62.59	69.79
Public Lighting -- G	0.4kV	192	231	7	8	7.19	5,602.09	452.77	2.41	1,459.15	1,690.85	9,207.26	3.79	10.98
Residential Colonies -- H	11kV	1	1	0	0	7.19	5,602.09	452.77	2.54	1,448.54	123.26	7,629.20	45.40	52.59
A3 General	0.4kV	254	306	58	70	7.19	5,602.09	452.77	2.41	1,459.15	253.68	7,770.10	21.31	28.51
Total		**3,526**	**4,232**	**824**	**987**	**7.19**	**5,602.09**	**452.77**	**-**	**1,454.53**	**323.24**	**7,832.63**	**21.92**	**29.11**

TABLE-24

FY 2023-24 (kWh at Consumer)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm Cost	MOF Cost	Distribution		Total Fixed Cost	Fixed Cost Rs./kWh	Total Cost Rs./kWh
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kWh)	(Rs./kWh)	(Rs./kWh)	Demand (Rs./kWh)	cust. Cost (Rs./kWh)	(Rs./kWh)	Purchased	Sold
Residential -- A1(a)	0.2kV	1,894	2,283	364	439	8.67	15.58	1.26	0.01	4.06	1.27	22.18	22.18	30.85
Residential -- A1(b)	0.4kV	22	27	10	13	8.67	38.25	3.09	0.02	9.96	0.84	52.17	52.17	60.83
Commercial -- A2(a)	0.2kV	93	112	61	74	8.67	53.20	4.30	0.02	13.86	1.27	72.65	72.65	81.31
Commercial -- A2(b)	0.4kV	17	21	3	3	8.67	13.70	1.11	0.01	3.57	0.84	19.22	19.22	27.89
Commercial -- A2(c)	0.4kV	191	230	39	47	8.67	16.50	1.33	0.01	4.30	0.84	22.98	22.98	31.65
Commercial -- A2(d)	0.4kv	0	0	-	-	8.67	-	-	-	-	0.84	0.84	0.84	9.51
Industrial -- B1(a)	0.2kV	19	23	20	25	8.67	88.21	7.13	0.04	22.98	1.27	119.63	119.63	128.30
Industrial -- B2(a)	0.4kV	20	24	19	22	8.67	76.10	6.15	0.03	19.82	0.84	102.94	102.94	111.61
Industrial -- B1(b)	0.4kV	94	113	31	37	8.67	26.93	2.18	0.01	7.02	0.84	36.98	36.98	45.65
Industrial -- B2(b)	0.4kV	315	380	95	115	8.67	24.46	1.98	0.01	6.37	0.84	33.65	33.65	42.32
Industrial -- B3	11kV	45	51	10	12	8.21	17.95	1.45	0.01	4.64	0.84	24.88	24.88	33.09
Industrial -- B4	132/66kV	24	24	10	10	7.30	27.44	2.22	0.01	5.73	0.79	36.19	36.19	43.48
Single Point Supply -- C1(a)	0.2kV	5	5	2	2	8.21	29.11	2.35	0.01	7.58	1.27	40.34	40.34	48.54
Single Point Supply -- C1(b)	0.4kV	28	33	4	4	8.67	10.56	0.85	0.00	2.75	0.84	15.00	15.00	23.67
Single Point Supply -- C2(a)	11kV	7	8	1	2	8.21	16.15	1.31	0.01	4.18	0.84	22.48	22.48	30.68
Single Point Supply -- C3(a)	132/66kV	9	9	4	4	7.30	31.14	2.52	0.02	6.50	0.79	40.97	40.97	48.27
Single Point Supply -- C1(c)	0.4kV	77	93	10	12	8.67	10.40	0.84	0.00	2.71	0.84	14.80	14.80	23.47
Single Point Supply -- C2(b)	11kV	116	132	35	40	8.21	22.99	1.86	0.01	5.95	0.84	31.64	31.64	39.85
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8	10	8	9	8.67	73.62	5.95	0.03	19.18	0.84	99.62	99.62	108.29
Agricultural --D2(a)	0.4kV	6	7	9	10	8.67	111.37	9.00	0.05	29.01	0.84	150.27	150.27	158.94
Agricultural --D2(b)	0.4kV	77	93	22	27	8.67	23.30	1.88	0.01	6.07	0.84	32.10	32.10	40.76
Agricultural --D1(b)	0.4kV	14	17	2	2	8.67	9.14	0.74	0.00	2.38	0.84	13.10	13.10	21.77
Temporary Supply -- E1(i)	0.2kV	0	0	0	0	8.67	3.96	0.32	0.00	1.03	1.27	6.58	6.58	15.25
Temporary Supply -- E1(ii)	0.2kV	0	0	0	0	8.67	47.61	3.85	0.02	12.40	1.27	65.15	65.15	73.82
Temporary Supply -- E2	0.2kV	0	1	0	0	8.67	55.27	4.47	0.02	14.40	1.27	75.43	75.43	84.09
Public Lighting -- G	0.4kV	192	231	7	8	8.67	2.78	0.22	0.00	0.72	0.84	4.57	4.57	13.23
Residential Colonies -- H	11kV	1	1	0	0	8.21	38.02	3.07	0.02	9.83	0.84	51.78	51.78	59.99
A3 General	0.4kV	254	306	58	70	8.67	18.52	1.50	0.01	4.82	0.84	25.68	25.68	34.35
Total		**3,526**	**4,232**	**824**	**987**	**8.63**	**18.81**	**1.52**	-	**4.88**	**1.09**	**26.30**	**26.30**	**34.94**

TABLE-25

FY 2023-24(kWh at CDP)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Fixed Cost	Fixed Cost Rs./kWh	Total Cost Rs./kWh
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kWh)	Cost (Rs./kWh)	Cost (Rs./kWh)	Demand (Rs./kWh)	cust. Cost (Rs./kWh)	(Rs./kWh)	Purchased	Purchased
Residential -- A1(a)	0.2kV	1,894.4	2,282.9	364.5	439.2	8.67	15.6	1.3	0.0	4.1	1.3	22.2	22.2	30.9
Residential -- A1(b)	0.4kV	22.0	26.5	10.4	12.5	8.7	38.3	3.1	0.0	10.0	0.8	52.2	52.2	60.8
Commercial -- A2(a)	0.2kV	93.1	112.2	61.1	73.6	8.7	53.2	4.3	0.0	13.9	1.3	72.6	72.6	81.3
Commercial -- A2(b)	0.4kV	17.1	20.6	2.9	3.5	8.7	13.7	1.1	0.0	3.6	0.8	19.2	19.2	27.9
Commercial -- A2(c)	0.4kV	190.5	229.6	38.8	46.8	8.7	16.5	1.3	0.0	4.3	0.8	23.0	23.0	31.6
Commercial -- A2(d)	0.4 KV	0.0	0.0	-	-	8.7	-	-	-	-	0.8	0.8	0.8	9.5
Industrial -- B1(a)	0.2kV	18.8	22.6	20.4	24.6	8.7	88.2	7.1	0.0	23.0	1.3	119.6	119.6	128.3
Industrial -- B2(a)	0.4kV	19.7	23.7	18.5	22.3	8.7	76.1	6.2	0.0	19.8	0.8	102.9	102.9	111.6
Industrial -- B1(b)	0.4kV	93.6	112.8	31.1	37.5	8.7	26.9	2.2	0.0	7.0	0.8	37.0	37.0	45.6
Industrial -- B2(b)	0.4kV	315.2	379.8	95.2	114.7	8.7	24.5	2.0	0.0	6.4	0.8	33.7	33.7	42.3
Industrial -- B3	11kV	44.5	50.8	10.4	11.9	8.2	17.9	1.5	0.0	4.6	0.8	24.9	24.9	33.1
Industrial -- B4	132/66kV	23.9	24.3	9.6	9.8	7.3	27.4	2.2	0.0	5.7	0.8	36.2	36.2	43.5
Single Point Supply -- C1(a)	0.2kV	4.6	5.3	1.7	2.0	8.2	29.1	2.4	0.0	7.6	1.3	40.3	40.3	48.5
Single Point Supply -- C1(b)	0.4kV	27.6	33.2	3.6	4.3	8.7	10.6	0.9	0.0	2.7	0.8	15.0	15.0	23.7
Single Point Supply -- C2(a)	11kV	6.8	7.7	1.4	1.6	8.2	16.2	1.3	0.0	4.2	0.8	22.5	22.5	30.7
Single Point Supply -- C3(a)	132/66kV	8.7	8.8	4.0	4.0	7.3	31.1	2.5	0.0	6.5	0.8	41.0	41.0	48.3
Single Point Supply -- C1(c)	0.4kV	76.8	92.6	9.9	11.9	8.7	10.4	0.8	0.0	2.7	0.8	14.8	14.8	23.5
Single Point Supply -- C2(b)	11kV	115.5	131.8	34.6	39.5	8.2	23.0	1.9	0.0	5.9	0.8	31.6	31.6	39.8
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8.4	10.1	7.6	9.2	8.7	73.6	6.0	0.0	19.2	0.8	99.6	99.6	108.3
Agricultural --D2(a)	0.4kV	6.2	7.5	8.5	10.3	8.7	111.4	9.0	0.0	29.0	0.8	150.3	150.3	158.9
Agricultural --D2(b)	0.4kV	77.0	92.7	22.1	26.7	8.7	23.3	1.9	0.0	6.1	0.8	32.1	32.1	40.8
Agricultural --D1(b)	0.4kV	13.8	16.6	1.6	1.9	8.7	9.1	0.7	0.0	2.4	0.8	13.1	13.1	21.8
Temporary Supply -- E1(i)	0.2kV	0.0	0.0	0.0	0.0	8.7	4.0	0.3	0.0	1.0	1.3	6.6	6.6	15.2
Temporary Supply -- E1(ii)	0.2kV	0.4	0.5	0.2	0.3	8.7	47.6	3.8	0.0	12.4	1.3	65.2	65.2	73.8
Temporary Supply -- E2	0.2kV	0.4	0.5	0.3	0.3	8.7	55.3	4.5	0.0	14.4	1.3	75.4	75.4	84.1
Public Lighting -- G	0.4kV	192.1	231.5	6.6	7.9	8.7	2.8	0.2	0.0	0.7	0.8	4.6	4.6	13.2
Residential Colonies -- H	11kV	0.9	1.0	0.4	0.5	8.2	38.0	3.1	0.0	9.8	0.8	51.8	51.8	60.0
A3 General	0.4kV	253.8	305.9	58.0	69.9	8.7	18.5	1.5	0.0	4.8	0.8	25.7	25.7	34.4
Total		**3,526**	**4,232**	**824**	**987**	**7.19**	**15.68**	**1.27**	**-**	**4.07**	**0.90**	**21.92**	**21.92**	**29.11**

TABLE-26

FY 2023-24 (Cost of Losses on kW or kWh)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Fixed Cost	Total Fixed Cost	Total Cost (Rs./kWh)
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kW/M)	Cost (Rs./kW/M)	Cost (Rs./kW/M)	Demand (Rs./kW/M)	cust. Cost (Rs./kW/M)	(Rs./kW/ M)	(Rs./kWh)	
Residential -- A1(a)	0.2kV	1,894	2,283	364	439	1.47	1,148.62	92.83	0.49	299.18	93.78	1,634.90	-	1.47
Residential -- A1(b)	0.4kV	22	27	10	13	1.47	1,148.62	92.83	0.49	299.18	25.18	1,566.29	-	1.47
Commercial -- A2(a)	0.2kV	93	112	61	74	1.47	1,148.62	92.83	0.49	299.18	27.47	1,568.59	-	1.47
Commercial -- A2(b)	0.4kV	17	21	3	3	1.47	1,148.62	92.83	0.49	299.18	70.30	1,611.42	-	1.47
Commercial -- A2(c)	0.4kV	191	230	39	47	1.47	1,148.62	92.83	0.49	299.18	58.36	1,599.48	-	1.47
Commercial -- A2(d)	0.4 KV	0	0	-	-	1.47	-	-	-	-	-	-	-	1.47
Industrial -- B1(a)	0.2kV	19	23	20	25	1.47	1,148.62	92.83	0.49	299.18	16.57	1,557.69	-	1.47
Industrial -- B2(a)	0.4kV	20	24	19	22	1.47	1,148.62	92.83	0.49	299.18	12.66	1,553.77	-	1.47
Industrial -- B1(b)	0.4kV	94	113	31	37	1.47	1,148.62	92.83	0.49	299.18	35.76	1,576.87	-	1.47
Industrial -- B2(b)	0.4kV	315	380	95	115	1.47	1,148.62	92.83	0.49	299.18	39.38	1,580.50	-	1.47
Industrial -- B3	11kV	45	51	10	12	1.01	787.59	63.65	0.36	203.65	36.71	1,091.97	-	1.01
Industrial -- B4	132/66kV	24	24	10	10	0.10	78.97	6.38	0.04	16.49	2.27	104.15	-	0.10
Single Point Supply -- C1(a)	0.2kV	5	5	2	2	1.01	1,148.62	92.83	0.49	299.18	50.20	1,591.32	-	1.01
Single Point Supply -- C1(b)	0.4kV	28	33	4	4	1.47	1,148.62	92.83	0.49	299.18	91.22	1,632.34	-	1.47
Single Point Supply -- C2(a)	11kV	7	8	1	2	1.01	787.59	63.65	0.36	203.65	40.80	1,096.05	-	1.01
Single Point Supply -- C3(a)	132/66kV	9	9	4	4	0.10	78.97	6.38	0.04	16.49	2.00	103.88	-	0.10
Single Point Supply -- C1(c)	0.4kV	77	93	10	12	1.47	1,148.62	92.83	0.49	299.18	92.57	1,633.69	-	1.47
Single Point Supply -- C2(b)	11kV	116	132	35	40	1.01	787.59	63.65	0.36	203.65	28.66	1,083.91	-	1.01
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8	10	8	9	1.47	1,148.62	92.83	0.49	299.18	13.08	1,554.20	-	1.47
Agricultural --D2(a)	0.4kV	6	7	9	10	1.47	1,148.62	92.83	0.49	299.18	8.65	1,549.76	-	1.47
Agricultural --D2(b)	0.4kV	77	93	22	27	1.47	1,148.62	92.83	0.49	299.18	41.34	1,582.46	-	1.47
Agricultural --D1(b)	0.4kV	14	17	2	2	1.47	1,148.62	92.83	0.49	299.18	105.35	1,646.46	-	1.47
Temporary Supply -- E1(i)	0.2kV	0	0	0	0	1.47	1,148.62	92.83	0.49	299.18	369.41	1,910.53	-	1.47
Temporary Supply -- E1(ii)	0.2kV	0	0	0	0	1.47	1,148.62	92.83	0.49	299.18	30.70	1,571.82	-	1.47
Temporary Supply -- E2	0.2kV	0	1	0	0	1.47	1,148.62	92.83	0.49	299.18	26.45	1,567.56	-	1.47
Public Lighting -- G	0.4kV	192	231	7	8	1.47	1,148.62	92.83	0.49	299.18	346.68	1,887.80	-	1.47
Residential Colonies -- H	11kV	1	1	0	0	1.01	787.59	63.65	0.36	203.65	17.33	1,072.58	-	1.01
A3 General	0.4kV	254	306	58	70	1.47	1,148.62	92.83	0.49	299.18	52.01	1,593.13	-	1.47
Total		**3,526**	**4,232**	**824**	**986.8**	**1.44**	**1,110.37**	**89.74**	-	**288.30**	**64.07**	**1,552.48**	**4.39**	**5.83**

TABLE-27

FY 2023-24 (Cost of Losses on kWh)

Classes	Voltage Level	Energy GWh		Demand MW		Generation Cost		Transm	MOF	Distribution		Total Fixed Cost	Total Fixed Cost	Total Cost (Rs./kWh)
		Sold	Purchased	at Meter	at CDP	Energy (Rs./kWh)	Demand (Rs./kW/M)	Cost (Rs./kW/M)	Cost (Rs./kW/M)	Demand (Rs./kW/M)	cust. Cost (Rs./kW/M)	(Rs./kW/ M)	(Rs./kWh)	
Residential -- A1(a)	0.2kV	1,894	2,283	364	439	-	-	-	-	-	-	-	-	-
Residential -- A1(b)	0.4kV	22	27	10	13	-	-	-	-	-	-	-	-	-
Commercial -- A2(a)	0.2kV	93	112	61	74	-	-	-	-	-	-	-	-	-
Commercial -- A2(b)	0.4kV	17	21	3	3	-	-	-	-	-	-	-	-	-
Commercial -- A2(c)	0.4kV	191	230	39	47	-	-	-	-	-	-	-	-	-
Commercial -- A2(d)	0.KV	0	0	-	-	-	-	-	-	-	-	-	-	-
Industrial -- B1(a)	0.2kV	19	23	20	25	-	-	-	-	-	-	-	-	-
Industrial -- B2(a)	0.4kV	20	24	19	22	-	-	-	-	-	-	-	-	-
Industrial -- B1(b)	0.4kV	94	113	31	37	-	-	-	-	-	-	-	-	-
Industrial -- B2(b)	0.4kV	315	380	95	115	-	-	-	-	-	-	-	-	-
Industrial -- B3	11kV	45	51	10	12	-	-	-	-	-	-	-	-	-
Industrial -- B4	132/66kV	24	24	10	10	-	-	-	-	-	-	-	-	-
Single Point Supply -- C1(a)	0.2kV	5	5	2	2	-	-	-	-	-	-	-	-	-
Single Point Supply -- C1(b)	0.4kV	28	33	4	4	-	-	-	-	-	-	-	-	-
Single Point Supply -- C2(a)	11kV	7	8	1	2	-	-	-	-	-	-	-	-	-
Single Point Supply -- C3(a)	132/66kV	9	9	4	4	-	-	-	-	-	-	-	-	-
Single Point Supply -- C1(c)	0.4kV	77	93	10	12	-	-	-	-	-	-	-	-	-
Single Point Supply -- C2(b)	11kV	116	132	35	40	-	-	-	-	-	-	-	-	-
Single Point Supply -- C3(b)	132/66kV	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural --D1(a)	0.4kV	8	10	8	9	-	-	-	-	-	-	-	-	-
Agricultural --D2(a)	0.4kV	6	7	9	10	-	-	-	-	-	-	-	-	-
Agricultural --D2(b)	0.4kV	77	93	22	27	-	-	-	-	-	-	-	-	-
Agricultural --D1(b)	0.4kV	14	17	2	2	-	-	-	-	-	-	-	-	-
Temporary Supply -- E1(i)	0.2kV	0	0	0	0	-	-	-	-	-	-	-	-	-
Temporary Supply -- E1(ii)	0.2kV	0	0	0	0	-	-	-	-	-	-	-	-	-
Temporary Supply -- E2	0.2kV	0	1	0	0	-	-	-	-	-	-	-	-	-
Public Lighting -- G	0.4kV	192	231	7	8	-	-	-	-	-	-	-	-	-
Residential Colonies -- H	11kV	1	1	0	0	-	-	-	-	-	-	-	-	-
A3 General	0.4kV	254	306	58	70	-	-	-	-	-	-	-	-	-
Total		**3,526**	**4,232**	**824**	**987**	**1.44**	**3.14**	**0.25**	**-**	**0.81**	**0.18**	**4.39**	**4.39**	**5.83**

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SUKKUR ELECTRIC POWER COMPANY

Consumer Category Wise Subsidy/Cross Subsidy Calculation

	TARIFF CATAGORIES	Voltage kV	Sales kWh	Billing Demand (MW)	NEPRA Rates Fixed Charge	NEPRA Rates Variable Charge	CoS Rates Fixed Charge Rs/kW/M	CoS Rates Variable Charge Rs/kWh	GOP Rates Fixed* Charge (Rs/kW/M)	GOP Rates Variable Charge (Rs/kWh)	Revenue as per NEPRA Rates Fixed Charge (Rs)	Revenue as per NEPRA Rates Variable Charge (Rs)	Revenue on NEPRA Tariff (Rs.)	Cost of Service (Rs)	Revenue on GOP Tariff (Rs.)	GOP Tariff - (Subsidy)/Cross Subsidy (Rs.)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs.)	GOP Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)
A1 (a)	Residential-A1																		
i	Up to 50 Units Life line	0.2	20,190,389	0.00		7.00		31.90		3.95		141,336,925	141,336,925	644,077,164	79,754,407	(564,322,757)	(502,740,240)	-27.95	-24.90
ii	51-100 units Life line	0.2	65,767,147	0.00		11.74		31.90		7.74		772,107,475	772,107,475	2,097,925,029	509,036,489	(1,588,888,541)	(1,325,817,554)	-24.16	-20.16
iii	01-100 Units (Protected)	0.2	374,673,983	0.00		15.63		31.90		7.74		5,856,154,356	5,856,154,356	11,951,814,434	2,899,976,629	(9,051,837,804)	(6,095,660,077)	-24.16	-16.27
iv	101-200 Units (Protected)	0.2	71,041,475	0.00		17.95		31.90		10.06		1,275,194,475	1,275,194,475	2,266,168,592	714,677,238	(1,551,491,655)	(990,974,418)	-21.84	-13.95
v	01-100 Units	0.2	295,667,664	0.00		26.97		31.90		16.48		7,971,706,330	7,971,706,330	9,431,573,080	4,872,603,101	(4,558,969,979)	(1,457,866,750)	-15.42	-4.93
vi	101-200 Units	0.2	334,147,748	0.00		32.44		31.90		22.95		10,839,752,953	10,839,752,953	10,659,058,435	7,668,690,872	(2,990,367,613)	180,694,517	-8.95	0.54
vii	201-300 Units	0.2	407,326,170	0.00		35.63		31.90		27.14		14,334,881,431	14,334,881,431	12,833,898,109	10,919,132,249	(1,914,765,860)	1,500,983,322	-4.76	3.73
viii	301-400Units	0.2	124,286,904	0.00		39.02		31.90		32.03		4,849,675,003	4,849,675,003	3,964,657,497	3,980,909,543	16,252,046	885,017,507	0.13	7.12
ix	401-500Units	0.2	72,296,302	0.00		41.23		31.90		35.24		2,980,776,546	2,980,776,548	2,306,196,933	2,547,721,697	241,524,764	674,579,616	3.34	9.33
x	501-600Units	0.2	35,854,410	0.00		42.65		31.90		36.66		1,529,190,582	1,529,190,582	1,143,728,342	1,314,472,667	170,654,374	385,462,240	4.76	10.75
xi	601-700Units	0.2	41,401,412	0.00		43.47		31.90		37.80		1,799,640,724	1,799,640,724	1,320,737,293	1,565,048,989	244,311,697	478,903,431	5.90	11.57
xii	Above 700 Units	0.2	56,777,566	0.00		48.39		31.90		42.72		2,747,219,307	2,747,239,307	1,811,161,071	2,425,517,618	614,356,547	936,078,236	10.82	16.49
A1(b)	Time of Use (TOU) - Peak	0.4	3,241,159	0.00		47.55		63.59		41.89		154,131,612	154,131,612	206,117,931	135,772,145	(70,345,786)	(51,986,319)	-21.70	-16.04
	Time of Use (TOU) - Off Peak	0.4	18,781,444	0.00		41.23		63.59		35.57		774,443,019	774,443,019	1,194,345,281	668,055,976	(526,329,305)	(419,942,261)	-28.02	-22.36
	Total Residential-A1		1,916,456,474									56,028,210,739	56,028,230,739	61,831,499,492	40,301,341,570	(21,530,157,922)	(5,803,268,752)	-11.23	-3.03
	Commercial - A2																		
A2 (a)	Commercial - For peak load requirement up to 5	0.2	95,070,618	0.00		33.37		84.76		37.75		4,031,446,884	4,031,446,884	7,888,751,616	3,511,415,825	(4,375,335,791)	(3,857,304,732)	-47.01	-41.44
A2 (b)	Regular	0.4	17,114,710	2.53	500	45.00		30.92	500	39.43	15,164,648	770,091,503	785,258,151	539,216,428	690,027,674	150,811,246	256,071,721	9.40	14.96
A2 (c)	Time of Use (TOU) - Peak (A-2)	0.4	24,007,135	75.11	500	46.97		32.59	500	41.35	450,640,615	1,126,316,768	1,576,959,382	782,357,468	1,443,335,666	660,978,198	794,601,914	27.53	33.10
	Time of Use (TOU) - Off Peak		166,533,079	0.00	500	40.95		32.55	500	35.38	0	6,819,068,185	6,819,068,185	5,427,232,667	5,892,117,237	464,884,570	1,391,835,518	2.79	8.36
A2 (d)	Electric Vehicles	0.4	35,259	0.00	0	45.00		9.51		35.43	0	1,586,329	1,586,329	335,224	1,390,276	1,055,052	1,251,305	0.00	0.00
	Total Commercial-A2		300,765,802								465,835,263	12,748,513,868	13,214,349,131	14,627,893,403	11,540,286,677	(3,087,606,726)	(1,413,544,272)	10.27	-4.70
	Industrial-B																		
B1(a)	B1	0.2	18,779,464	0.00		39.77		136.80		34.33		746,860,075	746,860,075	2,569,344,878	644,699,681	(1,924,245,196)	(1,822,084,803)	-102.47	-97.03
B1(b)	B1 TOU (Peak)	0.4	5,872,712	0.00		44.33		46.71		37.89		254,724,507	254,724,507	274,592,656	222,744,324	(51,848,332)	(19,868,149)	-8.83	-3.38
	B1 TOU (Off peak)		67,721,019	0.00		37.77		46.71		32.33		3,112,845,181	3,112,845,181	4,096,953,478	2,835,697,245	(1,261,256,239)	(784,108,297)	-14.28	-8.54
B2 (a)	B2	0.4	19,701,191	9.03	500	39.27		116.47	500	33.83	54,160,604	773,661,781	827,822,165	2,294,683,251	720,651,904	(1,574,031,347)	(1,466,861,087)	-79.90	-74.46
B2 (b)	B2 TOU (Peak)	0.4	37,009,639	137.95	500	44.27		44.23	500	37.83	827,671,804	1,644,662,801	2,472,334,605	1,644,356,669	2,265,569,964	622,507,155	828,277,946	16.48	21.82
	B2 TOU (Off peak)		277,186,269	0.00	500	37.56		43.23	500	32.12	0	10,411,316,245	10,411,316,248	11,982,336,912	8,903,222,947	(3,078,513,965)	(1,571,020,664)	-11.11	-5.67
B3	B3 TOU (Peak)	11	7,985,192	15.95	460	43.27		26.55	460	37.83	87,490,090	345,519,265	433,009,355	211,983,918	389,569,910	177,585,992	221,025,437	22.24	27.68
	B3 TOU (Off peak)		36,542,715	0.00	460	37.47		26.55	460	32.03	0	1,369,255,519	1,369,255,519	970,104,116	1,170,463,168	200,359,032	399,151,403	5.48	10.92
B4	B4 TOU (Peak)	132/66	3,975,761	5.59	440	43.27		23.58	440	37.83	29,512,235	172,031,190	201,543,425	93,767,898	179,915,284	86,147,386	107,775,527	21.67	27.11
	B4 TOU (Off peak)		19,944,593	0.00	440	37.37		23.58	440	31.93	0	745,326,066	745,326,066	470,388,933	636,827,971	166,439,039	274,937,133	8.35	13.79
	Total Industrial-B		515,714,153								998,834,733	19,776,006,654	20,774,841,387	24,606,612,720	17,969,356,394	(6,637,256,326)	(3,831,771,334)	-12.87	-7.43
	Bulk C																		
C1 (a)	C1(a) - up to 5 kW	0.2	4,644,961	0.00		44.32		48.93		38.43		205,864,693	205,864,693	227,273,844	178,505,870	(48,767,974)	(21,409,151)	-10.50	-4.61
C1 (b)	C1(b) - exceeding 5 kW	0.4	27,588,451	3.78	500	43.82		22.79	500	37.93	22,670,186	1,208,925,903	1,231,596,069	628,794,338	1,069,100,115	440,305,777	602,801,750	15.96	21.85
C1 (c)	Time of use (TOU) - Peak	0.4	11,501,515	18.79	500	47.24		23.82	500	41.35	112,767,855	543,331,577	656,099,433	273,944,047	588,355,508	314,411,466	382,155,391	27.34	33.23
	Time of Use (TOU) - Off Peak		65,329,185	0.00	500	40.64		23.82	500	34.75	0	2,654,978,073	2,654,978,073	1,556,015,939	2,270,189,174	714,173,235	1,098,962,135	10.93	16.82
C2 (a)	C2 Supply at 11 kV	11	6,751,554	1.21	500	43.62		34.70	500	37.73	7,272,929	294,502,783	301,775,712	234,262,604	262,009,059	27,746,456	67,513,109	4.11	10.00
C2 (b)	Time of Use (TOU) - Peak	11	15,413,012	26.20	460	47.24		15.04	460	41.35	144,613,392	728,063,411	872,676,723	231,787,057	781,899,974	550,112,917	640,889,666	35.69	41.58
	Time of Use (TOU) - Off Peak		100,114,124	0.00	460	40.44		15.04	460	34.55	0	4,048,615,183	4,048,615,183	1,505,654,079	3,458,942,991	1,953,288,912	2,542,961,104	19.51	25.40
C3 (a)	C3 Supply above 11 kV	132/66	8,716,258	0.00	440	43.52		42.12	440	37.63	0	379,331,534	379,331,534	367,101,374	327,992,776	(39,108,598)	12,230,159	-4.49	1.40
C3 (b)	Time of Use (TOU) - Peak	132/66	0	0.00	440	47.24		0.00	440	41.35	0	0	0	0	0	0	0	0.00	0.00
	Time of Use (TOU) - Off Peak		0	0.00	440	40.34		0.00	440	34.45	0	0	0	0	0	0	0	0.00	0.00
	Total Single Point Supply C		240,068,060								287,324,262	10,063,613,176	10,350,937,439	5,024,833,278	8,936,995,468	3,912,162,190	5,326,104,161	16.30	22.19
	Agricultural Tube-wells - Tariff D																		
D1 (a)	D1 Scarp	0.4	8,394,568	0.00		40.32		118.66		34.43		338,469,806	338,469,806	996,061,210	289,025,680	(707,035,530)	(657,591,404)	-84.23	-78.34
D2	D2 Agricultural Tube wells	0.4	6,199,076	0.87	200	29.99		172.35	200	24.10	2,078,353	185,610,399	187,688,751	1,066,717,612	151,235,092	(915,482,520)	(879,028,860)	-147.92	-142.03
D1 (b)	Time of Use (TOU) - Peak	0.4	896,394	2.64	200	41.24		19.55	200	37.35	6,341,497	36,760,056	45,101,553	17,791,259	39,821,795	22,030,536	27,310,294	24.58	30.47
	Time of Use (TOU) - Off Peak		12,828,345	0.00	200	35.99		19.85	200	30.10	0	463,851,522	463,851,522	255,802,691	387,939,172	132,136,481	208,048,831	10.25	16.14
D2 (b)	Time of Use (TOU) - Peak	0.4	5,105,716	49.04	200	29.99		41.65	200	24.10	117,700,659	153,120,429	270,821,088	212,659,329	240,748,419	28,089,091	58,161,759	5.50	11.39
	Time of Use (TOU) - Off Peak		71,856,991	0.00	200	29.99		41.65	200	24.10	0	2,154,991,145	2,154,991,145	2,992,931,595	1,731,753,471	(1,261,178,124)	(837,940,450)	-17.55	-11.66
	Total Agricultural-D		105,331,110								126,120,508	3,334,803,357	3,460,923,865	5,541,963,696	2,840,523,630	(2,701,440,066)	(2,081,039,830)	-25.65	-19.76
	Temporary Supply Tariff - Tariff E																		
E-1(i)	Temporary E-1 (i)	0.2	11,842	0.00		47.69		17.77		42.03		564,776	564,776	210,454	497,699	287,246	354,122	24.26	29.92
E-1 (ii)	Temporary E-1 (ii)	0.2	382,552	0.00		43.71		63.95		38.14		16,719,823	16,719,823	24,465,168	14,590,538	(9,874,630)	(7,745,345)	-25.81	-20.25
E-2	Temporary E-2	0.2	420,790	0.00		40.85		9.94		35.41		17,189,280	17,189,280	4,183,220	14,900,182	10,716,961	13,006,060	25.47	30.91
	Total Temporary E		815,184								0	34,473,879	34,473,879	28,858,842	29,988,419	1,129,577	5,615,037	1.39	6.89
	Public Lighting - Tariff G																		
G	Public Lighting G	0.4	192,106,334	0.00		43.32		13.05		37.43	0	8,322,046,407	8,322,046,407	2,507,802,750	7,190,540,097	4,682,737,347	5,814,243,657	24.38	30.27
	Total Public Lighting - G		192,106,334								0	8,322,046,407	8,322,046,407	2,507,802,750	7,190,540,097	4,682,737,347	5,814,243,657	24.38	30.27
	Residential Colonies attached to Industrial																		
H	Residential Colonies H	11	869,215	0.00		43.32		9.04		37.43		37,654,408	37,654,408	7,859,382	32,534,729	24,675,347	29,795,025	28.39	34.28
	Total Tariff H		869,215								0	37,654,408	37,654,408	7,859,382	32,534,729	24,675,347	29,795,025	28.39	34.28
	Special Contracts																		
K1(a)	Azad Jammu Kashmir K1(a)	11	0	0.00	440	0.00		0.00	440	34.65	0	0	0	0	0	0	0	0.00	0.00
K1(b)	Azad Jammu Kashmir K1(b) - Peak	11	0	0.00	440	0.00		0.00	440	40.35	0	0	0	0	0	0	0	0.00	0.00
	Azad Jammu Kashmir K1(b) - Offpeak		0		440	0.00		0.00	440	33.45	0	0	0	0	0	0	0	0.00	0.00
K2	Rawat Lab	11			440	43.20		0.00	440	37.43	0	0	0	0	0	0	0	0.00	0.00
	Total Special Contracts - K		0								0.00	0	0	0	0	0	0	0.00	0.00
	General																		
A3	General	0.4	253,817,544	0.00	0	43.20		35.50		37.31	0	10,964,917,920	10,964,917,920	9,010,146,157	9,469,932,583	459,786,426	1,954,771,763	1.81	7.70
	Total Special Contracts - K		253,817,544								0	10,964,917,920	10,964,917,920	9,010,146,157	9,469,932,583	459,786,426	1,954,771,763	1.81	7.70
	Wheeling Charge-Export to DISCOS																		
	Export to DISCOs 132kV	132	0			0				0.00	0	0	0	0	0	0	0	0	0
	Export to DISCOs 11kV	11	0			0				0.00	0	0	0	0	0	0	0	0	0
	Grand Total		3,525,533,876	348.58							1,878,114,766	121,310,260,408	123,188,375,175	123,187,469,720	98,311,499,568	(24,875,970,152)	905,455	-7.06	0.0002568

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TARIFF CATAGORIES		Voltage kV	Sales kWh	Billing Demand (MW)	NEPRA Rates		CoS Rates		GOP Rates	
					Fixed Charge	Variable Charge	Fixed Charge Rs/kW/M	Variable Charge Rs/kWh	Fixed* Charge (Rs/kW/M)	Variable Charge (Rs/kWh)
A1 (a)	**Residential -A1**									
i	Up to 50 Units Life line	0.2	20,190,989	0.00		7.00		31.90		**3.95**
ii	51-100 units Life line	0.2	65,767,247	0.00		11.74		31.90		**7.74**
iii	01-100 Units (Protected)	0.2	374,673,983	0.00		15.63		31.90		**7.74**
iv	101-200 Units (Protected)	0.2	71,041,475	0.00		17.95		31.90		**10.06**
v	01-100 Units	0.2	295,667,664	0.00		26.97		31.90		**16.48**
vi	101-200 Units	0.2	334,147,748	0.00		32.44		31.90		**22.95**
vii	201-300 Units	0.2	402,326,170	0.00		35.63		31.90		**27.14**
viii	301-400Units	0.2	124,286,904	0.00		39.02		31.90		**32.03**
ix	401-500Units	0.2	72,296,302	0.00		41.23		31.90		**35.24**
x	501-600Units	0.2	35,854,410	0.00		42.65		31.90		**36.66**
xi	601-700Units	0.2	41,403,412	0.00		43.47		31.90		**37.80**
xii	Above 700 Units	0.2	56,777,566	0.00		48.39		31.90		**42.72**
A1(b)	Time of Use (TOU) - Peak	0.4	3,241,159	0.00		47.55		63.59		**41.89**
	Time of Use (TOU) - Off-Peak	0.4	18,781,444	0.00		41.23		63.59		**35.57**
	Total Residential-A1		**1,916,456,474**							
	Commercial - A2									
A2 (a)	Commercial -For peak load requirement up to 5	0.2	93,070,618	0.00		43.32		84.76		**37.75**
A2 (b)	Regular	0.4	17,114,710	2.53	**500**	45.00		30.92	**500**	**39.43**
A2 (c)	Time of Use (TOU) - Peak (A-2)	0.4	24,007,135	75.11	**500**	46.92		32.59	**500**	**41.35**
	Time of Use (TOU) - Off-Peak		166,538,079	0.00	**500**	40.95		32.59	**500**	**35.38**
A2 (d)	Electric Vehicles	0.4	35,259	0.00	0	45.00		9.51		**39.43**
	Total Commercial-A2		**300,765,802**							
	Industrial-B									
B1(a)	B1	0.2	18,779,484	0.00		39.77		136.80		**34.33**
B1(b)	B1- TOU (Peak)	0.4	5,878,710	0.00		43.33		46.71		**37.89**
	B1 - TOU (Off-peak)		87,711,019	0.00		37.77		46.71		**32.33**

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TARIFF CATAGORIES		Revenue as per NEPRA Rates			Cost of Service (Rs)	Revenue on GOP Tariff (Rs.)
		Fixed Charge (Rs)	Variable Charge (Rs)	Revenue on NEPRA Tariff (Rs.)		
A1 (a)	**Residential -A1**					
i	Up to 50 Units Life line		141,336,925	141,336,925	644,077,164	79,754,407
ii	51-100 units Life line		772,107,475	772,107,475	2,097,925,029	509,038,489
iii	01-100 Units (Protected)		5,856,154,356	5,856,154,356	11,951,814,434	2,899,976,629
iv	101-200 Units (Protected)		1,275,194,475	1,275,194,475	2,266,168,892	714,677,238
v	01-100 Units		7,973,706,330	7,973,706,330	9,431,573,080	4,872,603,101
vi	101-200 Units		10,839,752,953	10,839,752,953	10,659,058,435	7,668,690,822
vii	201-300 Units		14,334,881,431	14,334,881,431	12,833,898,109	10,919,132,249
viii	301-400Units		4,849,675,003	4,849,675,003	3,964,657,497	3,980,909,543
ix	401-500Units		2,980,776,548	2,980,776,548	2,306,196,933	2,547,721,697
x	501-600Units		1,529,190,582	1,529,190,582	1,143,728,342	1,314,422,667
xi	601-700Units		1,799,640,724	1,799,640,724	1,320,737,293	1,565,048,989
xii	Above 700 Units		2,747,239,307	2,747,239,307	1,811,161,071	2,425,537,618
A1(b)	Time of Use (TOU) - Peak		154,131,612	154,131,612	206,117,931	135,772,145
	Time of Use (TOU) - Off-Peak		774,443,019	774,443,019	1,194,385,281	668,055,976
	Total Residential-A1		**56,028,230,739**	**56,028,230,739**	**61,831,499,492**	**40,301,341,570**
	Commercial - A2					
A2 (a)	Commercial -For peak load requirement up to 5		4,031,446,884	4,031,446,884	7,888,751,616	3,513,415,825
A2 (b)	Regular	15,194,648	770,093,503	785,288,151	529,216,428	690,027,674
A2 (c)	Time of Use (TOU) - Peak (A-2)	450,640,615	1,126,318,768	1,576,959,382	782,357,468	1,443,335,666
	Time of Use (TOU) - Off-Peak	0	6,819,068,185	6,819,068,185	5,427,232,667	5,892,117,237
A2 (d)	Electric Vehicles	0	1,586,529	1,586,529	335,224	1,390,276
	Total Commercial-A2	**465,835,263**	**12,748,513,868**	**13,214,349,131**	**14,627,893,403**	**11,540,286,677**
	Industrial-B					
B1(a)	B1		746,860,075	746,860,075	2,568,944,878	644,699,683
B1(b)	B1- TOU (Peak)		254,724,507	254,724,507	274,592,656	222,744,324
	B1 - TOU (Off-peak)		3,312,845,181	3,312,845,181	4,096,953,478	2,835,697,239

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TARIFF CATAGORIES		GOP Tariff - (Subsidy)/Cross Subsidy (Rs.)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs.)	GOP Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)
A1 (a)	**Residential -A1**				
i	Up to 50 Units Life line	(564,322,757)	(502,740,240)	-27.95	-24.90
ii	51-100 units Life line	(1,588,886,541)	(1,325,817,554)	-24.16	-20.16
iii	01-100 Units (Protected)	(9,051,837,804)	(6,095,660,077)	-24.16	-16.27
iv	101-200 Units (Protected)	(1,551,491,655)	(990,974,418)	-21.84	-13.95
v	01-100 Units	(4,558,969,979)	(1,457,866,750)	-15.42	-4.93
vi	101-200 Units	(2,990,367,613)	180,694,517	-8.95	0.54
vii	201-300 Units	(1,914,765,860)	1,500,983,322	-4.76	3.73
viii	301-400Units	16,252,046	885,017,507	0.13	7.12
ix	401-500Units	241,524,764	674,579,616	3.34	9.33
x	501-600Units	170,694,324	385,462,240	4.76	10.75
xi	601-700Units	244,311,697	478,903,431	5.90	11.57
xii	Above 700 Units	614,376,547	936,078,236	10.82	16.49
A1(b)	Time of Use (TOU) - Peak	(70,345,786)	(51,986,319)	-21.70	-16.04
	Time of Use (TOU) - Off-Peak	(526,329,305)	(419,942,263)	-28.02	-22.36
	Total Residential-A1	**(21,530,157,922)**	**(5,803,268,752)**	**-11.23**	**-3.03**
	Commercial - A2				
A2 (a)	Commercial -For peak load requirement up to 5	(4,375,335,791)	(3,857,304,732)	-47.01	-41.44
A2 (b)	Regular	160,811,246	256,071,723	9.40	14.96
A2 (c)	Time of Use (TOU) - Peak (A-2)	660,978,198	794,601,914	27.53	33.10
	Time of Use (TOU) - Off-Peak	464,884,570	1,391,835,518	2.79	8.36
A2 (d)	Electric Vehicles	1,055,052	1,251,305	0.00	0.00
	Total Commercial-A2	**(3,087,606,726)**	**(1,413,544,272)**	**-10.27**	**-4.70**
	Industrial-B				
B1(a)	B1	(1,924,245,196)	(1,822,084,803)	-102.47	-97.03
B1(b)	B1- TOU (Peak)	(51,848,332)	(19,868,149)	-8.82	-3.38
	B1 - TOU (Off-peak)	(1,261,256,239)	(784,108,297)	-14.38	-8.94

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TARIFF CATAGORIES		Voltage kV	Sales kWh	Billing Demand (MW)	NEPRA Rates		CoS Rates		GOP Rates	
					Fixed Charge	Variable Charge	Fixed Charge Rs/kW/M	Variable Charge Rs/kWh	Fixed* Charge (Rs/kW/M)	Variable Charge (Rs/kWh)
B2 (a)	B2	0.4	19,701,191	9.03	500	39.27		116.47	500	33.83
B2 (b)	B2 - TOU (Peak)	0.4	38,009,309	137.95	500	43.27		43.23	500	37.83
	B2 - TOU (Off-peak)		277,186,269	0.00	500	37.56		43.23	500	32.12
B3	B3 - TOU (Peak)	11	7,985,192	15.85	460	43.27		26.55	460	37.83
	B3 - TOU (Off-peak)		36,542,715	0.00	460	37.47		26.55	460	32.03
B4	B4 - TOU (Peak)	132/66	3,975,761	5.59	440	43.27		23.58	440	37.83
	B4 - TOU (Off-peak)		19,944,503	0.00	440	37.37		23.58	440	31.93
	Total Industrial-B		**515,714,153**							
	Bulk-C									
C1 (a)	C1(a) - up to 5 kW	0.2	4,644,961	0.00		44.32		48.93		38.43
C1 (b)	C1(b) -exceeding 5 kW	0.4	27,588,451	3.78	500	43.82		22.79	500	37.93
C1 (c)	Time of Use (TOU) - Peak	0.4	11,501,515	18.79	500	47.24		23.82	500	41.35
	Time of Use (TOU) - Off-Peak		65,329,185	0.00	500	40.64		23.82	500	34.75
C2 (a)	C2 Supply at 11 kV	11	6,751,554	1.21	500	43.62		34.70	500	37.73
C2 (b)	Time of Use (TOU) - Peak	11	15,412,012	26.20	460	47.24		15.04	460	41.35
	Time of Use (TOU) - Off-Peak		100,114,124	0.00	460	40.44		15.04	460	34.55
C3 (a)	C3 Supply above 11 kV	132/66	8,716,258	0.00	440	43.52		42.12	440	37.63
C3 (b)	Time of Use (TOU) - Peak	132/66	0	0.00	440	47.24		0.00	440	41.35
	Time of Use (TOU) - Off-Peak		0	0.00	440	40.34		0.00	440	34.45
	Total Single Point Supply-C		**240,058,060**							
	Agricultural Tube-wells - Tariff D									
D1 (a)	D1 Scarp	0.4	8,394,588	0.00		40.32		118.66		34.43
D2	D2 Agricultural Tube-wells	0.4	6,189,076	0.87	200	29.99		172.35	200	24.10
D1 (b)	Time of Use (TOU) - Peak	0.4	896,394	2.64	200	43.24		19.85	200	37.35
	Time of Use (TOU) - Off-Peak		12,888,345	0.00	200	35.99		19.85	200	30.10
D2 (b)	Time of Use (TOU) - Peak	0.4	5,105,716	49.04	200	29.99		41.65	200	24.10
	Time of Use (TOU) - Off-Peak		71,856,991	0.00	200	29.99		41.65	200	24.10

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TARIFF CATAGORIES		Revenue as per NEPRA Rates			Cost of Service (Rs)	Revenue on GOP Tariff (Rs.)
		Fixed Charge (Rs)	Variable Charge (Rs)	Revenue on NEPRA Tariff (Rs.)		
B2 (a)	B2	54,160,604	773,665,781	827,826,385	2,294,683,251	720,651,904
B2 (b)	B2 - TOU (Peak)	827,671,804	1,644,662,801	2,472,334,605	1,643,056,659	2,265,563,964
	B2 - TOU (Off-peak)	0	10,411,116,248	10,411,116,248	11,982,136,912	8,903,222,947
B3	B3 - TOU (Peak)	87,490,090	345,519,265	433,009,355	211,983,918	389,569,910
	B3 - TOU (Off-peak)	0	1,369,255,539	1,369,255,539	970,104,136	1,170,463,168
B4	B4 - TOU (Peak)	29,512,235	172,031,190	201,543,425	93,767,898	179,915,284
	B4 - TOU (Off-peak)	0	745,326,066	745,326,066	470,388,933	636,827,971
	Total Industrial-B	**998,834,733**	**19,776,006,654**	**20,774,841,387**	**24,606,612,720**	**17,969,356,394**
	Bulk-C					
C1 (a)	C1(a) - up to 5 kW		205,864,693	205,864,693	227,273,844	178,505,870
C1 (b)	C1(b) -exceeding 5 kW	22,670,186	1,208,925,903	1,231,596,089	628,794,338	1,069,100,115
C1 (c)	Time of Use (TOU) - Peak	112,767,855	543,331,577	656,099,433	273,944,042	588,355,508
	Time of Use (TOU) - Off-Peak	0	2,654,978,073	2,654,978,073	1,556,015,939	2,270,189,174
C2 (a)	C2 Supply at 11 kV	7,272,929	294,502,783	301,775,712	234,262,604	262,009,059
C2 (b)	Time of Use (TOU) - Peak	144,613,292	728,063,431	872,676,723	231,787,057	781,899,974
	Time of Use (TOU) - Off-Peak	0	4,048,615,183	4,048,615,183	1,505,654,079	3,458,942,991
C3 (a)	C3 Supply above 11 kV	0	379,331,534	379,331,534	367,101,374	327,992,776
C3 (b)	Time of Use (TOU) - Peak	0	0	0	0	0
	Time of Use (TOU) - Off-Peak	0	0	0	0	0
	Total Single Point Supply-C	**287,324,262**	**10,063,613,176**	**10,350,937,439**	**5,024,833,278**	**8,936,995,468**
	Agricultural Tube-wells - Tariff D					
D1 (a)	D1 Scarp		338,469,806	338,469,806	996,061,210	289,025,680
D2	D2 Agricultural Tube-wells	2,078,353	185,610,399	187,688,751	1,066,717,612	151,235,092
D1 (b)	Time of Use (TOU) - Peak	6,341,497	38,760,056	45,101,553	17,791,259	39,821,795
	Time of Use (TOU) - Off-Peak	0	463,851,522	463,851,522	255,802,691	387,939,172
D2 (b)	Time of Use (TOU) - Peak	117,700,659	153,120,429	270,821,088	212,659,329	240,748,419
	Time of Use (TOU) - Off-Peak	0	2,154,991,145	2,154,991,145	2,992,931,595	1,731,753,471

SUKKUR ELECTRIC POWER COMPANY

Consumer Category Wise Subsidy/Cross Subsidy Calculation

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TARIFF CATAGORIES		GOP Tariff - (Subsidy)/Cross Subsidy (Rs.)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs.)	GOP Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)
B2 (a)	B2	(1,574,031,347)	(1,466,856,867)	-79.90	-74.46
B2 (b)	B2 - TOU (Peak)	622,507,305	829,277,946	16.38	21.82
	B2 - TOU (Off-peak)	(3,078,913,965)	(1,571,020,664)	-11.11	-5.67
B3	B3 - TOU (Peak)	177,585,992	221,025,437	22.24	27.68
	B3 - TOU (Off-peak)	200,359,032	399,151,403	5.48	10.92
B4	B4 - TOU (Peak)	86,147,386	107,775,527	21.67	27.11
	B4 - TOU (Off-peak)	166,439,039	274,937,133	8.35	13.79
	Total Industrial-B	**(6,637,256,326)**	**(3,831,771,334)**	**-12.87**	**-7.43**
	Bulk-C				
C1 (a)	C1(a) - up to 5 kW	(48,767,974)	(21,409,151)	-10.50	-4.61
C1 (b)	C1(b) -exceeding 5 kW	440,305,777	602,801,750	15.96	21.85
C1 (c)	Time of Use (TOU) - Peak	314,411,466	382,155,391	27.34	33.23
	Time of Use (TOU) - Off-Peak	714,173,235	1,098,962,133	10.93	16.82
C2 (a)	C2 Supply at 11 kV	27,746,456	67,513,109	4.11	10.00
C2 (b)	Time of Use (TOU) - Peak	550,112,917	640,889,666	35.69	41.58
	Time of Use (TOU) - Off-Peak	1,953,288,912	2,542,961,104	19.51	25.40
C3 (a)	C3 Supply above 11 kV	(39,108,598)	12,230,159	-4.49	1.40
C3 (b)	Time of Use (TOU) - Peak	0	0	0.00	0.00
	Time of Use (TOU) - Off-Peak	0	0	0.00	0.00
	Total Single Point Supply-C	**3,912,162,190**	**5,326,104,161**	**16.30**	**22.19**
	Agricultural Tube-wells - Tariff D				
D1 (a)	D1 Scarp	(707,035,530)	(657,591,404)	-84.23	-78.34
D2	D2 Agricultural Tube-wells	(915,482,520)	(879,028,860)	-147.92	-142.03
D1 (b)	Time of Use (TOU) - Peak	22,030,536	27,310,294	24.58	30.47
	Time of Use (TOU) - Off-Peak	132,136,481	208,048,831	10.25	16.14
D2 (b)	Time of Use (TOU) - Peak	28,089,091	58,161,759	5.50	11.39
	Time of Use (TOU) - Off-Peak	(1,261,178,124)	(837,940,450)	-17.55	-11.66

SUKKUR ELECTRIC POWER COMPANY

Consumer Category Wise Subsidy/Cross Subsidy Calculation

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TARIFF CATAGORIES		Voltage kV	Sales kWh	Billing Demand (MW)	NEPRA Rates		CoS Rates		GOP Rates	
					Fixed Charge	Variable Charge	Fixed Charge Rs/kW/M	Variable Charge Rs/kWh	Fixed* Charge (Rs/kW/M)	Variable Charge (Rs/kWh)
	Total Agricultural-D		**105,331,110**							
	Temporary Supply Tariff- Tariff E									
E-1(i)	Temporary E-1 (i)	0.2	11,842	0.00		47.69		17.77		**42.03**
E-1 (ii)	Temporary E-1 (ii)	0.2	382,552	0.00		43.71		63.95		**38.14**
E-2	Temporary E-2	0.2	420,790	0.00		40.85		9.94		**35.41**
	Total Temporary-E		**815,184**							
	Public Lighting- Tariff G									
G	Public Lighting G	0.4	192,106,334	0.00		43.32		13.05		**37.43**
	Total Public Lighting - G		**192,106,334**							
	Residential Colonies attached to Industrial									
H	Residential Colonies H	11	869,215	0.00		43.32		9.04		**37.43**
	Total Tariff-H		**869,215**							
	Special Contracts									
K1(a)	Azad Jammu Kashmir K1(a)	11	0	0.00	**440**	0.00		0.00	**440**	**34.65**
K1(b)	Azad Jammu Kashmir K1(b) - Peak	11	0	0.00	**440**	0.00		0.00	**440**	**40.35**
	Azad Jammu Kashmir K1(b) - Offpeak		0		**440**	0.00		0.00	**440**	**33.45**
K2	Rawat Lab	11	-		**440**	43.20		0.00	**440**	**37.43**
	Total Special Contracts -K		**0**							
	General									
A3	General	0.4	253,817,544	0.00	0	43.20		35.50		**37.31**
	Total Special Contracts -K		**253,817,544**							
	Wheeling Charge-Export to DISCOS									
	Export to DISCOs-132kV	132	0			0				**0.00**
	Export to DISCOs-11kV	11	0			0				**0.00**
	Grand Total		**3,525,933,876**	**348.58**						

SUKKUR ELECTRIC POWER COMPANY

Consumer Category Wise Subsidy/Cross Subsidy Calculation

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TARIFF CATAGORIES		Revenue as per NEPRA Rates			Cost of Service (Rs)	Revenue on GOP Tariff (Rs.)
		Fixed Charge (Rs)	Variable Charge (Rs)	Revenue on NEPRA Tariff (Rs.)		
	Total Agricultural-D	**126,120,508**	**3,334,803,357**	**3,460,923,865**	**5,541,963,696**	**2,840,523,630**
	Temporary Supply Tariff- Tariff E					
E-1(i)	Temporary E-1 (i)		564,776	564,776	210,454	497,699
E-1 (ii)	Temporary E-1 (ii)		16,719,823	16,719,823	24,465,168	14,590,538
E-2	Temporary E-2		17,189,280	17,189,280	4,183,220	14,900,182
	Total Temporary-E	**0**	**34,473,879**	**34,473,879**	**28,858,842**	**29,988,419**
	Public Lighting- Tariff G					
G	Public Lighting G	0	8,322,046,407	8,322,046,407	2,507,802,750	7,190,540,097
	Total Public Lighting - G	**0**	**8,322,046,407**	**8,322,046,407**	**2,507,802,750**	**7,190,540,097**
	Residential Colonies attached to Industrial					
H	Residential Colonies H		37,654,408	37,654,408	7,859,382	32,534,729
	Total Tariff-H	**0**	**37,654,408**	**37,654,408**	**7,859,382**	**32,534,729**
	Special Contracts					
K1(a)	Azad Jammu Kashmir K1(a)	0	0	0	0	0
K1(b)	Azad Jammu Kashmir K1(b) - Peak	0	0	0	0	0
	Azad Jammu Kashmir K1(b) - Offpeak	0	0	0	0	0
K2	Rawat Lab	0	0	0	0	0
	Total Special Contracts -K	**0.00**	**0**	**0**	**0**	**0**
	General					
A3	General	0	10,964,917,920	10,964,917,920	9,010,146,157	9,469,932,583
	Total Special Contracts -K	**0**	**10,964,917,920**	**10,964,917,920**	**9,010,146,157**	**9,469,932,583**
	Wheeling Charge-Export to DISCOS					
	Export to DISCOs-132kV	0	0	0	0	0
	Export to DISCOs-11kV	0	0	0	0	0
	Grand Total	**1,878,114,766**	**121,310,260,408**	**123,188,375,175**	**123,187,469,720**	**98,311,499,568**

SUKKUR ELECTRIC POWER COMPANY

Consumer Category Wise Subsidy/Cross Subsidy Calculation

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	TARIFF CATAGORIES	GOP Tariff - (Subsidy)/Cross Subsidy (Rs.)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs.)	GOP Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)	NEPRA Tariff - (Subsidy)/Cross Subsidy (Rs./kWh)
	Total Agricultural-D	**(2,701,440,066)**	**(2,081,039,830)**	**-25.65**	**-19.76**
	Temporary Supply Tariff- Tariff E				
E-1(i)	Temporary E-1 (i)	287,246	354,322	24.26	29.92
E-1 (ii)	Temporary E-1 (ii)	(9,874,630)	(7,745,345)	-25.81	-20.25
E-2	Temporary E-2	10,716,961	13,006,060	25.47	30.91
	Total Temporary-E	**1,129,577**	**5,615,037**	**1.39**	**6.89**
	Public Lighting- Tariff G				
G	Public Lighting G	4,682,737,347	5,814,243,657	24.38	30.27
	Total Public Lighting - G	**4,682,737,347**	**5,814,243,657**	**24.38**	**30.27**
	Residential Colonies attached to Industrial				
H	Residential Colonies H	24,675,347	29,795,025	28.39	34.28
	Total Tariff-H	**24,675,347**	**29,795,025**	**28.39**	**34.28**
	Special Contracts				
K1(a)	Azad Jammu Kashmir K1(a)	0	0	0.00	0.00
K1(b)	Azad Jammu Kashmir K1(b) - Peak	0	0	0.00	0.00
	Azad Jammu Kashmir K1(b) - Offpeak	0	0	0.00	0.00
K2	Rawat Lab	0	0	0.00	0.00
	Total Special Contracts -K	**0**	**0**	**0.00**	**0.00**
	General				
A3	General	459,786,426	1,954,771,763	1.81	7.70
	Total Special Contracts -K	**459,786,426**	**1,954,771,763**	**1.81**	**7.70**
	Wheeling Charge-Export to DISCOS				
	Export to DISCOs-132kV	0	0	0	0
	Export to DISCOs-11kV	0	0	0	0
	Grand Total	**(24,875,970,152)**	**905,455**	**-7.06**	**0.0002568**

NATIONAL TRANSMISSION AND DESPATCH CO. LTD

Chief Financial Officer NTDCL
2nd Floor, Hall # 4, Shaheen Complex,
Egerton Road, Lahore.

No. MD-NTDC/CFO/DGMF(B&R)/ 625-627

Dated: 08 NOV 2023

Registrar, NEPRA,
NEPRA Tower, Ataturk Avenue (East),
Sector G-5-1, Islamabad.

SUBJECT: - **SUBMISSION OF CDP METERING DATA CONTAINING GENERATION & DISTRIBUTION POINTS OF NTDC (500 & 220 kV) AND 660kV PMLTC HVDC TRANSMISSION SYSTEM FOR THE MONTH OF OCTOBER 2023**

Kindly find enclosed subject CDP Metering Data pertaining to Generation & Distribution Points of NTDC Transmission System (500 & 220 kV) and PMLTC-HVDC 660kV System for the month of October 2023, as verified by MSP NTDC.

As per directions of NEPRA, the utilization of 11kV NTDC Grid Station Auxiliary is separately reported with this letter. Adjustment (if any) expected in these provisional figures, shall be communicated later on as per actual/finalized Data.

It may be noted that NEPRA vide NTDC Tariff Determination No. NEPRA/TRF-287/NTDC-2014 dated 23-04-2015 vide para 30.2 (attached) has allowed for "**consideration of NTDC T&T losses limit as an annual target, and not a monthly limit**".

Dy. GM Finance (B&R) NTDC

CC to:-

- GM Technical NTDC WAPDA House Lahore.
- DM Losses o/o GM SO NPCC NTDC Islamabad.
- M/File

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED
Metering Information System
T&T Losses
For the Month of October-2023

Energy Exchange Description	NTDC & Generation CDPs (kWh)	NTDC & DISCOs CDPs (kWh)	NTDC & PMLTC-HVDC CDPs (kWh) [Net]	Total Energy (kWh)
Energy Received by NTDC	10,225,077,996	122,559,100		10,347,637,096
Energy Delivered by NTDC	1,706,944,411	8,359,604,967	23,324,400	10,089,873,778
NTDC T&T Losses kWh = (Energy Received by NTDC) - (Energy Delivered by NTDC)				257,763,318
NTDC T&T Losses (%age) = (T&T Losses kWh / Energy Received by NTDC)				2.491%
NTDC Grids Auxiliary (11kV) Units Consumption (kWh) from DISCOs (kWh) reported separately. Not included in NTDC - DISCO CDPs list and corresponding calculations				2,201,409

- List of all Metering Data is attached.

METERING DATA VERIFIED BY MSP NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

T&T Losses

For the Month of October-2023

A. Complete [>= 220kV; NTDC System losses + 660kV PMLTC/HVDC losses]

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	Energy Loss (kWh)	Energy Loss %
Generation Points (kWh)	10,225,077,996	1,706,944,411		
Distribution Points (kWh)	122,559,100	8,359,604,967		
Sub-Total A (kWh)	10,347,637,096	10,066,549,378	281,087,718	2.716%

B. 660kV PMLTC/HVDC System

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	660kV HVDC/PMLTC Energy Loss (kWh)	660kV HVDC/PMLTC Energy Loss (%)
NTDC - PMLTC Points (kWh)	773,793,600	797,118,000		
Gross Energy Delivered by NTDC to HVDC			23,324,400	2.926%
less Auxiliary Energy consumed by PMLTC (kWh)			-	-
Net Energy Delivered by NTDC to HVDC			23,324,400	2.926%

C. NTDC (500 & 220kV) System

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	NTDC 500kV & 220kV T&T Losses (kWh)	NTDC 500kV & 220kV T&T Losses (%)
Generation Points (kWh)	10,225,077,996	1,706,944,411		
Distribution Points (kWh)	122,559,100	8,359,604,967		
NTDC - PMLTC Points (kWh)	-	23,324,400		
Sub-Total C (kWh)	10,347,637,096	10,089,873,778	257,763,318	2.491%

D. NTDC Grids Auxiliary (11kV) Units Consumption (kWh) from DISCOs (kWh) reported separately	2,201,409
- List of all Metering Data is attached.	

(NTDC 500 & 220kV T&T Loss) + (NTDC 11kV Aux) + (HVDC/PMLTC 660kV Loss) =	283,289,127

METERING DATA VERIFIED BY MSP NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - Generation Points Data (500 & 220kV Stations)

For the Month of October-2023

Sr.No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
1	Atlas Power Shreikhupura	220kV L2	IPP	NTDC	-	92,192,268
2	Atlas Power Sheikhupura	220kV L1	IPP	NTDC	91,869,880	-
3	Coal : Chuna Power Hub (1320MW)	M1, T1 - HV Side	IPP	NTDC	-	-
4	Coal : Chuna Power Hub (1320MW)	M2, T2 - HV Side	IPP	NTDC	-	-
5	Coal : Chuna Power Hub (1320MW)	M3, S/ST/F	IPP	NTDC	-	2,043,800
6	Coal : Engro Thar (660MW)	M1 - Generator 1	IPP	NTDC	130,518,250	-
7	Coal : Engro Thar (660MW)	M2 - Generator 2	IPP	NTDC	121,700,000	-
8	Coal : Engro Thar (660MW)	M3 - SST T/F	IPP	NTDC	-	-
9	Coal : Lucky Electric	GT	IPP	NTDC	280,817,000	275,800
10	Coal : Lucky Electric	SST	IPP	NTDC	-	48,840
11	Coal : Port Qasim (1320MW)	G-1	IPP	NTDC	-	-
12	Coal : Port Qasim (1320MW)	G-2	IPP	NTDC	49,244,780	-
13	Coal : Port Qasim (1320MW)	SST T/F	IPP	NTDC	-	3,185,100
14	Coal : Sahiwal (1320MW)	500 KV TL-1	IPP	NTDC	356,897,800	65,900
15	Coal : Sahiwal (1320MW)	500 KV TL-2	IPP	NTDC	-	358,569,240
16	Coal : Thal Nova Thar	GT	IPP	NTDC	88,139,300	-
17	Coal : Thal Nova Thar	SST	IPP	NTDC	-	479,700
18	Coal : Thar Energy Limited (TEL)	GT M-1	IPP	NTDC	200,083,500	-
19	Coal : Thar Energy Limited (TEL)	SST M-2	IPP	NTDC	-	48,700
20	Coal 1320MW TCB-1 Thaparkar	Main GT (M1)	IPP	NTDC	348,943,500	272,200
21	Coal 1320MW TCB-1 Thaparkar	Main GT (M2)	IPP	NTDC	439,525,100	-
22	Coal 1320MW TCB-1 Thaparkar	Main SST (M3)	IPP	NTDC	-	1,067,000
23	Coal : 660MW CPPP Jamshoro	T1	GENCO	NTDC	-	141,800
24	Engro PowerGen Qadirpur	ST	IPP	NTDC	9,530,932	144,304
25	Engro PowerGen Qadirpur	GT	IPP	NTDC	18,228,583	352,909
26	Foundation Power Dahrki	220kV Line 2	IPP	NTDC	28,476,362	1,001,657
27	Foundation Power Dahrki	220kV Line 1	IPP	NTDC	74,797,957	4,078
28	HPS (Allai+Duber+Khan Khwarr + Ranolia	220kV Allai Mansehra Line II	WAPDA	NTDC	24,319,000	5,000
29	HPS (Allai+Duber+Khan Khwarr + Ranolia	220kV Allai Mansehra Line I	WAPDA	NTDC	24,409,800	5,000
30	HPS Karot 720MW	225MVA 15.75/525kV T-1	IPP	NTDC	92,022,000	48,900
31	HPS Karot 720MW	225MVA 15.75/525kV T-2	IPP	NTDC	-	-
32	HPS Karot 720MW	225MVA 15.75/525kV T-3	IPP	NTDC	22,244,900	41,600
33	HPS Karot 720MW	225MVA 15.75/525kV T-4	IPP	NTDC	3,797,900	69,100
34	HPS Neelum Jhelum	Unit-1	WAPDA	NTDC	4,859,700	-
35	HPS Neelum Jhelum	Unit-2	WAPDA	NTDC	41,329,500	-
36	HPS Neelum Jhelum	Unit-3	WAPDA	NTDC	18,614,800	-
37	HPS Neelum Jhelum	Unit-4	WAPDA	NTDC	91,486,000	-
38	HPS WAPDA Ghazi Barotha	500 kV Tarbela-2 Line	WAPDA	NTDC	381,000	133,209,000
39	HPS WAPDA Ghazi Barotha	500 kV Garto-1 Line	WAPDA	NTDC	196,737,000	810,000
40	HPS WAPDA Ghazi Barotha	500 kV Rawat-2 Line	WAPDA	NTDC	205,139,000	-
41	HPS WAPDA Ghazi Barotha	550 kV Tarbela-1 Line	WAPDA	NTDC	457,000	140,409,000
42	HPS WAPDA Ghazi Barotha	500 kV Rawat-1 Line	WAPDA	NTDC	202,760,000	-
43	HPS WAPDA Ghazi Barotha	500 kV Garto-2 Line	WAPDA	NTDC	197,619,000	893,000
44	HPS WAPDA Ghazi Barotha	220kV Nowshehra I	WAPDA	NTDC	98,088,000	-
45	HPS WAPDA Ghazi Barotha	220kV Nowshehra II	WAPDA	NTDC	48,989,000	-
46	HPS WAPDA Mangla	220kV Mangla - New Ghakhar (Nokhar)	WAPDA	NTDC	100,803,000	-
47	HPS WAPDA Mangla	220kV Mangla - New Rawat - II	WAPDA	NTDC	32,495,000	5,034,000
48	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - III	WAPDA	NTDC	75,036,000	-
49	HPS WAPDA Mangla	220kV Mangla - New Rawat - I	WAPDA	NTDC	32,434,000	5,205,000
50	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - I	WAPDA	NTDC	67,435,000	-
51	HPS WAPDA Mangla	220kV Mangla - Ghakhar - I	WAPDA	NTDC	70,176,000	-
52	HPS WAPDA Mangla	220kV Mangla - Ghakhar - II	WAPDA	NTDC	100,378,000	-
53	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - II	WAPDA	NTDC	64,280,000	-
54	HPS WAPDA Tarbela	500 kV Peshawar Line	WAPDA	NTDC	309,960,000	6,365,000
55	HPS WAPDA Tarbela	500 kV Barotha 1 Line	WAPDA	NTDC	140,350,000	300,000
56	HPS WAPDA Tarbela	220kV Bhatian 3 Line	WAPDA	NTDC	77,756,000	-
57	HPS WAPDA Tarbela	220kV ISPR (Sanjwal) Line	WAPDA	NTDC	68,512,000	-
58	HPS WAPDA Tarbela	220kV Bathan 1 Line	WAPDA	NTDC	111,964,000	-
59	HPS WAPDA Tarbela	220kV Mardan 2 Line	WAPDA	NTDC	66,234,000	-
60	HPS WAPDA Tarbela	220kV Bathan 2 Line	WAPDA	NTDC	112,441,000	-
61	HPS WAPDA Tarbela	220kV Mardan 1 Line	WAPDA	NTDC	66,372,000	-
62	HPS WAPDA Tarbela	500 kV Rawat Line	WAPDA	NTDC	283,000,000	-
63	HPS WAPDA Tarbela	500 kV Barotha 2 Line	WAPDA	NTDC	132,316,000	368,000
64	HUBCO Karachi	500 kV Jamshoro Line	IPP - 94	NTDC	6,887,000	257,327,000
65	HUBCO Karachi	500 kV NKI Line	IPP - 94	NTDC	256,151,000	6,188,000
66	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 6	IPP - 94	NTDC	21,600	25,933,000
67	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 3	IPP - 94	NTDC	4,600	5,453,200
68	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 4	IPP - 94	NTDC	11,200	17,281,400
69	KAPCO Kot Addu	220kV T/L KAPCO - Pak Gen	IPP - 94	NTDC	114,900	523,300
70	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 1	IPP - 94	NTDC	200	48,313,000
71	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 5	IPP - 94	NTDC	8,800	23,643,500
72	Lalpir Power	220kV Muzaffar Garh L2	IPP - 94	NTDC	-	325,000
73	Lalpir Power	220kV Muzaffar Garh L1	IPP - 94	NTDC	-	325,000
74	Nuclear : CHASHNUPP - C1	T1 (C1)	NUCLEAR	NTDC	176,436,000	687,000
75	Nuclear : CHASHNUPP - C2	T1 (C2)	NUCLEAR	NTDC	225,173,000	-
76	Nuclear : CHASHNUPP - C3	T1 (C3)	NUCLEAR	NTDC	233,560,000	-
77	Nuclear : CHASHNUPP - C4	T1 (C4)	NUCLEAR	NTDC	228,976,000	-
78	Nuclear : KANUPP - K2	M-1	NUCLEAR	NTDC	260,179,000	6,494,000
79	Nuclear : KANUPP - K3	M1	NUCLEAR	NTDC	682,201,000	5,169,000
80	PakGen Power	220kV Line 2	IPP - 94	NTDC	600	111,800
81	PakGen Power	220kV Line 1	IPP - 94	NTDC	-	600
82	RLNG CCPP Balloki	T1	IPP	NTDC	291,377,000	5,000
83	RLNG CCPP Balloki	T2	IPP	NTDC	242,191,500	700
84	RLNG CCPP Balloki	T3	IPP	NTDC	158,952,000	-
85	RLNG CCPP Bhikki	T1	IPP	NTDC	121,167,600	295,800
86	RLNG CCPP Bhikki	T2	IPP	NTDC	72,217,500	191,200
87	RLNG CCPP Bhikki	T3	IPP	NTDC	199,260,200	166,500
88	RLNG CCPP HPS Jhang	GT-1	IPP	NTDC	217,555,800	-
89	RLNG CCPP HPS Jhang	GT-2	IPP	NTDC	223,747,200	-

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - Generation Points Data (500 & 220kV Stations)

For the Month of October-2023

Sr.No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
91	RLNG CCPP HBS Jhang	ST	IPP	NTDC	234,848,500	-
92	RLNG CCPP Head Trans.	ST	IPP	NTDC	87,631,900	65,300
93	RLNG CCPP Head Trans.	GT2	IPP	NTDC	108,993,600	576,100
94	RLNG CCPP Head Trans.	GT1	IPP	NTDC	51,765,600	5,700
94	Roush Power Abdul Hakeem	500kV Multan Line	IPP - 94	NTDC	89,972,000	4,120,000
95	Roush Power Abdul Hakeem	500kV Guddu Line	IPP - 94	NTDC	4,040,000	90,658,000
96	TPS Guddu	220kV Shikarpur II Line	GENCO	NTDC	1,111,400	19,652,000
97	TPS Guddu	220/500 kV T3	GENCO	NTDC	-	-
98	TPS Guddu	220kV Shikarpur I Line	GENCO	NTDC	681,000	12,140,000
99	TPS Guddu	220kV Sibbi Line	GENCO	NTDC	8,814,300	6,010,000
100	TPS Guddu	220/500kV T1	GENCO	NTDC	10,121,000	8,250,000
101	TPS Guddu	220/500 kV T2	GENCO	NTDC	10,377,000	6,429,000
102	TPS Guddu 747MW	500 kV T2	GENCO	NTDC	-	131,000
103	TPS Guddu 747MW	500 kV T3	GENCO	NTDC	146,933,600	6,000
104	TPS Guddu 747MW	500 kV T1	GENCO	NTDC	-	-
105	TPS Jamshoro	220kV Circuit 4 to 500 kV G/S	GENCO	NTDC	-	-
106	TPS Jamshoro	Starting T/F (220/66kV) T-4 for TPS JAMSHORO	GENCO	NTDC	-	70,000
107	TPS Jamshoro	Starting T/F (220/66kV) T-5 for TPS JAMSHORO	GENCO	NTDC	-	-
108	TPS Jamshoro	220kV Circuit 1 to 500 kV G/S	GENCO	NTDC		-
109	TPS Jamshoro	220kV Circuit 2 to 500 kV G/S	GENCO	NTDC	-	-
110	TPS Jamshoro	220kV Circuit 3 to 500 kV G/S	GENCO	NTDC		
111	TPS Muzaffargarh	220kV BAHAWALPUR-2	GENCO	NTDC	74,998,000	914,000
112	TPS Muzaffargarh	220/500kV G/S CCT No. 1	GENCO	NTDC	-	209,941,000
113	TPS Muzaffargarh	220kV NEW MULTAN-4	GENCO	NTDC	14,614,000	579,000
114	TPS Muzaffargarh	220kV KAPCO	GENCO	NTDC	48,397,000	-
115	TPS Muzaffargarh	220kV BAHAWALPUR-1	GENCO	NTDC	66,057,000	761,000
116	TPS Muzaffargarh	220kV NEW MULTAN-1	GENCO	NTDC	14,254,000	570,000
117	TPS Muzaffargarh	220kV NEW MULTAN-3	GENCO	NTDC	20,469,000	727,000
118	TPS Muzaffargarh	220kV Muzaffargarh	GENCO	NTDC	171,022,000	-
119	TPS Muzaffargarh	220/500kV G/S CCT No. 2	GENCO	NTDC	-	217,267,000
120	TPS Muzaffargarh	220kV PAKGEN-1	GENCO	NTDC	1,000	-
121	TPS Muzaffargarh	220kV LALPIR-2	GENCO	NTDC	335,000	-
122	TPS Muzaffargarh	220kV LALPIR-1	GENCO	NTDC	333,000	-
123	TPS Muzaffargarh	220kV PARCO-1	GENCO	NTDC	8,000,000	-
124	TPS Muzaffargarh	220kV PARCO-2	GENCO	NTDC	11,333,000	-
125	UCH Power - I	220kV M1	IPP - 94	NTDC	157,915,000	-
126	UCH Power - I	220kV M2	IPP - 94	NTDC	207,138,000	-
127	UCH Power - II	220kV GT 2	IPP	NTDC	-	507,948
128	UCH Power - II	220kV GT 1	IPP	NTDC	-	38
129	UCH Power - II	220kV GT 3	IPP	NTDC	-	-
	Totals				Sum Units Received: 10,225,877,996 kWh	Sum Units Delivered: 1,706,944,411 kWh

METERING DATA VERIFIED BY NSPR NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
1	220kV Bahria G/S Rawalpindi	220kV Bahria	NTDC	IESCO	325,000	6,753,567
2	220kV KE G/S KDA	Iamshoro - 1	K-Electric	NTDC	15,000	396,720,000
3	220kV KE G/S KDA	Iamshoro - 2	K-Electric	NTDC	14,000	388,060,000
4	220kV PARCO G/S	220kV Circuit PARCO- I	NTDC	MEPCO	-	7,370,700
5	220kV PARCO G/S	220kV Circuit PARCO- II	NTDC	MEPCO	-	10,263,100
6	220kV NTDC G/S Bahawalpur	220/132kV T1	NTDC	MEPCO	-	4,768,000
7	220kV NTDC G/S Bahawalpur	220/132kV T2	NTDC	MEPCO	355,000	53,470,000
8	220kV NTDC G/S Bahawalpur	220/132kV T3	NTDC	MEPCO	355,000	53,349,000
9	220kV NTDC G/S Bandala	220/132kV T1	NTDC	PESCO	-	65,939,000
10	220kV NTDC G/S Bandala	220/132kV T2	NTDC	PESCO	-	50,795,000
11	220kV NTDC G/S Bandala	220/132kV T3	NTDC	PESCO	-	50,389,000
12	220kV NTDC G/S Bannu	220/132kV T1/FT1	NTDC	PESCO	-	33,495,000
13	220kV NTDC G/S Bannu	220/132kV T1/FT2	NTDC	PESCO	-	31,963,000
14	220kV NTDC G/S Bannu	220/132kV T1/FT3	NTDC	PESCO	-	32,960,000
15	220kV NTDC G/S Burj Road	220/132kV T1	NTDC	LESCO	-	48,105,000
16	220kV NTDC G/S Burj Road	220/132kV T2	NTDC	LESCO	-	61,335,000
17	220kV NTDC G/S Burj Road	220/132kV T3	NTDC	LESCO	-	46,152,000
18	220kV NTDC G/S Burj Road	220/132kV T4	NTDC	LESCO	-	61,182,000
19	220kV NTDC G/S Burhan	220/132kV T1	NTDC	IESCO	-	59,455,000
20	220kV NTDC G/S Burhan	220/132kV T2	NTDC	IESCO	-	58,846,000
21	220kV NTDC G/S Burhan	220/132kV T3	NTDC	IESCO	-	59,351,000
22	220kV NTDC G/S Burhan	220/132kV T4	NTDC	IESCO	-	59,811,000
23	220kV NTDC G/S Chakdara	T-1	NTDC	PESCO	-	44,643,000
24	220kV NTDC G/S Chakdara	T-2	NTDC	PESCO	-	44,218,000
25	220kV NTDC G/S Chishtian	M1	NTDC	MEPCO	-	36,894,000
26	220kV NTDC G/S Chishtian	M2	NTDC	MEPCO	-	37,435,000
27	220kV NTDC G/S Chishtian	M3	NTDC	MEPCO	-	34,421,000
28	220kV NTDC G/S Daharki	T-1	NTDC	MEPCO	254,000	30,291,000
29	220kV NTDC G/S Daharki	T-2	NTDC	MEPCO	129,000	19,863,000
30	220kV NTDC G/S Daudkhel	220/132kV T1	NTDC	PESCO	18,000	26,328,000
31	220kV NTDC G/S Daudkhel	220/132kV T2	NTDC	PESCO	18,000	27,094,000
32	220kV NTDC G/S DI Khan	T-1	NTDC	PESCO	1,046,000	9,475,000
33	220kV NTDC G/S DI Khan	T-2	NTDC	PESCO	1,046,000	9,374,000
34	220kV NTDC G/S DM Jamali	T1	NTDC	QESCO	-	9,915,000
35	220kV NTDC G/S DM Jamali	T2	NTDC	QESCO	-	9,800,000
36	220kV NTDC G/S Ghakhhar	220/132kV - T1	NTDC	GEPCO	-	53,304,000
37	220kV NTDC G/S Ghakhhar	220/132kV - T2	NTDC	GEPCO	-	-
38	220kV NTDC G/S Ghakhhar	220/132kV - T3	NTDC	GEPCO	128,000	58,580,000
39	220kV NTDC G/S Ghakhhar	220/132kV - T4	NTDC	GEPCO	-	21,937,000
40	220kV NTDC G/S Ghazi Road	250 MVA T-1 (GIS)	NTDC	LESCO	-	51,547,000
41	220kV NTDC G/S Ghazi Road	250 MVA T-2 (GIS)	NTDC	LESCO	-	51,267,000
42	220kV NTDC G/S Ghazi Road	250 MVA T-3 (GIS)	NTDC	LESCO	-	51,318,000
43	220kV NTDC G/S Gujrat	220/132kV ATR-1	NTDC	GEPCO	-	37,066,000
44	220kV NTDC G/S Gujrat	220/132kV ATR-2	NTDC	GEPCO	-	37,646,000
45	220kV NTDC G/S Gujrat	220/132kV ATR-3	NTDC	GEPCO	-	37,758,000
46	220kV NTDC G/S Hala Road	220/132kV T1	NTDC	HESCO	-	33,937,000
47	220kV NTDC G/S Hala Road	220/132kV T2	NTDC	HESCO	-	33,491,000
48	220kV NTDC G/S Hala Road	220/132kV T3	NTDC	HESCO	-	42,395,000
49	220kV NTDC G/S ISPR Islamabad	220/132kV T1	NTDC	IESCO	-	31,598,000
50	220kV NTDC G/S ISPR Islamabad	220/132kV T2	NTDC	IESCO	-	30,284,000
51	220kV NTDC G/S ISPR Islamabad	220/132kV T3	NTDC	IESCO	-	29,996,000
52	220kV NTDC G/S ISPR Islamabad	220/132kV T4	NTDC	IESCO	-	30,837,000
53	220kV NTDC G/S ISPR Islamabad	T-7	NTDC	IESCO	-	30,297,000
54	220kV NTDC G/S Jamrawala Road	220/132kV T1	NTDC	FESCO	-	25,771,000
55	220kV NTDC G/S Jamrawala Road	220/132kV T2	NTDC	FESCO	-	26,175,000
56	220kV NTDC G/S Jamrawala Road	220/132kV T3	NTDC	FESCO	-	26,026,000
57	220kV NTDC G/S Jamrawala Road	220/132kV T4	NTDC	FESCO	-	30,306,000
58	220kV NTDC G/S Jhampir	M1	NTDC	HESCO	14,607,000	2,063,000
59	220kV NTDC G/S Jhampir	M2	NTDC	HESCO	14,600,000	2,054,000
60	220kV NTDC G/S Jhampir	T3	NTDC	HESCO	14,815,000	2,063,000
61	220kV NTDC G/S Jhampir	T-4	NTDC	HESCO	14,207,500	2,071,500
62	220kV NTDC G/S Jhampir-II	T1	NTDC	HESCO	17,676,800	722,300
63	220kV NTDC G/S Jhampir-II	T2	NTDC	HESCO	17,748,200	123,700
64	220kV NTDC G/S Jhampir-II	T3	NTDC	HESCO	17,753,500	118,300
65	220kV NTDC G/S Kala Shah Kaku	220/132kV T1	NTDC	LESCO	-	49,428,000
66	220kV NTDC G/S Kala Shah Kaku	220/132kV T2	NTDC	LESCO	-	51,006,000
67	220kV NTDC G/S Kala Shah Kaku	220/132kV T3	NTDC	LESCO	-	53,559,000
68	220kV NTDC G/S Kala Shah Kaku	220/132kV T4	NTDC	LESCO	-	52,023,000
69	220kV NTDC G/S Kassowal	220/132kV T2	NTDC	MEPCO	-	33,543,000
70	220kV NTDC G/S Kassowal	220/132kV T1	NTDC	MEPCO	-	33,517,000
71	220kV NTDC G/S Kassowal	T-4	NTDC	MEPCO	-	33,611,000
72	220kV NTDC G/S Khuzdar	220/132kV T1	NTDC	QESCO	-	19,829,000
73	220kV NTDC G/S Khuzdar	220/132kV T2	NTDC	QESCO	-	19,947,000
74	220kV NTDC G/S Lal Suhanra	T1	NTDC	MEPCO	2,790,000	29,691,000
75	220kV NTDC G/S Lalma	ATR-#2	NTDC	FESCO	-	18,498,000
76	220kV NTDC G/S Lalma	220/132kV Auto Transformer T-1	NTDC	FESCO	-	18,093,000
77	220kV NTDC G/S Loralai	220/132kV T1	NTDC	QESCO	-	17,806,000
78	220kV NTDC G/S Loralai	220/132kV T2	NTDC	QESCO	-	17,097,000
79	220kV NTDC G/S Ludewala	220/132kV T1	NTDC	FESCO	-	17,339,000
80	220kV NTDC G/S Ludewala	220/132kV T2	NTDC	FESCO	-	30,044,000
81	220kV NTDC G/S Ludewala	220/132kV T3	NTDC	FESCO	-	48,146,000
82	220kV NTDC G/S Mansehra	250 MVA T/F-1	NTDC	PESCO	-	37,967,000
83	220kV NTDC G/S Mansehra	250 MVA T/F-2	NTDC	PESCO	-	38,024,000
84	220kV NTDC G/S Mardan	220/132kV T1	NTDC	PESCO	-	30,772,000
85	220kV NTDC G/S Mardan	220/132kV T2	NTDC	PESCO	-	31,369,000
86	220kV NTDC G/S Mardan	220/132kV T3	NTDC	PESCO	-	31,395,000
87	220kV NTDC G/S Muzaffargarh	220/132kV T1	NTDC	MEPCO	-	35,161,000
88	220kV NTDC G/S Muzaffargarh	220/132kV T2	NTDC	MEPCO	-	34,670,000
89	220kV NTDC G/S Muzaffargarh	220/132kV T3	NTDC	MEPCO	-	33,614,000

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/ TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
90	220kV NTDC G/S New Shalamar	T1	NTDC	LESCO	-	19,267,000
91	220kV NTDC G/S New Shalamar	T2	NTDC	LESCO	-	19,420,000
92	220kV NTDC G/S New Shalamar	T3	NTDC	LESCO	-	20,300,000
93	220kV NTDC G/S Nishatabad	220/132kV T2	NTDC	FESCO	-	47,297,000
94	220kV NTDC G/S Nishatabad	220/132kV T3	NTDC	FESCO	-	62,698,000
95	220kV NTDC G/S Nishatabad	220/132kV T4	NTDC	FESCO	-	47,890,000
96	220kV NTDC G/S Nishatabad	220/132kV T5	NTDC	FESCO	-	47,947,000
97	220kV NTDC G/S Nishatabad	220/132kV T1	NTDC	FESCO	-	47,422,000
98	220kV NTDC G/S NKLP	220/132kV T2	NTDC	LESCO	-	83,502,000
99	220kV NTDC G/S NKLP	220/132kV T1	NTDC	LESCO	-	80,261,000
100	220kV NTDC G/S NKLP	220/132kV T3	NTDC	LESCO	-	83,317,000
101	220kV NTDC G/S Nowshehra	T-1	NTDC	PESCO	-	41,067,000
102	220kV NTDC G/S Nowshehra	T-2	NTDC	PESCO	-	41,956,000
103	220kV NTDC G/S Okara	220/132kV T1	NTDC	LESCO	-	71,650,000
104	220kV NTDC G/S Okara	220/132kV T2	NTDC	LESCO	-	71,519,000
105	220kV NTDC G/S Quetta Industrial	220/132kV T1	NTDC	QESCO	-	92,452,000
106	220kV NTDC G/S Quetta Industrial	220/132kV T2	NTDC	QESCO	777,000	30,901,000
107	220kV NTDC G/S Quetta Industrial	220/132kV T3	NTDC	QESCO	-	83,499,000
108	220kV NTDC G/S Ravi	220/132kV T1	NTDC	LESCO	-	44,231,000
109	220kV NTDC G/S Ravi	220/132kV T2	NTDC	LESCO	-	45,762,000
110	220kV NTDC G/S Ravi	220/132kV T3	NTDC	LESCO	-	46,548,000
111	220kV NTDC G/S Rohri	T1	NTDC	SEPCO	1,134,000	30,617,000
112	220kV NTDC G/S Rohri	T2	NTDC	SEPCO	1,344,000	30,968,000
113	220kV NTDC G/S Sarfaraz Nagar	220/132kV T1	NTDC	LESCO	-	69,804,000
114	220kV NTDC G/S Sarfaraz Nagar	220/132kV T2	NTDC	LESCO	-	69,422,000
115	220kV NTDC G/S Sarfaraz Nagar	220/132kV T4	NTDC	LESCO	-	68,681,000
116	220kV NTDC G/S Sarfaraz Nagar	220/132kV T6	NTDC	LESCO	-	69,261,000
117	220kV NTDC G/S Shahi Bagh	220/132kV T1	NTDC	PESCO	370,000	12,472,000
118	220kV NTDC G/S Shahi Bagh	220/132kV T2	NTDC	PESCO	370,000	12,463,000
119	220kV NTDC G/S Shahi Bagh	220/132kV T3	NTDC	PESCO	371,000	12,443,000
120	220kV NTDC G/S Shahi Bagh	220/132kV T4	NTDC	PESCO	348,000	12,479,000
121	220kV NTDC G/S Sialkot	220/132kV T1	NTDC	GEPCO	4,000	43,971,000
122	220kV NTDC G/S Sialkot	220/132kV T2	NTDC	GEPCO	3,000	43,876,000
123	220kV NTDC G/S Sialkot	220/132kV T3	NTDC	GEPCO	6,000	41,484,000
124	220kV NTDC G/S Sibbi	220/132kV T2	NTDC	QESCO	-	34,731,000
125	220kV NTDC G/S Sibbi	220/132kV T1	NTDC	QESCO	-	35,360,000
126	220kV NTDC G/S Samanadan Road	220/132kV T1	NTDC	PESCO	-	35,503,000
127	220kV NTDC G/S Samanadan Road	220/132kV T2	NTDC	PESCO	-	-
128	220kV NTDC G/S Samanadan Road	220/132kV T3	NTDC	PESCO	-	33,700,000
129	220kV NTDC G/S TM Khan Road	220/132kV T2	NTDC	HESCO	-	46,145,000
130	220kV NTDC G/S TM Khan Road	220/132kV T1	NTDC	HESCO	-	46,980,000
131	220kV NTDC G/S Toba Tek Singh	T1	NTDC	FESCO	-	56,905,000
132	220kV NTDC G/S Toba Tek Singh	T3	NTDC	FESCO	-	37,355,000
133	220kV NTDC G/S Toba Tek Singh	T2	NTDC	FESCO	-	56,494,000
134	220kV NTDC G/S Toba Tek Singh	T4	NTDC	FESCO	-	41,950,000
135	220kV NTDC G/S University Barakahu	220/132kV T1	NTDC	IESCO	-	58,697,000
136	220kV NTDC G/S University Barakahu	220/132kV T2	NTDC	IESCO	-	60,985,000
137	220kV NTDC G/S Vehari	220/132kV T1	NTDC	MEPCO	-	51,650,000
138	220kV NTDC G/S Vehari	220/132kV T2	NTDC	MEPCO	-	51,752,000
139	220kV NTDC G/S Vehari	220/132kV T3	NTDC	MEPCO	-	48,362,000
140	220kV NTDC G/S Wapda Town	220/132kV T1	NTDC	LESCO	-	67,024,000
141	220kV NTDC G/S Wapda Town	220/132kV T2	NTDC	LESCO	-	49,239,000
142	220kV NTDC G/S Wapda Town	220/132kV T3	NTDC	LESCO	-	49,865,000
143	500kV NTDC G/S Dadu	220/132kV T5	NTDC	SEPCO	-	34,618,000
144	500kV NTDC G/S Dadu	220/132kV T1	NTDC	SEPCO	-	32,846,000
145	500kV NTDC G/S Dadu	220/132kV T3	NTDC	SEPCO	-	23,481,000
146	500kV NTDC G/S DG Khan	T5	NTDC	MEPCO	-	38,707,000
147	500kV NTDC G/S DG Khan	T4	NTDC	MEPCO	-	38,683,000
148	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-8	NTDC	FESCO	-	57,614,000
149	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-9	NTDC	FESCO	-	57,510,000
150	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-7	NTDC	FESCO	-	57,569,000
151	500kV NTDC G/S Jamshoro	220/132kV 160 MVA T/F T-3	NTDC	HESCO	10,000	49,101,000
152	500kV NTDC G/S Jamshoro	220/132kV 160 MVA T/F T-7	NTDC	HESCO	20,000	51,743,000
153	500kV NTDC G/S New Multan	220/132kV T3	NTDC	MEPCO	-	48,299,000
154	500kV NTDC G/S New Multan	220/132kV T4	NTDC	MEPCO	-	49,123,000
155	500kV NTDC G/S New Multan	220/132kV T5	NTDC	MEPCO	-	49,642,000
156	500kV NTDC G/S NKI Karachi	500/220kV T1	NTDC	K-Electric	-	247,946,000
157	500kV NTDC G/S NKI Karachi	500/220kV T2	NTDC	K-Electric	-	253,037,000
158	500kV NTDC G/S Nokhar	220/132kV T4	NTDC	GEPCO	-	48,568,000
159	500kV NTDC G/S Nokhar	220/132kV T5	NTDC	GEPCO	-	48,420,000
160	500kV NTDC G/S Nokhar	220/132kV T6	NTDC	GEPCO	-	48,493,000
161	500kV NTDC G/S Nokhar	220/132kV T-7	NTDC	GEPCO	-	79,273,000
162	500kV NTDC G/S Rahim Yar Khan	T-6	NTDC	MEPCO	-	62,981,000
163	500kV NTDC G/S Rahim Yar Khan	T-5	NTDC	MEPCO	-	62,361,000
164	500kV NTDC G/S Rawat	220/132kV T5	NTDC	IESCO	-	78,734,000
165	500kV NTDC G/S Rawat	220/132kV T6	NTDC	IESCO	-	78,229,000
166	500kV NTDC G/S Rawat	220/132kV T7	NTDC	IESCO	-	78,558,000
167	500kV NTDC G/S Rawat	220/132kV T4	NTDC	IESCO	-	79,126,000
168	500kV NTDC G/S Sheikh Muhammadi	220/132kV T6	NTDC	PESCO	-	50,262,000
169	500kV NTDC G/S Sheikh Muhammadi	220/132kV T7	NTDC	PESCO	-	49,675,000
170	500kV NTDC G/S Sheikh Muhammadi	220/132kV T8	NTDC	PESCO	-	49,534,000
171	500kV NTDC G/S Sheikh Muhammadi	220/132kV T5	NTDC	PESCO	-	49,587,000
172	500kV NTDC G/S Sheikhupura	220/132kV T5	NTDC	LESCO	-	54,457,000
173	500kV NTDC G/S Sheikhupura	220/132kV T6	NTDC	LESCO	-	57,858,000
174	500kV NTDC G/S Sheikhupura	220/132kV T7	NTDC	LESCO	-	75,364,000
175	500kV NTDC G/S Sheikhupura	220/132kV T8	NTDC	LESCO	-	56,451,000
176	500kV NTDC G/S Shikarpur	220/132kV T1	NTDC	SEPCO	-	-
177	500kV NTDC G/S Shikarpur	220/132kV T2	NTDC	SEPCO	-	72,219,000
178	500kV NTDC G/S Shikarpur	220/132kV T3	NTDC	SEPCO	-	67,484,000

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr.No.	Metering Station (Grid/PH)	Metering Point Description (Line/ TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
179	500kV NTDC G/S Yousafwala	220/132kV T3	NTDC	MEPCO	-	47,118,000
180	500kV NTDC G/S Yousafwala	220/132kV T4	NTDC	MEPCO	-	47,350,000
181	500kV NTDC G/S Yousafwala	220/132kV T5	NTDC	MEPCO	-	48,619,000
182	500kV NTDC G/S Yousafwala	220/132kV T6	NTDC	MEPCO	-	48,249,000
183	NGPS Multan	220kV New Multan - 1	MEPCO	NTDC	-	59,666,000
184	NGPS Multan	220kV New Multan - 2	MEPCO	NTDC	-	60,258,000
	Totals				Sum Units Received: 122,358,160 kWh	Sum Units Delivered: 8,359,604,567 kWh

METERING DATA VERIFIED BY MSS NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Auxiliary Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Net Energy Received by NTDC (kWh)
1	132kV PESCO G/S Chirkot Road	11kV Garh Feeder (Grid Auxiliary)	PESCO	NTDC	42,840
2	132kV PESCO G/S Nishatabad New	11kV Feeder (Grid Auxiliary)	PESCO	NTDC	154,160
3	220kV NTDC G/S Bahawalpur	Grid Auxiliary	NTDC	MEPCO	22,630
4	220kV NTDC G/S Bandala	132/ 11kV T-4 (Grid Auxiliary)	NTDC	PESCO	15,240
5	220kV NTDC G/S Bannu	Grid Auxiliary	NTDC	PESCO	13,420
6	220kV NTDC G/S Board Road	Grid Auxiliary	NTDC	LESCO	30,200
7	220kV NTDC G/S Burhan	Grid Auxiliary	NTDC	IESCO	44,324
8	220kV NTDC G/S Chakdara	Grid Auxiliary	NTDC	PESCO	21,456
9	220kV NTDC G/S Chashma	Grid Auxiliary	NTDC	MEPCO	25,600
10	220kV NTDC G/S Dadhibal	Grid Auxiliary	NTDC	PESCO	10,220
11	220kV NTDC G/S Dadhibal	Grid Auxiliary # 2	NTDC	PESCO	6,084
12	220kV NTDC G/S DI Khan	Grid Auxiliary	NTDC	PESCO	22,314
13	220kV NTDC G/S DM Jamali	Grid Auxiliary	NTDC	QESCO	19,273
14	220kV NTDC G/S Ghakkhar	Grid Auxiliary	NTDC	GEPCO	20,040
15	220kV NTDC G/S Ghazi Road	Grid Auxiliary	NTDC	LESCO	23,864
16	220kV NTDC G/S Gujrat	T-4 (Grid Auxiliary)	NTDC	GEPCO	37,053
17	220kV NTDC G/S Hala Road	Grid Auxiliary	HESCO	NTDC	24,318
18	220kV NTDC G/S ISPR Islamabad	Grid Auxiliary	NTDC	IESCO	26,010
19	220kV NTDC G/S Jaranwala Road	Grid Auxiliary	NTDC	FESCO	15,933
20	220kV NTDC G/S Jhang	Grid Auxiliary	HESCO	NTDC	47,309
21	220kV NTDC G/S Kala Shah Kaku	Grid Auxiliary	NTDC	LESCO	33,280
22	220kV NTDC G/S Kassowal	Grid Auxiliary	NTDC	MEPCO	18,816
23	220kV NTDC G/S Khuzdar	11kV Grid Auxiliary - II	NTDC	QESCO	14,344
24	220kV NTDC G/S Khuzdar	11kV Grid Auxiliary - I	NTDC	QESCO	6,184
25	220kV NTDC G/S Lal Suhsana	T-4 (Grid Auxiliary)	NTDC	MEPCO	20,916
26	220kV NTDC G/S Lalian	T-04 Auxiliary	NTDC	FESCO	22,104
27	220kV NTDC G/S Lasbela	Grid Auxiliary	NTDC	QESCO	26,647
28	220kV NTDC G/S Lakhidewala	Grid Auxiliary	NTDC	FESCO	18,226
29	220kV NTDC G/S Mansehra	Grid Auxiliary	NTDC	PESCO	25,347
30	220kV NTDC G/S Mardan	Grid Auxiliary	NTDC	PESCO	34,398
31	220kV NTDC G/S Muzaffargarh	Grid Auxiliary	NTDC	MEPCO	9,359
32	220kV NTDC G/S New Shalimar	Grid Auxiliary	NTDC	LESCO	28,407
33	220kV NTDC G/S NKLP	Grid Auxiliary	LESCO	NTDC	43,867
34	220kV NTDC G/S Nowshehra	Grid Auxiliary	NTDC	PESCO	29,532
35	220kV NTDC G/S Okara	Grid Auxiliary	NTDC	LESCO	27,644
36	220kV NTDC G/S Quetta Industrial	Grid Auxiliary	NTDC	QESCO	16,304
37	220kV NTDC G/S Rasi	Grid Auxiliary	NTDC	LESCO	22,336
38	220kV NTDC G/S Rohri	T-3 Grid Auxiliary	NTDC	SEPCO	39,204
39	220kV NTDC G/S Sarfaraz Nagar	Grid Auxiliary	NTDC	LESCO	36,196
40	220kV NTDC G/S Shahi Bagh	Grid Auxiliary	NTDC	PESCO	21,357
41	220kV NTDC G/S Sialkot	Grid Auxiliary	NTDC	GEPCO	27,219
42	220kV NTDC G/S Sibbi	Grid Auxiliary	NTDC	QESCO	29,122
43	220kV NTDC G/S Sarmasthan Road	Grid Auxiliary	NTDC	PESCO	19,146
44	220kV NTDC G/S TM Khan Road	Grid Auxiliary	NTDC	HESCO	28,362
45	220kV NTDC G/S Toba Tek Singh	Grid Auxiliary	NTDC	PESCO	35,028
46	220kV NTDC G/S University Barakahu	Grid Auxiliary	NTDC	IESCO	17,468
47	220kV NTDC G/S Vehari	11kV Grid Auxiliary	NTDC	MEPCO	24,140
48	220kV NTDC G/S Wapda Town	Grid Auxiliary	NTDC	LESCO	17,119
49	500kV NTDC G/S DG Khan	T5 - Grid Auxiliary	NTDC	MEPCO	44,100
50	500kV NTDC G/S Faisalabad West	132/ 11kV Transformer T-1 (Grid Auxiliary)	NTDC	FESCO	83,982
51	500kV NTDC G/S New Multan	132/ 11kV T6 (Grid Auxiliary)	NTDC	MEPCO	98,043
52	500kV NTDC G/S Nokhar	Grid Auxiliary	NTDC	GEPCO	169,934
53	500kV NTDC G/S Rahim Yar Khan	T-7 Grid Auxiliary	NTDC	MEPCO	62,930
54	500kV NTDC G/S Sarai	Grid Auxiliary	NTDC	IESCO	74,145
55	500kV NTDC G/S Sheikh Muhammadi	Grid Auxiliary	NTDC	PESCO	144,089
56	500kV NTDC G/S Shikarpur	Grid Auxiliary	NTDC	SEPCO	85,648
57	500kV NTDC G/S Yousafwala	Grid Auxiliary - 4	NTDC	MEPCO	106,188
58	TPS Muzaffargarh	500kV NTDC Grid Feeder	NTDC	GENCO	87,476
	Totals				Sum Net Units Received: 2,201,351 kWh

HVDC - NTDC Energy Exchange at HVDC Matiari Station

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	Meter Sr. No.	From	To	ENERGY IMPORT (kWh)	ENERGY EXPORT (kWh)
1	660kV HVDC Converter Station Matiari	Matiari - Engro Thar - I	66213784	HVDC	NTDC	314,404,000	0
2	660kV HVDC Converter Station Matiari	Matiari - Engro Thar - II	66213806	HVDC	NTDC	306,208,000	0
3	660kV HVDC Converter Station Matiari	Matiari - Moro	66213785	HVDC	NTDC	-	293359000
4	660kV HVDC Converter Station Matiari	Matiari - Jamshoro	66219245	HVDC	NTDC	31,288,000	166155000
5	660kV HVDC Converter Station Matiari	Matiari - Port Qasim - I	66213807	HVDC	NTDC	162,832,000	196000
6	660kV HVDC Converter Station Matiari	Matiari - Port Qasim - II	66213786	HVDC	NTDC	161,620,000	193000
7	660kV HVDC Converter Station Matiari	Matiari - Jamshoro - II	66213787	HVDC	NTDC	41,136,000	153889000
8	660kV HVDC Converter Station Matiari	Matiari - Dadu	66219246	HVDC	NTDC	-	292011000
9	660kV HVDC Converter Station Matiari	Matiari - SECL - 1	66213804	HVDC	NTDC	346,173,000	0
10	660kV HVDC Converter Station Matiari	Matiari - SECL - 2	66213805	HVDC	NTDC	339,260,000	0
Net Energy Delivered by NTDC		+ 797,118,000 kWh				Sum Import Units : 1,702,921,000.00 kWh	Sum Export Units : 905,803,000.00 kWh

HVDC - NTDC Energy Exchange at HVDC Lahore Station

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	Meter Sr. No.	From	To	ENERGY IMPORT (kWh)	ENERGY EXPORT (kWh)
1	660kV HVDC Converter Station Lahore	Lahore - SKP - I	66213718	HVDC	NTDC	14,500	206409500
2	660kV HVDC Converter Station Lahore	Lahore - SKP - II	66219271	HVDC	NTDC	-	214030500
3	660kV HVDC Converter Station Lahore	Lahore - South - I	66213717	HVDC	NTDC	1,077,000	166462400
4	660kV HVDC Converter Station Lahore	Lahore - South - II	66213719	HVDC	NTDC	2,001,000	189983700
Net Energy Received by NTDC		+ 773,793,600 kWh				Sum Import Units : 3,092,500.00 kWh	Sum Export Units : 776,886,100.00 kWh

Gross Consumption (Losses + Aux.) of HVDC (PMLTC)	+ 23,324,400 kWh	2.926%

METERING DATA VERIFIED BY MSP NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

NTDC 500 & 220kV T&T Losses Statistics

FY 2023-24				
Month	Energy Received by NTDC at CDPs (kWh)	Energy Delivered by NTDC at CDPs (kWh)	NTDC T&T Loss (kWh)	% T&T Loss Expressed as % of Energy Received by NTDC at CDPs
	A	B	C = A - B	D = C / A %
Jul-23	16,080,579,482	15,711,998,751	368,580,731	2.292%
Aug-23	16,704,706,902	16,305,176,876	399,530,026	2.392%
Sep-23	14,404,173,188	14,057,456,271	346,716,916	2.407%
Oct-23	10,347,637,096	10,089,873,778	257,763,318	2.491%
Nov-23	-	-	-	0.000%
Dec-23	-	-	-	0.000%
Jan-24	-	-	-	0.000%
Feb-24	-	-	-	0.000%
Mar-24	-	-	-	0.000%
Apr-24	-	-	-	0.000%
May-24	-	-	-	0.000%
Jun-24	-	-	-	0.000%
Total	57,537,096,668	56,164,505,676	1,372,590,992	2.386%

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

HVDC T&T Losses + Consumption Statistics

Month	Net Energy Delivered by NTDC (MWh) at Matiari Station	Net Energy Received by NTDC (MWh) at Lahore Station	Gross Total of HVDC Losses + Aux Consumption ; (MWh and %)	
Jul-23	1,749,506	1,698,957	50,549	2.889%
Aug-23	1,831,207	1,778,018	53,190	2.905%
Sep-23	1,571,854	1,526,767	45,087	2.868%
Oct-23	797,118	773,794	23,324	2.926%
Nov-23	-	-	-	0.000%
Dec-23	-	-	-	0.000%
Jan-24	-	-	-	0.000%
Feb-24	-	-	-	0.000%
Mar-24	-	-	-	0.000%
Apr-24	-	-	-	0.000%
May-24	-	-	-	0.000%
Jun-24	-	-	-	0.000%
Total FY23	5,949,685	5,777,535	172,150	2.893%

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

T&T Losses

For the Month of October-2023

Energy Exchange Description	NTDC & Generation CDPs (kWh)	NTDC & DISCOs CDPs (kWh)	NTDC & PMLTC-HVDC CDPs (kWh) [Net]	Total Energy (kWh)
Energy Received by NTDC	10,225,077,996	122,559,100		10,347,637,096
Energy Delivered by NTDC	1,706,944,411	8,359,604,967	23,324,400	10,089,873,778
NTDC T&T Losses kWh = (Energy Received by NTDC) - (Energy Delivered by NTDC)				257,763,318
NTDC T&T Losses (%age) = (T&T Losses kWh / Energy Received by NTDC)				2.491%
NTDC Grids Auxiliary (11kV) Units Consumption (kWh) from DISCOs (kWh) reported separately. Not included in NTDC - DISCO CDPs list and corresponding calculations				2,201,409

- List of all Metering Data is attached.

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

T&T Losses

For the Month of October-2023

A. Complete [>= 220kV; NTDC System losses + 660kV PMLTC/HVDC losses]

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	Energy Loss (kWh)	Energy Loss %
Generation Points (kWh)	10,225,077,996	1,706,944,411		
Distribution Points (kWh)	122,559,100	8,359,604,967		
Sub-Total A (kWh)	10,347,637,096	10,066,549,378	281,087,718	2.716%

B. 660kV PMLTC/HVDC System

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	660kV HVDC/PMLTC Energy Loss (kWh)	660kV HVDC/PMLTC Energy Loss (%)
NTDC - PMLTC Points (kWh)	773,793,600	797,118,000		
		Gross Energy Delivered by NTDC to HVDC	23,324,400	2.926%
		less Auxiliary Energy consumed by PMLTC (kWh)	-	-
		Net Energy Delivered by NTDC to HVDC	23,324,400	2.926%

C. NTDC (500 & 220kV) System

Energy Exchange Description	Energy Received by NTDC	Energy Delivered by NTDC	NTDC 500kV & 220kV T&T Losses (kWh)	NTDC 500kV & 220kV T&T Losses (%)
Generation Points (kWh)	10,225,077,996	1,706,944,411		
Distribution Points (kWh)	122,559,100	8,359,604,967		
NTDC - PMLTC Points (kWh)	-	23,324,400		
Sub-Total C (kWh)	10,347,637,096	10,089,873,778	257,763,318	2.491%

D. NTDC Grids Auxiliary (11kV) Units Consumption (kWh) from DISCOs (kWh) reported separately	2,201,409
- List of all Metering Data is attached.	

(NTDC 500 & 220kV T&T Loss) + (NTDC 11kV Aux) + (HVDC/PMLTC 660kV Loss) =	283,289,127

METERING DATA VERIFIED BY MSP NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - Generation Points Data (500 & 220kV Stations)

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
1	Atlas Power Sheikhupura	220kV L2	IPP	NTDC	-	92,192,268
2	Atlas Power Sheikhupura	220kV L1	IPP	NTDC	91,869,880	-
3	Coal : China Power Hub (1320MW)	M1, T1 - HV Side	IPP	NTDC	-	-
4	Coal : China Power Hub (1320MW)	M2, T2 - HV Side	IPP	NTDC	-	-
5	Coal : China Power Hub (1320MW)	M3, S/ST/F	IPP	NTDC	-	2,043,800
6	Coal : Engro Thar (660MW)	M1 - Generator 1	IPP	NTDC	136,518,200	-
7	Coal : Engro Thar (660MW)	M2 - Generator 2	IPP	NTDC	121,702,000	-
8	Coal : Engro Thar (660MW)	M3 - SST T/F	IPP	NTDC	-	-
9	Coal : Lucky Electric	GT	IPP	NTDC	286,817,000	278,800
10	Coal : Lucky Electric	SST	IPP	NTDC	-	48,840
11	Coal : Port Qasim (1320MW)	G-1	IPP	NTDC	-	-
12	Coal : Port Qasim (1320MW)	G-2	IPP	NTDC	49,344,700	-
13	Coal : Port Qasim (1320MW)	SST/F	IPP	NTDC	-	3,183,100
14	Coal : Sahiwal (1320MW)	500 KV TL-1	IPP	NTDC	356,897,800	65,900
15	Coal : Sahiwal (1320MW)	500 KV TL-2	IPP	NTDC	-	358,560,200
16	Coal : Thal Nova Thar	GT	IPP	NTDC	88,139,100	-
17	Coal : Thal Nova Thar	SST	IPP	NTDC	-	878,700
18	Coal : Thar Energy Limited (TEL)	GT M-1	IPP	NTDC	200,083,500	-
19	Coal : Thar Energy Limited (TEL)	SST M-2	IPP	NTDC	-	40,700
20	Coal: 1320MW TCB-I Tharparkar	Main GT (M1)	IPP	NTDC	348,043,500	272,200
21	Coal: 1320MW TCB-I Tharparkar	Main GT (M2)	IPP	NTDC	439,525,100	-
22	Coal: 1320MW TCB-I Tharparkar	Main SST (M3)	IPP	NTDC	-	1,087,100
23	Coal : 660MW CFPP Jamshoro	T1	GENCO	NTDC	-	141,800
24	Engro PowerGen Qadirpur	ST	IPP	NTDC	9,330,932	144,204
25	Engro PowerGen Qadirpur	GT	IPP	NTDC	18,208,983	152,969
26	Foundation Power Daharki	220kV Line 2	IPP	NTDC	28,476,362	1,001,657
27	Foundation Power Daharki	220kV Line 1	IPP	NTDC	74,707,937	4,078
28	HPS (Allai+Dubair+Khan Khawar) + Ranolia	220kV Allai Mansehra Line II	WAPDA	NTDC	24,319,000	5,000
29	HPS (Allai+Dubair+Khan Khawar) + Ranolia	220kV Allai Mansehra Line I	WAPDA	NTDC	24,409,802	5,000
30	HPS Karot 720MW	225MVA 15.75/525kV T-1	IPP	NTDC	92,022,000	48,900
31	HPS Karot 720MW	225MVA 15.75/525kV T-2	IPP	NTDC	-	-
32	HPS Karot 720MW	225MVA 15.75/525kV T-3	IPP	NTDC	22,244,800	41,600
33	HPS Karot 720MW	225MVA 15.75/525kV T-4	IPP	NTDC	3,707,000	69,100
34	HPS Neelum Jhelum	Unit-1	WAPDA	NTDC	4,859,700	-
35	HPS Neelum Jhelum	Unit-2	WAPDA	NTDC	41,329,900	-
36	HPS Neelum Jhelum	Unit-3	WAPDA	NTDC	18,604,800	-
37	HPS Neelum Jhelum	Unit-4	WAPDA	NTDC	91,486,900	-
38	HPS WAPDA Ghazi Barotha	500 kV Tarbela-2 Line	WAPDA	NTDC	381,000	133,209,000
39	HPS WAPDA Ghazi Barotha	500 kV Gatti-1 Line	WAPDA	NTDC	196,737,000	800,000
40	HPS WAPDA Ghazi Barotha	500 kV Rawat-2 Line	WAPDA	NTDC	205,119,000	-
41	HPS WAPDA Ghazi Barotha	550 kV Tarbela-1 Line	WAPDA	NTDC	407,000	140,409,000
42	HPS WAPDA Ghazi Barotha	500 kV Rawat-1 Line	WAPDA	NTDC	202,760,000	-
43	HPS WAPDA Ghazi Barotha	500 kV Gatti-2 Line	WAPDA	NTDC	197,619,000	809,000
44	HPS WAPDA Ghazi Barotha	220kV Nowshehra I	WAPDA	NTDC	48,688,000	-
45	HPS WAPDA Ghazi Barotha	220kV Nowshehra II	WAPDA	NTDC	48,909,600	-
46	HPS WAPDA Mangla	220kV Mangla - New Ghakhar (Nokhar)	WAPDA	NTDC	100,803,000	-
47	HPS WAPDA Mangla	220kV Mangla - New Rawat - II	WAPDA	NTDC	32,495,000	5,094,000
48	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - III	WAPDA	NTDC	75,036,000	-
49	HPS WAPDA Mangla	220kV Mangla - New Rawat - I	WAPDA	NTDC	32,804,000	5,205,000
50	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - I	WAPDA	NTDC	67,435,000	-
51	HPS WAPDA Mangla	220kV Mangla - Ghakhar - I	WAPDA	NTDC	70,176,000	-
52	HPS WAPDA Mangla	220kV Mangla - Ghakhar - II	WAPDA	NTDC	100,378,000	-
53	HPS WAPDA Mangla	220kV Mangla - Kala Shah Kakoo - II	WAPDA	NTDC	64,280,000	-
54	HPS WAPDA Tarbela	500 kV Peshawar Line	WAPDA	NTDC	109,803,000	6,165,000
55	HPS WAPDA Tarbela	500 kV Barotha 1 Line	WAPDA	NTDC	140,556,000	390,000
56	HPS WAPDA Tarbela	220kV Burhan 3 Line	WAPDA	NTDC	77,756,000	-
57	HPS WAPDA Tarbela	220kV ISPR (Sangjani) Line	WAPDA	NTDC	68,512,000	-
58	HPS WAPDA Tarbela	220kV Burhan 1 Line	WAPDA	NTDC	111,064,000	-
59	HPS WAPDA Tarbela	220kV Mardan 2 Line	WAPDA	NTDC	66,234,000	-
60	HPS WAPDA Tarbela	220kV Burhan 2 Line	WAPDA	NTDC	112,401,000	-
61	HPS WAPDA Tarbela	220kV Mardan 1 Line	WAPDA	NTDC	66,372,000	-
62	HPS WAPDA Tarbela	500 kV Rawat Line	WAPDA	NTDC	283,026,000	-
63	HPS WAPDA Tarbela	500 kV Barotha 2 Line	WAPDA	NTDC	132,316,000	368,000
64	HUBCO Karachi	500 kV Jamshoro Line	IPP - 94	NTDC	6,087,000	237,327,000
65	HUBCO Karachi	500 kV NKI Line	IPP - 94	NTDC	236,131,000	6,188,000
66	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 6	IPP - 94	NTDC	21,800	25,903,000
67	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 3	IPP - 94	NTDC	4,600	5,453,200
68	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 4	IPP - 94	NTDC	11,200	17,281,400
69	KAPCO Kot Addu	220kV T/L KAPCO - Pak Gen	IPP - 94	NTDC	114,400	523,300
70	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 1	IPP - 94	NTDC	200	48,393,800
71	KAPCO Kot Addu	220kV T/L KAPCO - New Multan - 5	IPP - 94	NTDC	8,800	23,845,500
72	Lalpir Power	220kV Muzaffar Garh L2	IPP - 94	NTDC	-	325,900
73	Lalpir Power	220kV Muzaffar Garh L1	IPP - 94	NTDC	-	325,600
74	Nuclear : CHASHNUPP - C1	T1 (C1)	NUCLEAR	NTDC	196,436,000	887,000
75	Nuclear : CHASHNUPP - C2	T1 (C2)	NUCLEAR	NTDC	225,173,000	-
76	Nuclear : CHASHNUPP - C3	T1 (C3)	NUCLEAR	NTDC	233,588,000	-
77	Nuclear : CHASHNUPP - C4	T1 (C4)	NUCLEAR	NTDC	228,696,000	-
78	Nuclear : KANUPP - K2	M-1	NUCLEAR	NTDC	260,170,000	6,494,000
79	Nuclear : KANUPP - K3	M1	NUCLEAR	NTDC	682,201,000	3,169,000
80	PakGen Power	220kV Line 2	IPP - 94	NTDC	600	111,800
81	PakGen Power	220kV Line 1	IPP - 94	NTDC	-	600
82	RLNG CCPP Balloki	T1	IPP	NTDC	201,373,000	5,800
83	RLNG CCPP Balloki	T2	IPP	NTDC	242,191,500	300
84	RLNG CCPP Balloki	T3	IPP	NTDC	138,952,600	-
85	RLNG CCPP Bhikki	T1	IPP	NTDC	124,167,600	295,800
86	RLNG CCPP Bhikki	T2	IPP	NTDC	72,317,300	99,200
87	RLNG CCPP Bhikki	T3	IPP	NTDC	199,260,200	166,300
88	RLNG CCPP HBS Jhang	GT-1	IPP	NTDC	219,555,100	-
89	RLNG CCPP HBS Jhang	GT-2	IPP	NTDC	223,747,700	-

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - Generation Points Data (500 & 220kV Stations)

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
90	RLNG CCPP HBS Jhang	ST	IPP	NTDC	234,848,500	-
91	RLNG CCPP Head Trimu	ST	IPP	NTDC	87,670,800	65,500
92	RLNG CCPP Head Trimu	GT2	IPP	NTDC	108,993,600	576,100
93	RLNG CCPP Head Trimu	GT1	IPP	NTDC	51,765,600	5,500
94	Rousch Power Abdul Hakeem	500kV Multan Line	IPP - 94	NTDC	89,972,000	4,120,000
95	Rousch Power Abdul Hakeem	500kV Gatti Line	IPP - 94	NTDC	4,040,000	90,658,000
96	TPS Guddu	220kV Shikarpur II Line	GENCO	NTDC	1,111,000	19,652,000
97	TPS Guddu	220/500 kV T3	GENCO	NTDC	-	-
98	TPS Guddu	220kV Shikarpur I Line	GENCO	NTDC	681,000	12,140,000
99	TPS Guddu	220kV Sibbi Line	GENCO	NTDC	8,814,000	6,003,600
100	TPS Guddu	220/500 kV T1	GENCO	NTDC	10,121,000	6,259,000
101	TPS Guddu	220/500 kV T2	GENCO	NTDC	10,377,000	6,429,000
102	TPS Guddu 747MW	500 kV T2	GENCO	NTDC	-	131,000
103	TPS Guddu 747MW	500 kV T1	GENCO	NTDC	146,933,000	6,000
104	TPS Guddu 747MW	500 kV T3	GENCO	NTDC	-	-
105	TPS Jamshoro	220kV Circuit 4 to 500 kV G/S	GENCO	NTDC	-	-
106	TPS Jamshoro	Starting T/F (220/66kV) T-4 for TPS JAMSHORO	GENCO	NTDC	-	70,000
107	TPS Jamshoro	Starting T/F (220/66kV) T-5 for TPS JAMSHORO	GENCO	NTDC	-	-
108	TPS Jamshoro	220kV Circuit 1 to 500 kV G/S	GENCO	NTDC	-	-
109	TPS Jamshoro	220kV Circuit 2 to 500 kV G/S	GENCO	NTDC	-	-
110	TPS Jamshoro	220kV Circuit 3 to 500 kV G/S	GENCO	NTDC	-	-
111	TPS Muzaffargarh	220kV BAHAWALPUR-2	GENCO	NTDC	74,908,000	914,000
112	TPS Muzaffargarh	220/500kV G/S CCT No. 1	GENCO	NTDC	-	209,981,000
113	TPS Muzaffargarh	220kV NEW MULTAN-4	GENCO	NTDC	14,614,000	579,000
114	TPS Muzaffargarh	220kV KAPCO	GENCO	NTDC	48,397,000	-
115	TPS Muzaffargarh	220kV BAHAWALPUR-1	GENCO	NTDC	66,037,000	763,000
116	TPS Muzaffargarh	220kV NEW MULTAN-1	GENCO	NTDC	14,254,000	579,000
117	TPS Muzaffargarh	220kV NEW MULTAN-3	GENCO	NTDC	20,469,000	727,000
118	TPS Muzaffargarh	220kV Muzaffargarh	GENCO	NTDC	171,022,000	-
119	TPS Muzaffargarh	220/500kV G/S CCT No. 2	GENCO	NTDC	-	217,267,000
120	TPS Muzaffargarh	220kV PAKGEN-1	GENCO	NTDC	1,000	-
121	TPS Muzaffargarh	220kV LALPIR-2	GENCO	NTDC	335,000	-
122	TPS Muzaffargarh	220kV LALPIR-1	GENCO	NTDC	333,000	-
123	TPS Muzaffargarh	220kV PARCO-1	GENCO	NTDC	8,070,000	-
124	TPS Muzaffargarh	220kV PARCO-2	GENCO	NTDC	11,333,000	-
125	UCH Power - I	220kV M1	IPP - 94	NTDC	157,915,000	-
126	UCH Power - I	220kV M2	IPP - 94	NTDC	207,138,000	-
127	UCH Power - II	220kV GT 2	IPP	NTDC	-	507,948
128	UCH Power - II	220kV GT 1	IPP	NTDC	-	48
129	UCH Power - II	220kV GT 3	IPP	NTDC	-	-
	Totals				Sum Units Received: 10,225,077,996 kWh	Sum Units Delivered: 1,706,944,411 kWh

METERING DATA VERIFIED BY MSP NTDC
VERIFIED

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
1	220kV Bahria G/S Rawalpindi	220kV Bahria	NTDC	IESCO	325,000	6,753,567
2	220kV KE G/S KDA	Jamshoro - 1	K-Electric	NTDC	15,000	106,726,000
3	220kV KE G/S KDA	Jamshoro - 2	K-Electric	NTDC	14,000	106,960,000
4	220kV PARCO G/S	220kV Circuit PARCO- I	NTDC	MEPCO	-	7,370,700
5	220kV PARCO G/S	220kV Circuit PARCO- II	NTDC	MEPCO	-	10,263,100
6	220kV NTDC G/S Bahawalpur	220/132kV T1	NTDC	MEPCO	-	4,788,000
7	220kV NTDC G/S Bahawalpur	220/132kV T2	NTDC	MEPCO	355,000	53,430,000
8	220kV NTDC G/S Bahawalpur	220/132kV T3	NTDC	MEPCO	355,000	53,349,000
9	220kV NTDC G/S Bandala	220/132kV T1	NTDC	FESCO	-	65,039,000
10	220kV NTDC G/S Bandala	220/132kV T2	NTDC	FESCO	-	50,795,000
11	220kV NTDC G/S Bandala	220/132kV T3	NTDC	FESCO	-	50,359,000
12	220kV NTDC G/S Bannu	220/132kV T/F T1	NTDC	PESCO	-	33,485,000
13	220kV NTDC G/S Bannu	220/132kV T/F T2	NTDC	PESCO	-	31,963,000
14	220kV NTDC G/S Bannu	220/132kV T/F T5	NTDC	PESCO	-	32,960,000
15	220kV NTDC G/S Bund Road	220/132kV T1	NTDC	LESCO	-	46,095,000
16	220kV NTDC G/S Bund Road	220/132kV T2	NTDC	LESCO	-	61,335,000
17	220kV NTDC G/S Bund Road	220/132kV T3	NTDC	LESCO	-	46,032,000
18	220kV NTDC G/S Bund Road	220/132kV T4	NTDC	LESCO	-	61,182,000
19	220kV NTDC G/S Burhan	220/132kV T1	NTDC	IESCO	-	59,455,000
20	220kV NTDC G/S Burhan	220/132kV T2	NTDC	IESCO	-	58,846,000
21	220kV NTDC G/S Burhan	220/132kV T3	NTDC	IESCO	-	59,351,000
22	220kV NTDC G/S Burhan	220/132kV T4	NTDC	IESCO	-	59,811,000
23	220kV NTDC G/S Chakdara	T-1	NTDC	PESCO	-	44,643,000
24	220kV NTDC G/S Chakdara	T-2	NTDC	PESCO	-	44,218,000
25	220kV NTDC G/S Chishtian	M1	NTDC	MEPCO	-	36,894,000
26	220kV NTDC G/S Chishtian	M2	NTDC	MEPCO	-	37,455,000
27	220kV NTDC G/S Chishtian	M3	NTDC	MEPCO	-	34,421,000
28	220kV NTDC G/S Daharki	T-1	NTDC	MEPCO	234,000	30,291,000
29	220kV NTDC G/S Daharki	T-2	NTDC	MEPCO	124,000	19,863,000
30	220kV NTDC G/S Daudkhel	220/132kV T1	NTDC	FESCO	18,000	26,528,000
31	220kV NTDC G/S Daudkhel	220/132kV T2	NTDC	FESCO	16,000	27,094,000
32	220kV NTDC G/S DI Khan	T-1	NTDC	PESCO	1,046,000	9,405,000
33	220kV NTDC G/S DI Khan	T-2	NTDC	PESCO	1,046,000	9,374,000
34	220kV NTDC G/S DM Jamali	T1	NTDC	QESCO	-	9,915,000
35	220kV NTDC G/S DM Jamali	T2	NTDC	QESCO	-	9,890,000
36	220kV NTDC G/S Ghakkhar	220/132kV - T1	NTDC	GEPCO	-	53,304,000
37	220kV NTDC G/S Ghakkhar	220/132kV - T2	NTDC	GEPCO	-	-
38	220kV NTDC G/S Ghakkhar	220/132kV - T3	NTDC	GEPCO	128,000	58,586,000
39	220kV NTDC G/S Ghakkhar	220/132kV - T4	NTDC	GEPCO	-	21,937,000
40	220kV NTDC G/S Ghazi Road	250 MVA T-1 (GIS)	NTDC	LESCO	-	51,847,000
41	220kV NTDC G/S Ghazi Road	250 MVA T-2 (GIS)	NTDC	LESCO	-	51,267,000
42	220kV NTDC G/S Ghazi Road	250 MVA T-3 (GIS)	NTDC	LESCO	-	51,318,000
43	220kV NTDC G/S Gujrat	220/132kV ATR-1	NTDC	GEPCO	-	37,665,000
44	220kV NTDC G/S Gujrat	220/132kV ATR-2	NTDC	GEPCO	-	37,646,000
45	220kV NTDC G/S Gujrat	220/132kV ATR-3	NTDC	GEPCO	-	37,751,000
46	220kV NTDC G/S Hala Road	220/132kV T1	NTDC	HESCO	-	33,837,000
47	220kV NTDC G/S Hala Road	220/132kV T2	NTDC	HESCO	-	33,491,000
48	220kV NTDC G/S Hala Road	220/132kV T3	NTDC	HESCO	-	42,393,000
49	220kV NTDC G/S ISPR Islamabad	220/132kV T1	NTDC	IESCO	-	31,508,000
50	220kV NTDC G/S ISPR Islamabad	220/132kV T2	NTDC	IESCO	-	30,284,000
51	220kV NTDC G/S ISPR Islamabad	220/132kV T3	NTDC	IESCO	-	29,996,000
52	220kV NTDC G/S ISPR Islamabad	220/132kV T4	NTDC	IESCO	-	30,837,000
53	220kV NTDC G/S ISPR Islamabad	T-7	NTDC	IESCO	-	30,297,000
54	220kV NTDC G/S Jaranwala Road	220/132kV T1	NTDC	FESCO	-	25,711,000
55	220kV NTDC G/S Jaranwala Road	220/132kV T2	NTDC	FESCO	-	30,175,000
56	220kV NTDC G/S Jaranwala Road	220/132kV T3	NTDC	FESCO	-	29,626,000
57	220kV NTDC G/S Jaranwala Road	220/132kV T4	NTDC	FESCO	-	30,106,000
58	220kV NTDC G/S Jhampir	M1	NTDC	HESCO	14,667,000	2,063,000
59	220kV NTDC G/S Jhampir	M2	NTDC	HESCO	14,600,000	2,054,000
60	220kV NTDC G/S Jhampir	T3	NTDC	HESCO	14,815,000	2,063,000
61	220kV NTDC G/S Jhampir	T-4	NTDC	HESCO	14,267,300	2,071,500
62	220kV NTDC G/S Jhampir-II	T1	NTDC	HESCO	17,696,100	122,300
63	220kV NTDC G/S Jhampir-II	T2	NTDC	HESCO	17,748,200	121,700
64	220kV NTDC G/S Jhampir-II	T3	NTDC	HESCO	17,753,500	118,100
65	220kV NTDC G/S Kala Shah Kaku	220/132kV T1	NTDC	LESCO	-	49,428,000
66	220kV NTDC G/S Kala Shah Kaku	220/132kV T2	NTDC	LESCO	-	51,006,000
67	220kV NTDC G/S Kala Shah Kaku	220/132kV T3	NTDC	LESCO	-	55,559,000
68	220kV NTDC G/S Kala Shah Kaku	220/132kV T4	NTDC	LESCO	-	52,023,000
69	220kV NTDC G/S Kassowal	220/132kV T2	NTDC	MEPCO	-	33,343,000
70	220kV NTDC G/S Kassowal	220/132kV T1	NTDC	MEPCO	-	33,517,000
71	220kV NTDC G/S Kassowal	T-4	NTDC	MEPCO	-	53,611,000
72	220kV NTDC G/S Khuzdar	220/132kV T1	NTDC	QESCO	-	19,829,000
73	220kV NTDC G/S Khuzdar	220/132kV T2	NTDC	QESCO	-	19,947,000
74	220kV NTDC G/S Lal Suhanra	T1	NTDC	MEPCO	2,789,000	29,691,000
75	220kV NTDC G/S Lalian	ATR-02	NTDC	FESCO	-	18,408,000
76	220kV NTDC G/S Lalian	220/132kV Auto Transformer T-1	NTDC	FESCO	-	18,053,000
77	220kV NTDC G/S Loralai	220/132kV T1	NTDC	QESCO	-	17,806,000
78	220kV NTDC G/S Loralai	220/132kV T2	NTDC	QESCO	-	17,077,000
79	220kV NTDC G/S Luddewala	220/132kV T1	NTDC	FESCO	-	17,333,000
80	220kV NTDC G/S Luddewala	220/132kV T2	NTDC	FESCO	-	89,044,000
81	220kV NTDC G/S Luddewala	220/132kV T3	NTDC	FESCO	-	88,146,000
82	220kV NTDC G/S Mansehra	250 MVA T/F - 1	NTDC	PESCO	-	37,967,000
83	220kV NTDC G/S Mansehra	250 MVA T/F - 2	NTDC	PESCO	-	38,024,000
84	220kV NTDC G/S Mardan	220/132kV T1	NTDC	PESCO	-	50,777,000
85	220kV NTDC G/S Mardan	220/132kV T2	NTDC	PESCO	-	51,569,000
86	220kV NTDC G/S Mardan	220/132kV T3	NTDC	PESCO	-	51,355,000
87	220kV NTDC G/S Muzaffargarh	220/132kV T1	NTDC	MEPCO	-	51,161,000
88	220kV NTDC G/S Muzaffargarh	220/132kV T2	NTDC	MEPCO	-	54,678,000
89	220kV NTDC G/S Muzaffargarh	220/132kV T3	NTDC	MEPCO	-	53,664,000

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
90	220kV NTDC G/S New Shalamar	T1	NTDC	LESCO	-	19,267,000
91	220kV NTDC G/S New Shalamar	T2	NTDC	LESCO	-	19,420,000
92	220kV NTDC G/S New Shalamar	T3	NTDC	LESCO	-	20,302,000
93	220kV NTDC G/S Nishatabad	220/132kV T2	NTDC	FESCO	-	47,297,000
94	220kV NTDC G/S Nishatabad	220/132kV T3	NTDC	FESCO	-	62,008,000
95	220kV NTDC G/S Nishatabad	220/132kV T4	NTDC	FESCO	-	47,490,000
96	220kV NTDC G/S Nishatabad	220/132kV T5	NTDC	FESCO	-	47,047,000
97	220kV NTDC G/S Nishatabad	220/132kV T1	NTDC	FESCO	-	47,429,000
98	220kV NTDC G/S NKLP	220/132kV T2	NTDC	LESCO	-	83,502,000
99	220kV NTDC G/S NKLP	220/132kV T1	NTDC	LESCO	-	70,361,000
100	220kV NTDC G/S NKLP	220/132kV T3	NTDC	LESCO	-	83,317,000
101	220kV NTDC G/S Nowshehra	T-1	NTDC	PESCO	-	41,967,000
102	220kV NTDC G/S Nowshehra	T-2	NTDC	PESCO	-	41,958,000
103	220kV NTDC G/S Okara	220/132kV T1	NTDC	LESCO	-	71,650,000
104	220kV NTDC G/S Okara	220/132kV T2	NTDC	LESCO	-	71,519,000
105	220kV NTDC G/S Quetta Industrial	220/132kV T1	NTDC	QESCO	-	82,826,000
106	220kV NTDC G/S Quetta Industrial	220/132kV T2	NTDC	QESCO	777,000	20,901,000
107	220kV NTDC G/S Quetta Industrial	220/132kV T3	NTDC	QESCO	-	83,899,000
108	220kV NTDC G/S Ravi	220/132kV T1	NTDC	LESCO	-	44,231,000
109	220kV NTDC G/S Ravi	220/132kV T2	NTDC	LESCO	-	46,762,000
110	220kV NTDC G/S Ravi	220/132kV T3	NTDC	LESCO	-	46,548,000
111	220kV NTDC G/S Rohri	T1	NTDC	SEPCO	1,134,000	30,617,000
112	220kV NTDC G/S Rohri	T2	NTDC	SEPCO	1,144,000	30,840,000
113	220kV NTDC G/S Sarfaraz Nagar	220/132kV T1	NTDC	LESCO	-	69,804,000
114	220kV NTDC G/S Sarfaraz Nagar	220/132kV T2	NTDC	LESCO	-	69,422,000
115	220kV NTDC G/S Sarfaraz Nagar	220/132kV T3	NTDC	LESCO	-	68,661,000
116	220kV NTDC G/S Sarfaraz Nagar	220/132kV T6	NTDC	LESCO	-	69,261,000
117	220kV NTDC G/S Shahi Bagh	220/132kV T1	NTDC	PESCO	370,000	12,472,000
118	220kV NTDC G/S Shahi Bagh	220/132kV T2	NTDC	PESCO	370,000	12,463,000
119	220kV NTDC G/S Shahi Bagh	220/132kV T3	NTDC	PESCO	371,000	12,443,000
120	220kV NTDC G/S Shahi Bagh	220/132kV T4	NTDC	PESCO	348,000	12,479,000
121	220kV NTDC G/S Sialkot	220/132kV T1	NTDC	GEPCO	4,000	43,971,000
122	220kV NTDC G/S Sialkot	220/132kV T2	NTDC	GEPCO	3,000	43,876,000
123	220kV NTDC G/S Sialkot	220/132kV T3	NTDC	GEPCO	6,000	41,484,000
124	220kV NTDC G/S Sibbi	220/132kV T2	NTDC	QESCO	-	34,731,000
125	220kV NTDC G/S Sibbi	220/132kV T1	NTDC	QESCO	-	35,860,000
126	220kV NTDC G/S Summandari Road	220/132kV T1	NTDC	FESCO	-	35,503,000
127	220kV NTDC G/S Summandari Road	220/132kV T2	NTDC	FESCO	-	-
128	220kV NTDC G/S Summandari Road	220/132kV T3	NTDC	FESCO	-	33,790,000
129	220kV NTDC G/S TM Khan Road	220/132kV T2	NTDC	HESCO	-	46,145,000
130	220kV NTDC G/S TM Khan Road	220/132kV T1	NTDC	HESCO	-	46,480,000
131	220kV NTDC G/S Toba Tek Singh	T1	NTDC	FESCO	-	56,105,000
132	220kV NTDC G/S Toba Tek Singh	T3	NTDC	FESCO	-	27,235,000
133	220kV NTDC G/S Toba Tek Singh	T2	NTDC	FESCO	-	56,404,000
134	220kV NTDC G/S Toba Tek Singh	T4	NTDC	FESCO	-	41,990,000
135	220kV NTDC G/S University Barakahu	220/132kV T1	NTDC	IESCO	-	58,697,000
136	220kV NTDC G/S University Barakahu	220/132kV T2	NTDC	IESCO	-	60,483,000
137	220kV NTDC G/S Vehari	220/132kV T1	NTDC	MEPCO	-	51,656,000
138	220kV NTDC G/S Vehari	220/132kV T2	NTDC	MEPCO	-	51,752,000
139	220kV NTDC G/S Vehari	220/132kV T3	NTDC	MEPCO	-	48,382,000
140	220kV NTDC G/S Wapda Town	220/132kV T1	NTDC	LESCO	-	67,024,000
141	220kV NTDC G/S Wapda Town	220/132kV T2	NTDC	LESCO	-	49,239,000
142	220kV NTDC G/S Wapda Town	220/132kV T3	NTDC	LESCO	-	48,885,000
143	500kV NTDC G/S Dadu	220/132kV T5	NTDC	SEPCO	-	34,608,000
144	500kV NTDC G/S Dadu	220/132kV T1	NTDC	SEPCO	-	32,846,000
145	500kV NTDC G/S Dadu	220/132kV T3	NTDC	SEPCO	-	23,401,000
146	500kV NTDC G/S DG Khan	T3	NTDC	MEPCO	-	38,767,000
147	500kV NTDC G/S DG Khan	T4	NTDC	MEPCO	-	38,683,000
148	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-8	NTDC	FESCO	-	57,616,000
149	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-9	NTDC	FESCO	-	57,510,000
150	500kV NTDC G/S Faisalabad West	220/132kV Auto Transformer T-7	NTDC	FESCO	-	57,569,000
151	500kV NTDC G/S Jamshoro	220/132KV 160 MVA T/FT-3	NTDC	HESCO	10,000	49,103,000
152	500kV NTDC G/S Jamshoro	220/132KV 160 MVA T/FT-7	NTDC	HESCO	10,000	51,743,000
153	500kV NTDC G/S New Multan	220/132kV T3	NTDC	MEPCO	-	48,289,000
154	500kV NTDC G/S New Multan	220/132kV T4	NTDC	MEPCO	-	49,123,000
155	500kV NTDC G/S New Multan	220/132kV T5	NTDC	MEPCO	-	49,682,000
156	500kV NTDC G/S NKI Karachi	500/220kV T1	NTDC	K-Electric	-	247,646,000
157	500kV NTDC G/S NKI Karachi	500/220kV T2	NTDC	K-Electric	-	250,097,000
158	500kV NTDC G/S Nokhar	220/132kV T4	NTDC	GEPCO	-	48,598,000
159	500kV NTDC G/S Nokhar	220/132kV T5	NTDC	GEPCO	-	48,420,000
160	500kV NTDC G/S Nokhar	220/132kV T6	NTDC	GEPCO	-	48,493,000
161	500kV NTDC G/S Nokhar	220/132kV T-7	NTDC	GEPCO	-	70,273,000
162	500kV NTDC G/S Rahim Yar Khan	T-6	NTDC	MEPCO	-	62,981,000
163	500kV NTDC G/S Rahim Yar Khan	T-5	NTDC	MEPCO	-	62,861,000
164	500kV NTDC G/S Rawat	220/132kV T5	NTDC	IESCO	-	78,754,000
165	500kV NTDC G/S Rawat	220/132kV T6	NTDC	IESCO	-	78,229,000
166	500kV NTDC G/S Rawat	220/132kV T7	NTDC	IESCO	-	78,558,000
167	500kV NTDC G/S Rawat	220/132kV T8	NTDC	IESCO	-	79,126,000
168	500kV NTDC G/S Sheikh Muhammadi	220/132kV T6	NTDC	PESCO	-	50,262,000
169	500kV NTDC G/S Sheikh Muhammadi	220/132kV T7	NTDC	PESCO	-	49,693,000
170	500kV NTDC G/S Sheikh Muhammadi	220/132kV T8	NTDC	PESCO	-	49,504,000
171	500kV NTDC G/S Sheikh Muhammadi	220/132kV T5	NTDC	PESCO	-	49,503,000
172	500kV NTDC G/S Sheikhupura	220/132kV T5	NTDC	LESCO	-	54,467,000
173	500kV NTDC G/S Sheikhupura	220/132kV T6	NTDC	LESCO	-	57,108,000
174	500kV NTDC G/S Sheikhupura	220/132kV T7	NTDC	LESCO	-	73,358,000
175	500kV NTDC G/S Sheikhupura	220/132kV T8	NTDC	LESCO	-	56,451,000
176	500kV NTDC G/S Shikarpur	220/132kV T1	NTDC	SEPCO	-	-
177	500kV NTDC G/S Shikarpur	220/132kV T2	NTDC	SEPCO	-	72,245,000
178	500kV NTDC G/S Shikarpur	220/132kV T3	NTDC	SEPCO	-	67,484,000

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Energy Received by NTDC (kWh)	Energy Delivered by NTDC (kWh)
179	500kV NTDC G/S Yousafwala	220/132kV T3	NTDC	MEPCO	-	47,118,000
180	500kV NTDC G/S Yousafwala	220/132kV T4	NTDC	MEPCO	-	47,338,000
181	500kV NTDC G/S Yousafwala	220/132kV T5	NTDC	MEPCO	-	48,619,000
182	500kV NTDC G/S Yousafwala	220/132kV T6	NTDC	MEPCO	-	48,249,000
183	NGPS Multan	220kV New Multan - 1	MEPCO	NTDC	-	59,666,000
184	NGPS Multan	220kV New Multan - 2	MEPCO	NTDC	-	60,258,000
	Totals				Sum Units Received: 122,559,100 kWh	Sum Units Delivered: 8,359,604,967 kWh

METERING DATA VERIFIED BY MSP NTDC
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NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

Metering Information System

NTDC - DISCO's Auxiliary Metering Points Data

For the Month of October-2023

Sr. No.	Metering Station (Grid/PH)	Metering Point Description (Line/TF)	From	To	Net Energy Received by NTDC (kWh)
1	132kV FESCO G/S Chiniot Road	11kV Gatti Feeder (Grid Auxiliary)	FESCO	NTDC	42,840
2	132kV FESCO G/S Nishatabad New	11kV Feeder (Grid Auxiliary)	FESCO	NTDC	154,160
3	220kV NTDC G/S Bahawalpur	Grid Auxiliary	NTDC	MEPCO	22,630
4	220kV NTDC G/S Bandala	132/11kV T-4 (Grid Auxiliary)	NTDC	FESCO	15,240
5	220kV NTDC G/S Bannu	Grid Auxiliary	NTDC	PESCO	13,420
6	220kV NTDC G/S Bund Road	Grid Auxiliary	NTDC	LESCO	30,203
7	220kV NTDC G/S Burhan	Grid Auxiliary	NTDC	IESCO	44,324
8	220kV NTDC G/S Chakdara	Grid Auxiliary	NTDC	PESCO	21,458
9	220kV NTDC G/S Chishtian	Grid Auxiliary	NTDC	MEPCO	25,601
10	220kV NTDC G/S Daudkhel	Grid Auxiliary	NTDC	FESCO	10,231
11	220kV NTDC G/S Daudkhel	Grid Auxiliary # 2	NTDC	FESCO	6,584
12	220kV NTDC G/S DI Khan	Grid Auxiliary	NTDC	PESCO	22,514
13	220kV NTDC G/S DM Jamali	Grid Auxiliary	NTDC	QESCO	19,273
14	220kV NTDC G/S Ghakkhar	Grid Auxiliary	NTDC	GEPCO	20,046
15	220kV NTDC G/S Ghazi Road	Grid Auxiliary	NTDC	LESCO	23,868
16	220kV NTDC G/S Gujrat	T-4 (Grid Auxiliary)	NTDC	GEPCO	37,953
17	220kV NTDC G/S Hala Road	Grid Auxiliary	HESCO	NTDC	24,318
18	220kV NTDC G/S ISPR Islamabad	Grid Auxiliary	NTDC	IESCO	26,019
19	220kV NTDC G/S Jaranwala Road	Grid Auxiliary	NTDC	FESCO	15,953
20	220kV NTDC G/S Jhampir	Grid Auxiliary	HESCO	NTDC	47,300
21	220kV NTDC G/S Kala Shah Kaku	Grid Auxiliary	NTDC	LESCO	33,285
22	220kV NTDC G/S Kassowal	Grid Auxiliary	NTDC	MEPCO	18,818
23	220kV NTDC G/S Khuzdar	11kV Grid Auxiliary - II	NTDC	QESCO	14,848
24	220kV NTDC G/S Khuzdar	11kV Grid Auxiliary - I	NTDC	QESCO	6,184
25	220kV NTDC G/S Lal Suhanra	T4 (Grid Auxiliary)	NTDC	MEPCO	20,916
26	220kV NTDC G/S Lalian	T-04 Auxiliary	NTDC	FESCO	22,108
27	220kV NTDC G/S Loralai	Grid Auxiliary	NTDC	QESCO	26,645
28	220kV NTDC G/S Luddewala	Grid Auxiliary	NTDC	FESCO	18,236
29	220kV NTDC G/S Mansehra	Grid Auxiliary	NTDC	PESCO	25,347
30	220kV NTDC G/S Mardan	Grid Auxiliary	NTDC	PESCO	34,398
31	220kV NTDC G/S Muzaffargarh	Grid Auxiliary	NTDC	MEPCO	9,359
32	220kV NTDC G/S New Shalamar	Grid Auxiliary	NTDC	LESCO	28,407
33	220kV NTDC G/S NKLP	Grid Auxiliary	LESCO	NTDC	43,867
34	220kV NTDC G/S Nowshehra	Grid Auxiliary	NTDC	PESCO	29,552
35	220kV NTDC G/S Okara	Grid Auxiliary	NTDC	LESCO	27,044
36	220kV NTDC G/S Quetta Industrial	Grid Auxiliary	NTDC	QESCO	16,304
37	220kV NTDC G/S Ravi	Grid Auxiliary	NTDC	LESCO	22,336
38	220kV NTDC G/S Rohri	T-3 Grid Auxiliary	NTDC	SEPCO	39,704
39	220kV NTDC G/S Sarfaraz Nagar	Grid Auxiliary	NTDC	LESCO	36,196
40	220kV NTDC G/S Shahi Bagh	Grid Auxiliary	NTDC	PESCO	21,557
41	220kV NTDC G/S Sialkot	Grid Auxiliary	NTDC	GEPCO	27,219
42	220kV NTDC G/S Sibbi	Grid Auxiliary	NTDC	QESCO	29,122
43	220kV NTDC G/S Summandari Road	Grid Auxiliary	NTDC	FESCO	19,146
44	220kV NTDC G/S TM Khan Road	Grid Auxiliary	NTDC	HESCO	28,362
45	220kV NTDC G/S Toba Tek Singh	Grid Auxiliary	NTDC	FESCO	25,228
46	220kV NTDC G/S University Barakahu	Grid Auxiliary	NTDC	IESCO	17,468
47	220kV NTDC G/S Vehari	11kV Grid Auxiliary	NTDC	MEPCO	24,140
48	220kV NTDC G/S Wapda Town	Grid Auxiliary	NTDC	LESCO	17,119
49	500kV NTDC G/S DG Khan	T5 - Grid Auxiliary	NTDC	MEPCO	44,000
50	500kV NTDC G/S Faisalabad West	132/11kV Transformer T-1 (Grid Auxiliary)	NTDC	FESCO	83,082
51	500kV NTDC G/S New Multan	132/11kV T6 (Grid Auxiliary)	NTDC	MEPCO	98,040
52	500kV NTDC G/S Nokhar	Grid Auxiliary	NTDC	GEPCO	109,834
53	500kV NTDC G/S Rahim Yar Khan	T-7 Grid Auxiliary	NTDC	MEPCO	62,039
54	500kV NTDC G/S Rawat	Grid Auxiliary	NTDC	IESCO	74,145
55	500kV NTDC G/S Sheikh Muhammadi	Grid Auxiliary	NTDC	PESCO	144,089
56	500kV NTDC G/S Shikarpur	Grid Auxiliary	NTDC	SEPCO	85,648
57	500kV NTDC G/S Yousafwala	Grid Auxiliary - 6	NTDC	MEPCO	106,188
58	TPS Muzaffargarh	500kV NTDC Grid Feeder	NTDC	GENCO	87,436
	Totals				Sum Net Units Received: 2,201,351 kWh

METERING DATA VERIFIED BY MSP NTDC
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NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

NTDC 500 & 220kV T&T Losses Statistics

FY 2023-24				
Month	Energy Received by NTDC at CDPs (kWh)	Energy Delivered by NTDC at CDPs (kWh)	NTDC T&T Loss (kWh)	% T&T Loss Expressed as % of Energy Received by NTDC at CDPs
	A	B	C = A - B	D = C / A %
Jul-23	16,080,579,482	15,711,998,751	368,580,731	2.292%
Aug-23	16,704,706,902	16,305,176,876	399,530,026	2.392%
Sep-23	14,404,173,188	14,057,456,271	346,716,916	2.407%
Oct-23	10,347,637,096	10,089,873,778	257,763,318	2.491%
Nov-23	-	-	-	0.000%
Dec-23	-	-	-	0.000%
Jan-24	-	-	-	0.000%
Feb-24	-	-	-	0.000%
Mar-24	-	-	-	0.000%
Apr-24	-	-	-	0.000%
May-24	-	-	-	0.000%
Jun-24	-	-	-	0.000%
Total	57,537,096,668	56,164,505,676	1,372,590,992	2.386%

NATIONAL TRANSMISSION & DESPATCH COMPANY LIMITED

HVDC T&T Losses + Consumption Statistics

Month	Net Energy Delivered by NTDC (MWh) at Matiari Station	Net Energy Received by NTDC (MWh) at Lahore Station	Gross Total of HVDC Losses + Aux Consumption ; (MWh and %)	
Jul-23	1,749,506	1,698,957	50,549	2.889%
Aug-23	1,831,207	1,778,018	53,190	2.905%
Sep-23	1,571,854	1,526,767	45,087	2.868%
Oct-23	797,118	773,794	23,324	2.926%
Nov-23	-	-	-	0.000%
Dec-23	-	-	-	0.000%
Jan-24	-	-	-	0.000%
Feb-24	-	-	-	0.000%
Mar-24	-	-	-	0.000%
Apr-24	-	-	-	0.000%
May-24	-	-	-	0.000%
Jun-24	-	-	-	0.000%
Total FY23	5,949,685	5,777,535	172,150	2.893%