PERIOD 2021-22 TO 31-32

PREPARED BY MEPCO
WITH FACILITATION FROM
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Acknowledgement

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On the eve of publishing of this report we would like to express our sincere gratitude to NTDC Load Forecast Team comprising Engr. Tauseef ur Rehman Khan – Deputy Manager Load Forecast, Mr. Shahid Abbas – Staff Economist, Mr. Bilal Ahmad Khan – Assistant Manager and Ms. Maham Shahzadi – Assistant Manager. Their contribution and expertise have been very instrumental and invaluable for the quality of this report. Their devotion and dedication to keep the forecast methodology at par with the best international industrial practices is highly commendable. We highly appreciate the efforts of Power System Planning, NTDC for initiating the forecast process every year and facilitating all DSICOs to ensure the timely completion of the report.

PMS Team
MEPCO

Executive Summary

Multan Electric Power Company (MEPCO) is currently supplying electricityto civil divisions of Bahawalpur, DG Khan, Multan, Sahiwal and their respective districts. Earlier it was known as Multan Area Electricity Board (AEB) and its distribution network in the year 2001 comprised of seventy-one 132 kV and thirty-four 66 kV sub-stations. Presently, MEPCO operates One Hundred and thirty eight (138)132kV and six (6)66kV sub-stations.

This forecast is developed by conducting Power Market Survey (PMS), where the bottom-up approach is applied considering the best international practices for the development of ten years forecast which is called Medium-term Load Forecast with facilitation from National Transmission and Despatch Company (NTDC) The year 2021-22 has been taken as the base year and the forecast horizon is ten years up to 2031-32. The base year sale data (consumer-category wise energy sale of each feeder) and the expected spot loads data at the locations of different sub-stations have been collected by MEPCO Power Market Survey team besides Transmission & Distribution losses along with the loss reduction plans, historical category-wise sale and number of consumers. Data for the base year has also been adjusted for the estimated amount of un-served energy (load shedding) in order to have realistic figures of energy consumption. Furthermore, this report is updated on yearly basis, in order to capture any potential drastic change in consumer consumption pattern.

In the year 2021-22, peak demand of MEPCO is 4426 MW (11kV), energy sale was 19,202 GWh and energy purchased was 22,512 GWh. In the total energy sale for the year 2021-22 the shares of domestic sector and industrial sector were 55.2% and 18% respectively. The total number of consumers in 2021-22 was 7.61 million, and number of consumers in various categories was 6.78 million in domestic, 0.61 million in commercial, 0.06 million in industrial sector and 0.1 million in agricultural sector.

Forecast results show that in the years 2026-27 and 2031-32 energy sale will be 26,073 GWh and 34,084 GWh, peak demand will be 6,545 MW and 5,844 MW, and energy purchased will be 29,995 GWh and 38,463 GWh respectively. For the period 2021-22 to 2031-32, annual average compound growth rate of energy sale, peak demand and energy purchased will be 5.8%, 5.86% and 5.39% respectively.

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1.Introduction

This report is based on Power Market Survey and is prepared by MEPCO by getting assistance of NTDC. The report consists of year wise detailed forecast of energy sale and power demand for the whole company and each sub-station within the company's distribution network. In addition, forecast for Civil Administrative areas such as Divisions and Districts served by the company's distribution networkis also computed and depicted in different tables. The forecasted peak demand of MEPCO has been graphically presented in

Figure 1-1.

Load forecasting is an important element of the power planning process involving prediction of energy and demand in the future. The forecast serves as the basis for demand and supply-side planning. Load forecasts are typically prepared by utilities for different time frames and the level of details required depends upon different planning applications and operations for which the forecast will be used.

Long term planning requires a system level forecast of total generation requirement and peak demand. On the other hand, transmission and distribution planning requires more load level and geographic details to assess location, timing and loading of individual lines, substations and transformation facilities. The following figure

Figure 1-1) shows the computed peak demand of MEPCO for the current forecast period.

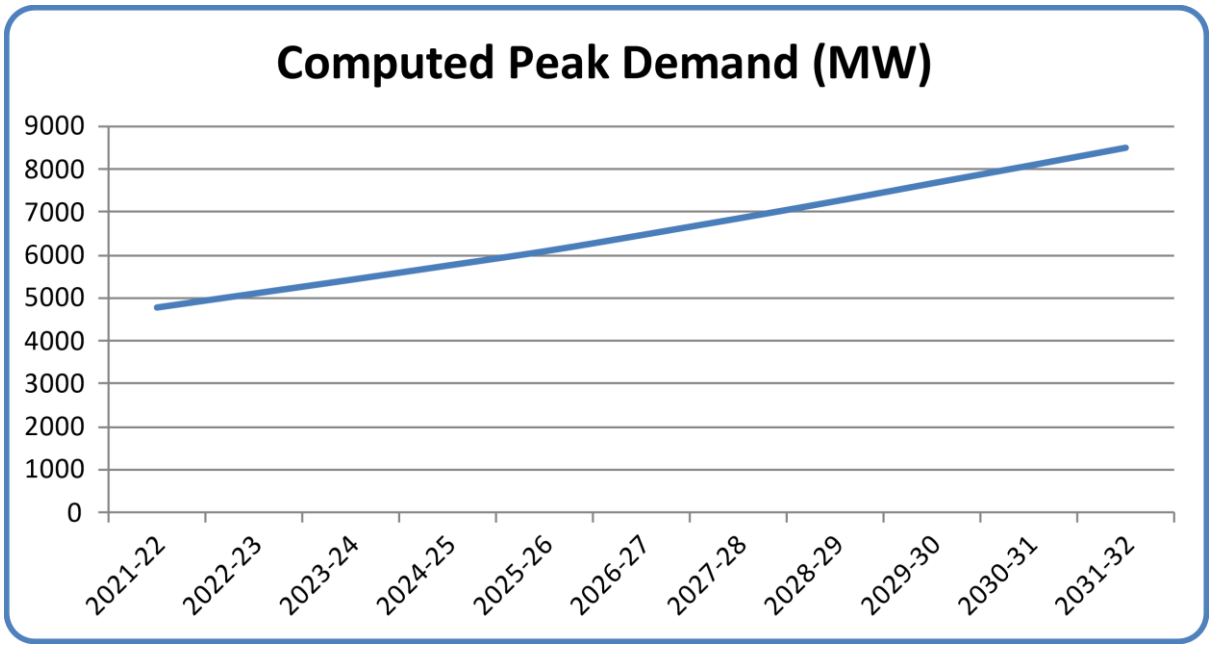


Figure 1-1: **Computed Peak Demand Forecast**

Forecasting models fall into the following three general categories:

- Trend models
- Econometric based models
- End-use models

Trend forecasts graphically or mathematically extrapolate past electricity demand trends into the future. They may be inadequate for short time periods where demographic changes in the underlying casual factors of load growth are not anticipated. Econometric models represent a more complex

'top-down' approach to forecasting and these models rely on the observed or the implied relationship between past energy consumption and other variables defining past economic output (likewise GDP data), demographics and price or income variables. End-use models relate energy use to the physical appliances stock levels and use patterns or industrial process. These end use models represent a 'bottom-up' forecasting approach and normally incorporate disaggregate end use forecast and consumer survey techniques.

This report has been prepared based on Power Market Survey Methodology and the model used is called Power Market Survey (PMS) model. It uses bottom-up approach. This model is a form of end use model which provides energy and power projections for all distribution companies and all grid stations within acompany's distribution network.

The PMS model relies on an extensive data base of historical sales. The data base includes historical figures of consumption by consumer type (i.e. domestic, industrial and commercial etc.) of each feeder of a grid station and overall consumption from a grid station. Actual consumption data isadjusted for un-served demands attributed to load shedding.

Energy forecasts are computed for each consumption category at the sub area level (grid or feeder level) on the basis of a trend analysis of recent per consumer sales plus new consumer connection applications. Industrial forecasts are based on interviews with existing consumers, trend projections and a review of the applications for request of new and increased service. These analyses are repeated for each sub area for each of the years to be forecasted. The annual peak demand is determined from the resulting energy forecasts by using the load factors and diversity factors developed for each consumer category. Forecasts are then aggregated to system level.

Because the PMS forecast is based on a mix of end-use, trend projection and known consumer expansion plans, it cannot be used reliably to predict demand over the longer term. This model had not been created to predict impacts of changes in growth of different economic sectors or consumers categories over time, or changes in both the absolute and relative prices of electricity, and of changes in the relationships between income growth and electricity growth over time as a result of market saturation and technological change (in order to capture these changes CPPA-Gis using another model called regression model). Regression model is used for long term forecasting as the changes in growth are occurred due to change in technology, life style over a longer time period.

The Power Market Survey forecast model most closely approaches the requirements of power system planning. It provides the level of detail required for system studies and transmission and substation planning as well as the sectoral details necessary to assess different sectors growth rates and their impacts on load shapes for the system, DISCOs and grid stations. In addition, it also provides a reasonable approximation of unconstrained load growth because it makes specific provision for load shedding i.e., rational demand.

2. Historical Supply and Demand Analysis

2.1 Category-wise Sale

The costumers within the company can be segregated in different categories. The segregation is usually based upon the type of applications for which electricity is being used. Major categories include Domestic, Commercial, Small industries, Medium & Large industries, and Agriculture.

The category-wise sale (GWh) along with percentage for the years 2019-20, 2020-21 and 2021-22 are given in Figure 1-2.

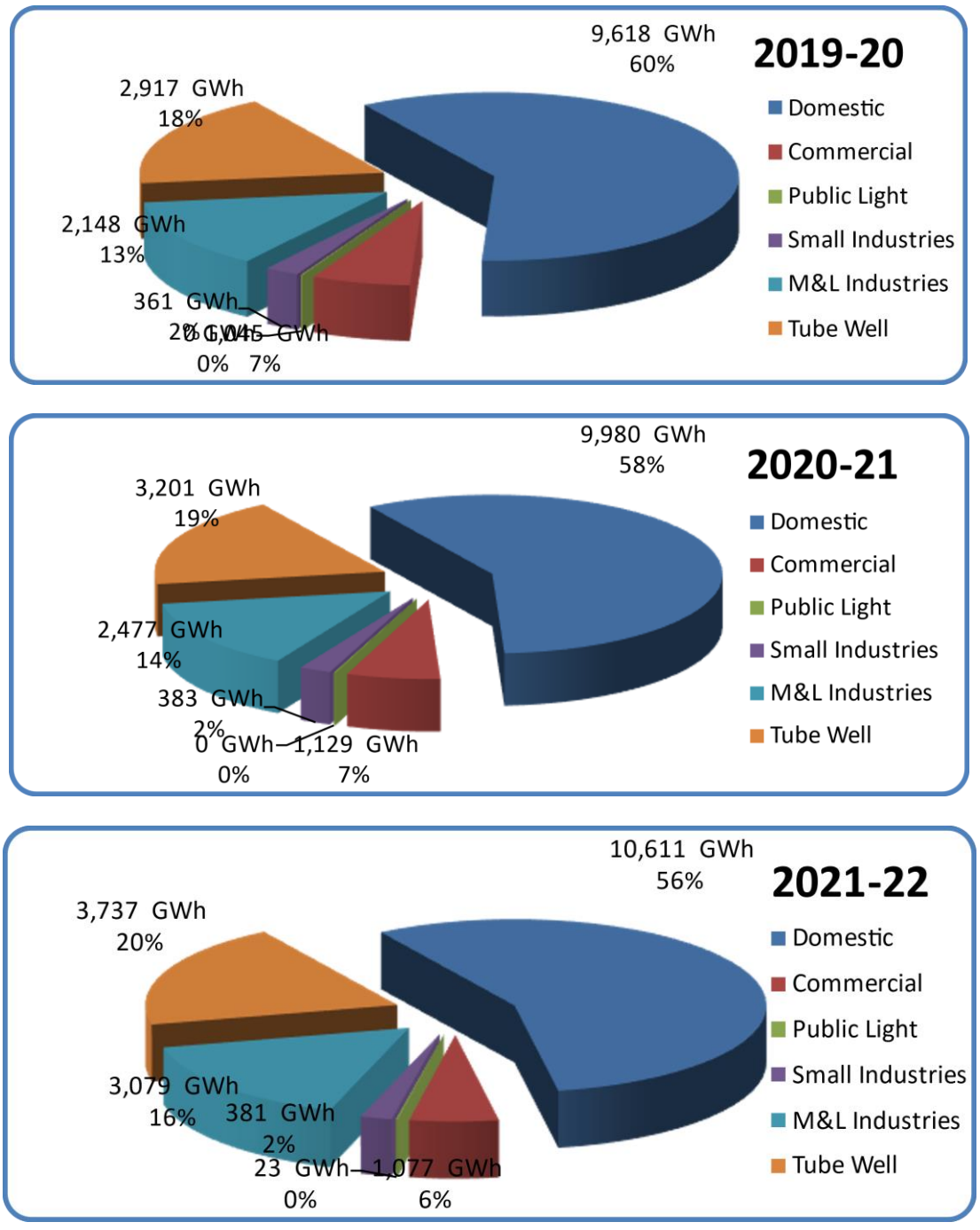


Figure 1-2: Historical Category-wise Sale

Figures of category-wise sale for the last five years i.e. 2015-16 to 2020-21 are given in the table below.

Table 2.1-1: Historical Sale (GWh) of MEPCO

Financial Year	Domestic	Commercial	Small Industry	Medium & Large Industry	Tubewell	Bulk Supply	Public Light	Other	Total
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2015-16	6626.63	730.07	323.10	2532.07	224.10	1879.99	16.37	8.33	12340.66
2016-17	7567.44	846.06	336.60	1953.06	252.38	2271.18	19.72	6.76	13253.20
2017-18	8895.73	967.10	363.54	2597.05	2653.26	293.19	20.37	62.99	15853.23
2018-19	8914.59	945.93	329.01	2682.37	2879.97	294.95	18.20	244.58	16309.60
2019-20	9469.57	903.25	361.53	2147.71	2916.57	275.94	18.04	289.33	16381.94
2020-21	9825.38	980.72	383.46	2477.13	3201.47	275.51	20.20	302.24	17466.11
2021-22	10243.67	1077.50	381.50	3078.62	3736.52	294.09	23.35	367.19	19202.44

2.2 Transmission and Distribution Losses

In MEPCO'ssystem, losses are divided into two types;

- Transmission Losses
- Distribution Losses

The losses of 132 kV transmission lines are considered as Transmission Losses whereas the losses of 11 kV and 440 Volts lines supplying the consumers are called Distribution Losses. In a system, generally the high losses are due to lack of proper maintenance and element of theft. Reduction in losses can be achieved through installation of properly sized conductors in 11kV feeders andlow-tension lines. Installation of capacitor banks to reduce reactive power and thereby improving power factor is also and effective method to reduce line losses. The breakup of energy sent out is shown as Sale, Distribution Losses and Transmission Losses with their percentages in the Figure 1-3for the year 2018-19, 2019-20, 2020-21 and 2021-22.

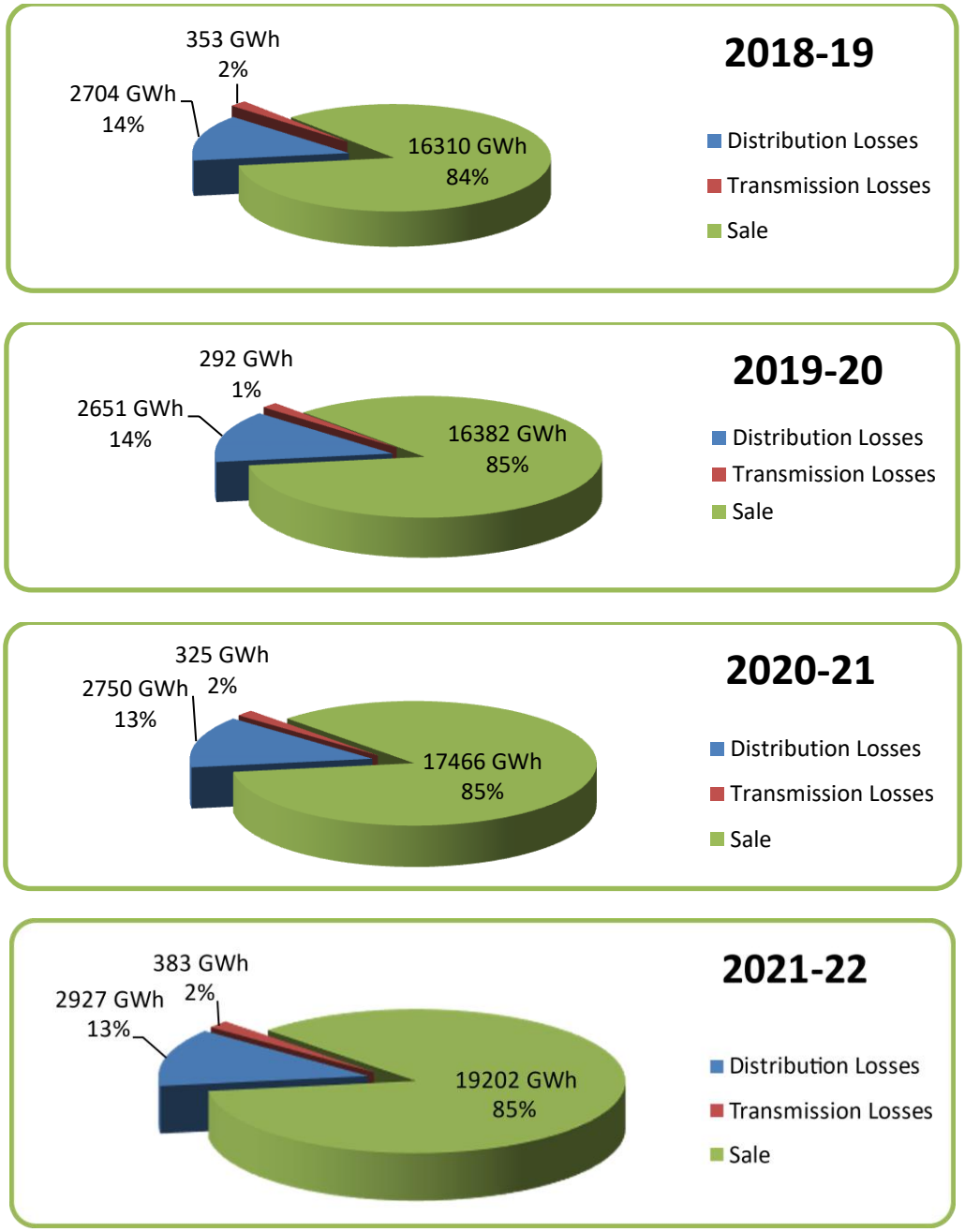


Figure 1-3: Historical Energy Sale and Losses (T&D)with their percentages

2.3 Recorded and Computed Peak Demand

Recorded peak demand is the highest electricity demand or maximum power supplied to the consumers during the base year. Computed peak demand is calculated from the recorded peak demand by adding the element of unserved power to the values of recorded peak demand. Figure 1-4 shows the recorded and computed peak demands (MW) from the year 2017-18 to 2021-22.

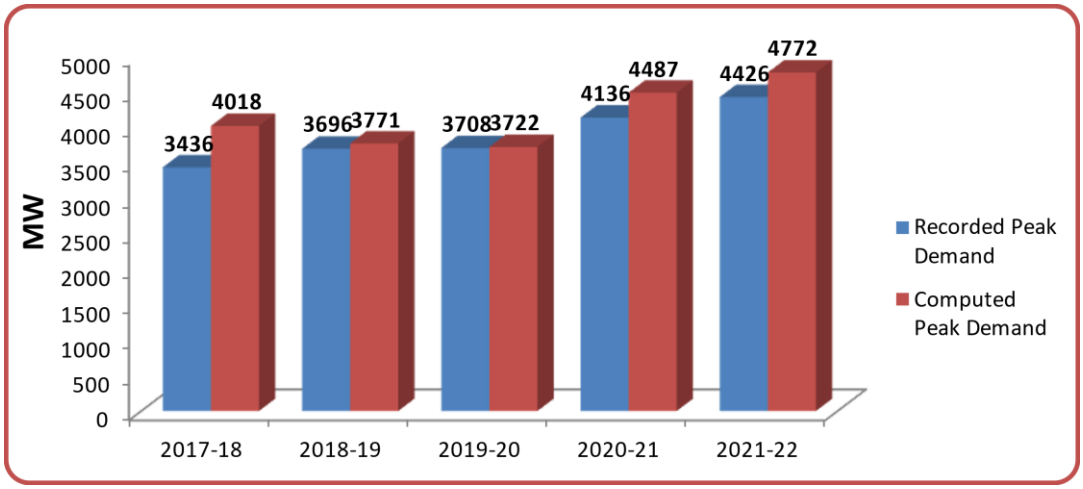


Figure 1-4: Historical Recorded and Computed Peak Demands

Historical figures of recorded and computed peak, energy sale and purchase, losses and load factors for MEPCO are given in the following table.

Table 2.3-1: Historical Peak Demand, Energy Sale & Purchase, Losses and Load Factor

Year	Energy Sale	Energy Purchase	Losses		Computed Energy Purchased	Recorded Peak	Computed Peak	Load Factor	Comp. Load Factor
			11 KV	132 KV					
	GWh	GWh	GWh	GWh	GWh	MW	MW	%	%
2015-16	12340	14334	1994	436	20036	2486	3693	68	62
2016-17	13253	15518	2265	433	20291	2766	3762	66	62
2017-18	15853	18562	2709	444	20736	3436	4018	63	59
2018-19	16310	19367	2704	353	20075	3765	3841	59	60
2019-20	16382	19325	2651	292	19477	3708	3722	59	58
2020-21	17466	20541	2750	325	20677	4136	4487	56	52
2021-22	19202	22512	2927	383	22743	4426	4772	57	54

2.4 Number of Consumers

Historical figures of number of consumers within MEPCO's jurisdiction for the last five yearsare given in Figure 1-5. These figures show the total number of consumers in all consumer categories, i.e. Domestic, Commercial, Small industries, Medium & Large industries, Public Lighting, Bulk and Agriculture.Figure 1-5shows a regular increase in the number of customers each year.

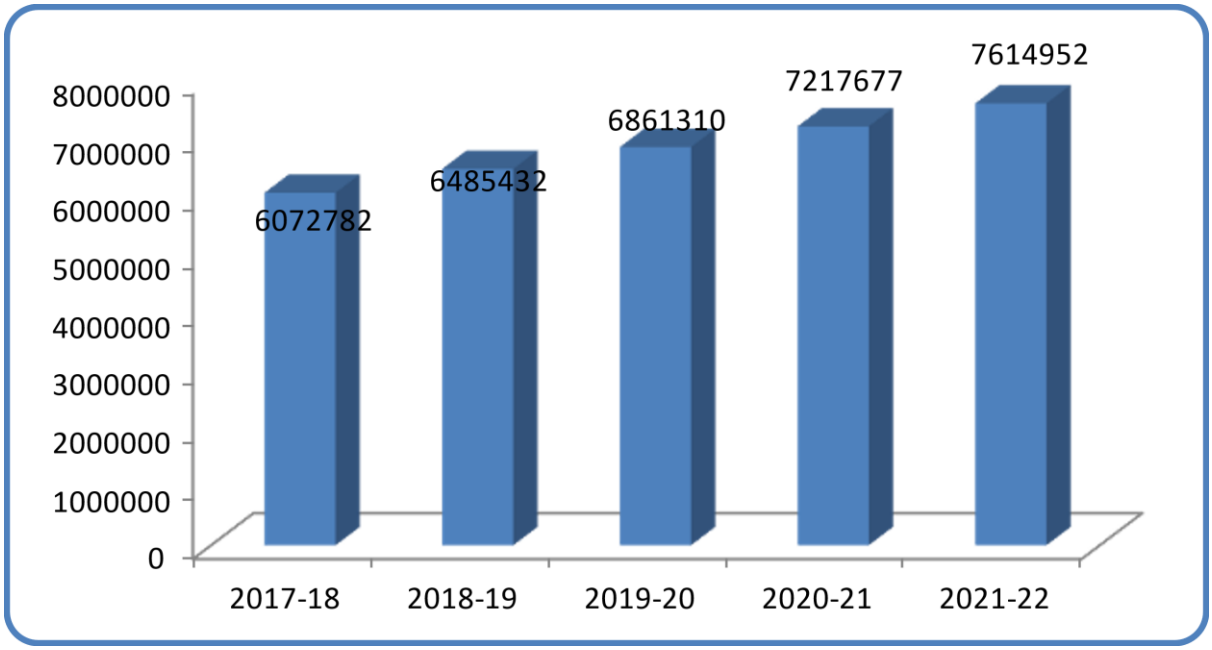


Figure 1-5: Number of Consumers

Category-wise number of consumers for the last five years i.e. 2016-17 to 2021-22 is shown in the following table.

Table 2.4-1: Historical Number of Consumers in MEPCO

Financial Year	Domestic	Commercial	Small Industry	Medium & Large Industry	Tubewell	Bulk Supply	Public Light	Other	Total
2015-16	4746997	494523	43658	9187	436	78399	1448	124	5374772
2016-17	5050877	514327	44583	9593	451	79965	1470	125	5701391
2017-18	5371111	536876	44952	9820	79965	459	1494	28105	6072782
2018-19	5748493	559213	45791	10330	85977	454	1501	33673	6485432
2019-20	6090985	579011	46905	10636	93884	457	1592	37840	6861310
2020-21	6415415	600662	48498	11016	99127	458	1666	40835	7217677
2021-22	6788616	618271	49465	11252	102709	463	1742	42434	7614952

3.Power Market Survey Methodology

3.1 Overview

The Power Market Survey Model forms the basis of the Medium Term Forecast. It produces energy and peak demand forecast for each consumer category and grid station for the entire service area over a period of ten years. The model has three inter-related components: the main database, the basic input parameters and the calculations.

A huge energy consumption database has been developed through the Power Market Survey. The database contains base year consumption data for existing consumers and ten years' forecast data for new consumers for each consumer category within the company. In addition, there is separate information for peak demand in medium & large industries and traction categories. Because of its huge volume, this data is not listed as part of the report.

In addition to the database, a number of basic input parameters are separately prepared for each DISCO which forms an integral part of the forecast model. These include:

- **Growth Rates:**The annual increase in consumption per consumer by consumer category
- **Loss Rates:**Transmission and Distribution Losses expressed as a percentage of energy purchased and energy sold, respectively
- **Load Factors:**It expresses the ratio of the amount of energy actually generated to the amount that would have been generated, had the peak demand been continued over the entire period.
- **Coincidence Factors:** Describing the load diversity within the system.

The forecast calculations within the model combine the energy consumption data and the input parameters to compute the energy and peak demand requirements within each area for each year to be forecasted. The basic data unit is an area. The data is accumulated from the area basis to grid stations, then to DISCOs and ultimately combined to produce a forecast for the entire system.

A detailed discussion of eachof the three model components is given below.

3.2 Survey Base Data

An extensive database has been developed on gross consumption by consumer category such as household (domestic), commercial, small industrial, large industrial, tube wells (agriculture), public lighting, and traction (electric rail). Energy consumption figures come from consumer service meter readings. Maximum demand readings and load factors for large industrial consumers and other demand-meteredconsumers are based on service meter readings. The consumption data is collected from Computer Centers of each DISCO (It is category-wise consumption data of each feeder). The database also contains data regarding un-served demands attributed to load shedding.

The basic geographic unit represented within the database is called an area, although many areas are divided into two or more subareas. This occurs when portions of the area are served by different feeders or where a single feeder services different administrative districts. Each area is assigned a series of codes which identify the technical boundaries associated with the area.

The technical boundaries, which are emphasized in this report, start at the grid station. Thus, all areas and subareas are assigned to one of the sub-stations in each DISCO. These are distribution grid stations supplying power at 11 kV after transformation from a 132kV or 66 kV source. Grid stations are combined to form a DISCO.

There can be up to eleven records in the data base for each area or subarea, one record for each year of forecast. The first year is typically year zero and records the base year level of consumption for each consumer category. The remaining records for the area list the incremental consumption associated with new consumers to be added to the area within the specified year.

This incremental consumption is based on applications for new or extended service which are filed at each revenue office and from discussions with the relevant industries and government agencies. Incremental industrial consumption is based on a combination of interviews, trend projections, and reviews of applications for new and/or increased service. Interviews are held with major industrial

consumers to identify their current capacity utilization and any long-term plans they have for future expansion or changes in their electricity consumption. In addition, the various branches of the Ministry of Industries are interviewed to determine the number of applications received for new developments or plant expansions and the anticipated electrical load associated with each development or expansion. These anticipated new demands are added to the basic forecast of industrial consumption.

Extension of electricity to new areas over the forecast period is dealt with separately. The number of new communities to be electrified is also obtained. Initial loads and load growths are calculated based on past experience in terms of market penetration and consumption per consumer in newly electrified communities. This analysis is conducted at DISCO level.It includes new Housing schemes and new villages.

There are over 10,000 area/subarea/year records in the data base.

3.3 Input Parameters

A number of input parameters are defined in order to use these in the Power Market Survey model. These parameters are:

- Transmission and Distribution Loss Rates
- The Growth Rates in consumption per consumer for each category
- Load Factors for each consumer category
- Coincidence or Diversity Factors
- Load Shedding or Unserved Energy

The definition and basic derivation of each parameter is discussed below.

3.4 Growth Rates

The forecast calculations, as will be discussed below, use per consumer growth rates to update the previous year's consumption before adding the incremental consumption estimate for the current year. The Power Market Survey model requires per consumer growth rates to be specified by DISCO for each consumer category (domestic, commercial, etc.). The rates selected for the forecast are based on average annual compound growth rates, calculated from the last five years data of each consumer category in each DISCO.

3.5 Losses

For every 100 units of electricity purchased from a power station only 75 to 85 units are actually sold to the ultimate end-user. The remaining unitsare consumed by the power system itself during transmission and distribution of the sold energy. The transmission and distribution losses must be added to the sales forecast in order to determine the total generation requirement for the system. An additional source of "loss" is the consumption in auxiliaries (also called station service) used by the power plants in the process of generating electricity. Auxiliary consumption cannot be avoided and is totally dependent on the type of generation. For example, a thermal plant would have a higher auxiliary consumption than a hydro plant to account for the energy consumed by fuel and waste handling systems. Auxiliary losses are determined and incorporated in the forecast outside the model. However, presently as the power is purchased at the bus bar level so the energy consumption in auxiliary is not calculated.

The Power Market Survey model handles Distribution and Transmission losses in such a manner thatDistribution losses are expressed as a percentage of Sales and Transmission losses are expressed as a percentage of the energy purchased from the generating stations. The model is capable of handling different loss rates of each year for each DISCO. The Distribution and Transmission losses used in the Power Market Survey Model are based on the review of current loss rates and an evaluation of existing loss reduction initiatives within the Distribution Network of the DISCO. The

proposed losses (Distribution losses at 11kV and Transmission losses at 132 kV) are applied DISCO-wise. Previously a separate excel sheet was used outside the model to calculate the loss rates needed for the model. Now a separate module has been incorporated in the model to adjust 132 kV and 11 kV received and sale of a DISCO. This model simulates sale, Distribution losses and Transmission losses of a DISCO. It also includes the loss reduction program.

3.6 Load Factors

Energy sale in each consumer category is converted to peak power demand through the use of a load factor. It expresses the ratio of the amount of energy actually generated to the amount that would have been generated, had the peak demand been continued over the entire period. Load factors can be calculated over any time period but the most common are daily, weekly and annual.

The load factors utilized in the Power Market Survey Model relate annual energy sent out to peak capacity for each consumer category (domestic, commercial, public lighting, small industries and private tube wells). Input load factors are not required for medium/large industry, public tube well and traction sales as consumption for these sectors is provided through the survey in both energy and power terms.

Maximum demand readings are available directly for large industrial and other demand metered consumers such as public tube wells. Load factors for non-demand metered consumers are determined on a sample basis. For example, peak demand is based on maximum demand readings from substation feeders which are identified as serving predominantly one sector.

Domestic and commercial load factors are differentiated by community size (village, town or city). Whereas a single load factor is used for small industrial, private tube wells, public lighting and traction because of the similar nature in the operation of these loads.

3.7 Coincidence Factors

The total energy demand of a number of individual consumers is determined as the simple sum of their individual energy consumption values. The total peak load, however, is calculated as the diversified sum of their individual peak load levels. The coincidence factor, as its name implies, is a general term which measures the coincidence between the peak loads of any number of individual consumers or consumer groups over a specified time period in order to compute a combined peak. Mathematically, it is the inverse of the diversity factor.

The daily coincidence factor is determined by comparing the daily load patterns of each consumer or group under consideration. In this case, the sum of the individual hourly (or 15-minute) peaks would determine the overall daily load pattern and the overall peak load. Suppose one consumer (or group) consumes energy only in the morning and a second consumer (or group) consumes energy only in the evening, the coincidence factor between these two consumers would be zero and the peak load of the combined group would be the peak of the larger consumer. Conversely, if both groups consumed all energy at the same hour, the coincidence factor would be one and the combined peak would be the sum of the two peaks. In practice, the coincidence factor is found between these two extremes.

Coincidence factors can be determined between any group and sub-group of consumers whether it is domestic versus commercial or Lahore versus Islamabad, provided that reasonable estimates of the appropriate load patterns are available. Typically, these patterns are not readily available and must be synthesized from incomplete or estimated data. In addition, all coincidence factors calculated from these load patterns are approximations of the corresponding instantaneous peak faced by the system. In fact, a common practice is to define this instantaneous peak as the bench mark and specify all coincidence factors in relation to this peak and time. The advantage of this approach is that all peak can be easily converted into their contribution to the overall system peak, the disadvantage is that the relationship between any two groups cannot be so clearly specified and will likely be incorrectly specified.

The Power Market Survey Model depends upon specified coincidence factors between consumption categories and between consumption areas in the aggregation of peak loads from consumers to the peaks at grid stations and at DISCO level and at the level of overall system peak. The coincidence factors estimated for the medium-term model have been based on the limited available System records of the peak loads at various points in their respective systems.

3.8 Load Shedding

Over the course of time load forecast is gaining high importance as a lot of policy decisions and approval for installation of new power plants depend on them. We are going through critical times and one major challenge is huge capacity payments we are facing today. These things urge us to do forecast with great attention and there should not be redundant generating units committed in the future. In this regard the Load Forecast and Generation Planning team from NTDC had numerous meetings and discussions with MoE and it was mutually agreed that any further expansion in transmission network should be based on rationalized forecast numbers. For the rationalized numbers it was mutually agreed that load shedding will not be incorporated in the first three years, but we believe that governance issues will improve with passage of time. Federal government has decided not to provide electricity in high loss areas based on ATC losses. Therefore, NTDC rationalized demand forecast for all DISCOs keeping in view ground realities of unserved energy.

3.9 Forecast Calculations

The forecast calculations involve three basic steps. Firstly, an energy forecast is determined at the area (or subarea) level using per consumer growth rates and incremental consumption estimates from the data base. This is then converted to a peak demand forecast, again at the area (or subarea) level using the input load and diversity factors. Then transmission and distribution losses are added and final step is to accumulate the areas into their corresponding grid stations, and grid stations into their DISCO and finally all DISCOs to form the system.

3.10 Energy Calculations

The basic calculation unit is the area or subarea where applicable. The database provides the base year energy consumption level for each of the six consumption categories (Domestic, Commercial, Public Lighting, Small Industry, Private Tube Wells and Medium & Large Industry). The database also includes the peak demand associated with the medium and large industry category. The domestic energy forecast for year 1 (the base year is indicated as year 0) is calculated by multiplying the base year consumption by the domestic per consumer growth rate to account for growth in the intensity of use in the sector, and then incremental consumption listed in the database is added to account for new use in the sector. This process is repeated for the remaining five energy sectors (plus the medium and large industrial demand) for the entire forecast period (remaining 10 years). The total energy consumed in the subarea for each year of the forecast period is then computed.

3.11 Peak Demand Calculations

The annual energy sale values for each of the consumer category(domestic, commercial, public lighting, small industry and private tube well) are converted to peak demand using the load factors listed in the appropriate input parameter file and then adjusted to account for coincidence within the category. The annual peak demand for the subarea is computed as the sum of the individual category peaks multiplied by coincidence factors within the subarea. The sub area peak demands are accumulated to an area by applying proper coincidence factors.

3.12 Accumulations

The total energy and peak demand at a given grid station is calculated as the sum of all the areas and subareas in that grid station's service area plus an allowance for distribution losses. Peak demand estimates are accumulated, and different coincidence factors applied to city, town and village areas within the service area. The total energy and peak demand within a given DISCO is the sum of all grid stations in that DISCO plus traction and an allowance for transmission losses. Peak demands are

again diversified in the accumulation, and the system totals are obtained from DISCO's total with some coincidence.

3.13 Energy Receipt

It is pertinent to mention here that MEPCO is one of the only DISCO in Pakistan which is incorporating wheeling of Energy in MEPCO. Fatima Energy Ltd. has their own generation and MEPCO is importing Energy other than CDP Points at which CPPA-G calculating Energy Imports. As per PPMC data the Energy Sale of MEPCO is 22512 Gwh in which Wheeling effect is excluded. However, Energy receipt at 11kV is 22350 Gwh, which include Wheeling effect of Fatima Energy. In this regardWheeling effect of Fatima Energy has been excluded and 22129 Gwh of units has been considered as 11kV receipt of MEPCO. As per discussion with NTDC the office of Chief Engineer Forecasting has agreed with this receipt also the Farima Energy has stand alone Transmission Line which will not effect Transmission System Expansion Plan.

3.14 Distribution Planning

In this forecast Chief Strategic Planning Directorate has provided Grids System Study as per distribution updated GIS configuration which has been carried out updated loading position for the financial year of 2021-22 and the same has been incorporated in PMS 2021-22 forecast.

3.15 Consumer Grids

In this PMS maximum demand occurring in financial year 2021-22 has been considered as a maximum peak and the same is incorporated in PMS forecast 2021-22.

4.PMS Forecast Results

4.1 Recorded Forecast & Computed Forecast

The term 'Recorded Forecast' means the energy sale figures used in the forecast has not been adjusted for un-served energy (load shedding). Forecasted sale, growth rates, transmission and distribution losses, generation requirement and peak demand without incorporating load shedding has been shown inTable 1-A: Forecast without incorporating Load Sheddingeffect- Low Forecast

Year	Energy Sale		Distribution Losses		Energy Receved at 11 kV	Peak Demand at 11 kV	Transmission Losses	
	(GWh)	G.R	(GWh)	(%)	GWh	MW	(GWh)	(%)
2021-22	19202		2927	13.2	22129	4426	383	1.70
2022-23	20549	7.0	3071	13.0	23620	4729	394	1.64
2023-24	21867	6.4	3169	12.7	25035	5030	401	1.58
2024-25	23093	5.6	3264	12.4	26356	5328	406	1.52
2025-26	24356	5.5	3357	12.1	27713	5626	409	1.45
2026-27	25671	5.4	3451	11.9	29122	5955	411	1.39
2027-28	27047	5.4	3545	11.6	30592	6294	412	1.33
2028-29	28442	5.2	3628	11.3	32070	6631	411	1.27
2029-30	29916	5.2	3710	11.0	33626	6986	410	1.20
2030-31	31367	4.9	3767	10.7	35134	7323	406	1.14
2031-32	32864	4.8	3821	10.4	36686	7666	400	1.08
Ave. Growth (2022-2032)	5.52%				5.18%	5.65%		

Table 1-B: Computed Forecast (Base Forecast)

Year	Computed Sale	G.R	Distribution Losses		Energy Receved at 11 kV	Peak Demand at 11 kV	Transmission Losses		Se
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	
2021-22	19400		2957	13.2	22356	4772	386.9	1.70	

2022-23	20746	6.9	3101	13.0	23847	5095	397.5	1.64	
2023-24	22064	6.4	3197	12.7	25261	5416	404.9	1.58	
2024-25	23341	5.8	3299	12.4	26640	5747	409.9	1.52	
2025-26	24655	5.6	3398	12.1	28054	6078	413.7	1.45	
2026-27	26073	5.7	3505	11.9	29578	6454	417.3	1.39	
2027-28	27551	5.7	3611	11.6	31162	6842	419.7	1.33	
2028-29	29099	5.6	3712	11.3	32811	7240	420.9	1.27	
2029-30	30727	5.6	3810	11.0	34537	7658	420.9	1.20	
2030-31	32382	5.4	3889	10.7	36271	8068	418.8	1.14	
2031-32	34084	5.3	3963	10.4	38048	8485	415.0	1.08	
Ave. Growth (2022-2032)	5.80%				5.46%	5.92%			

. This forecast is also called the Low Forecast.

The term 'Computed Forecast' means the energy sale figures used in forecast have been adjusted for un-served energy (load shedding). Forecasted energy sale, growth rates, transmission and distribution losses, generation requirement and peak demand with incorporating load shedding has been shown **Error! Reference source not found.**. Peak demand of this table has been demonstrated graphically in Figure 1-6. Similarly, energy sale and energy purchased also have been shown in Figure 1-7. The difference between energy purchased and energy sale shows all losses of the DISCO. This forecast is also called the Base Forecast. If there had not been the load shedding, the recorded forecast (Low Forecast) would have been the actual forecast i.e. the Base Forecast.

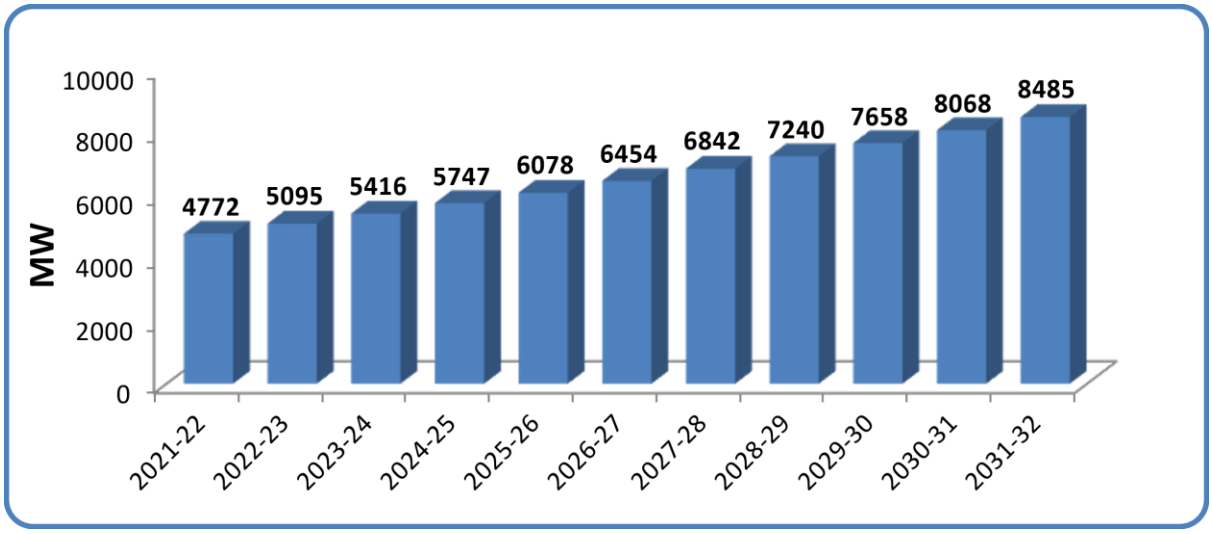


Figure 1-6: Computed Peak Demand

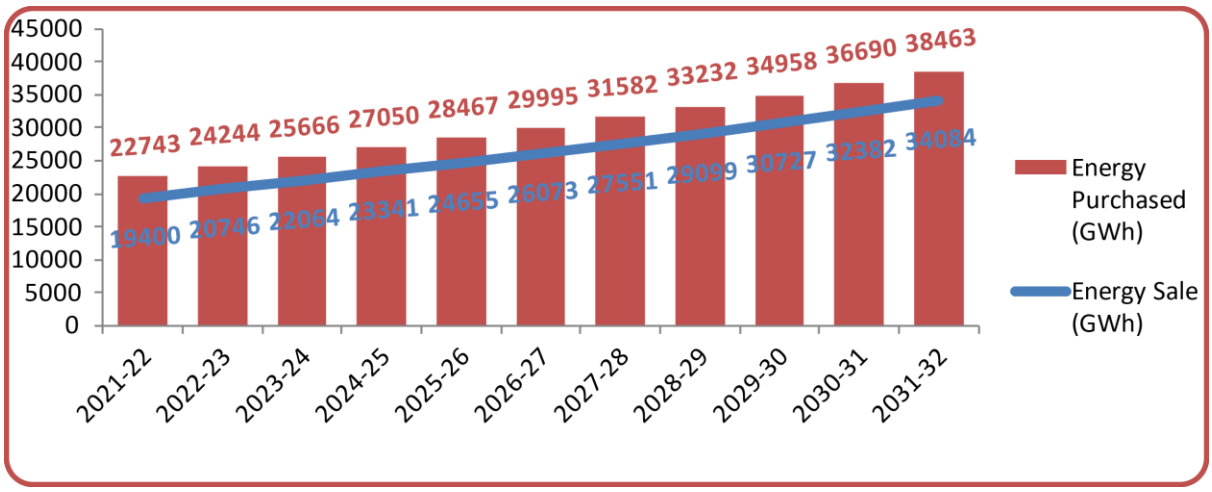


Figure 1-7: Energy Purchased Vs Energy Sale

4.2 Category-wise Forecasted Energy Sale (GWh)

Amount and percentage share of each consumer category in the total consumption for the year 2025-26and year 2030-31have been depicted in

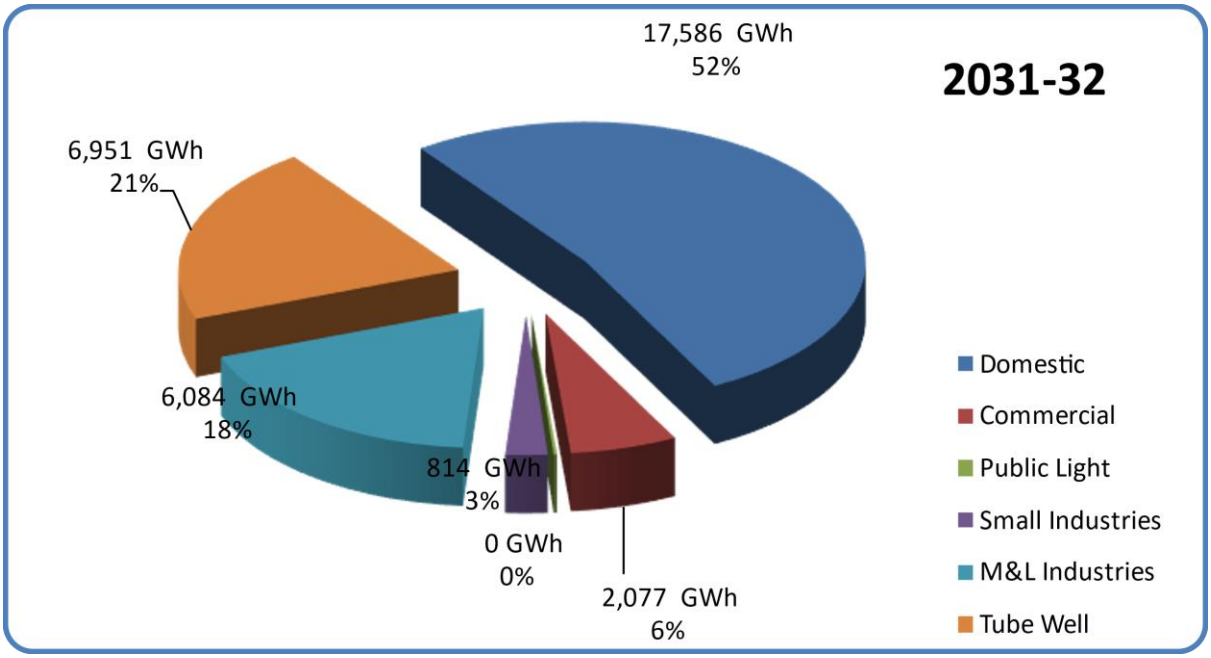
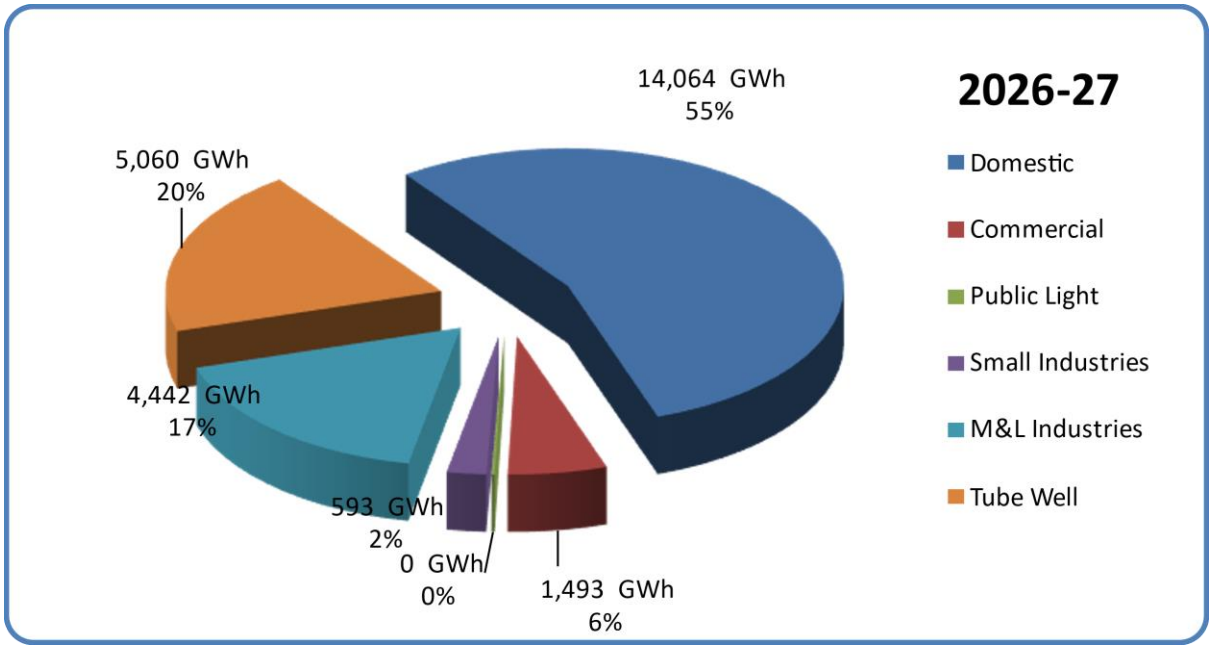


Figure 1-8.Following pie charts show that domestic sector is decreasing from 57% to 58% from 2026-27 to 2031-32. Similarly, industrial sector will increase from 17% to 18% during these years which is not a healthy sign for the country's growth.



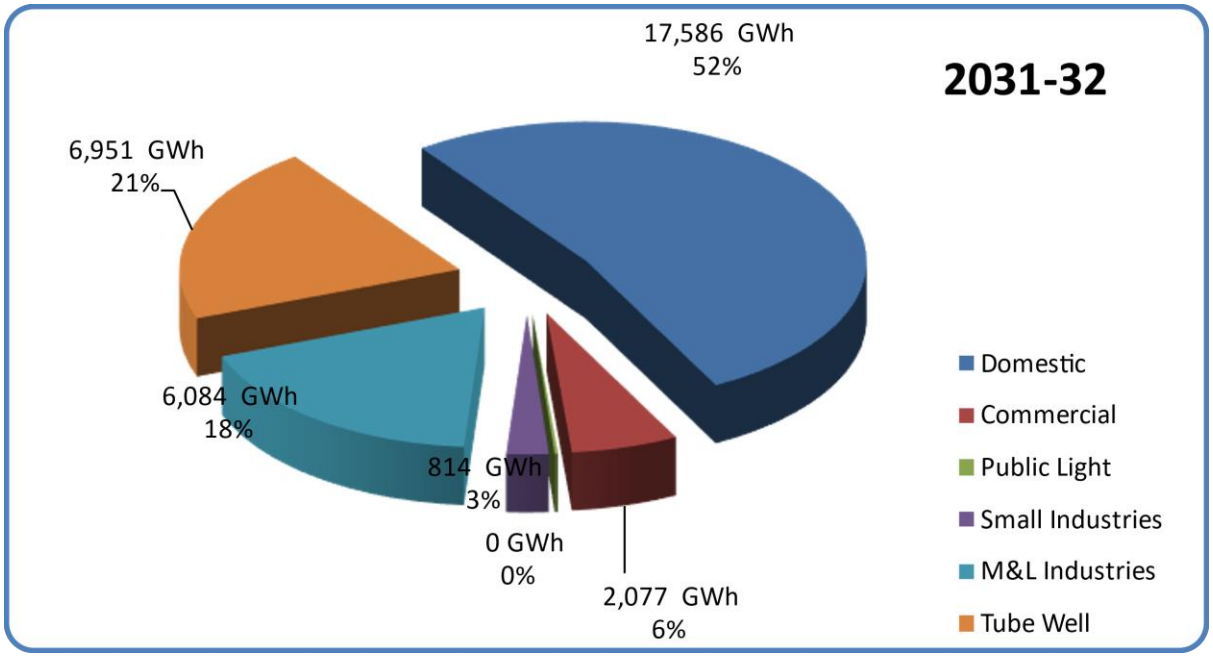


Figure 1-8: Forecasted Category Wise Sale

The category-wise forecasted sale incorporating load sheddingeffect (Low Forecast) is shown inTable 1-1. The category-wise forecasted sale with incorporating load shedding effect (Base Forecast) is shown in

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well	
	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.I

2021-22	10611		1077		23		381		3079		3737	
2022-23	11227	5.8	1145	6.3	27	17.3	421	10.6	3467	12.6	3954	5.8
2023-24	11859	5.6	1222	6.7	31	14.8	462	9.6	3795	9.4	4180	5.7
2024-25	12494	5.3	1298	6.2	35	12.9	503	8.8	3987	5.1	4435	6.1
2025-26	13156	5.3	1378	6.2	40	11.4	543	8.0	4177	4.8	4703	6.0
2026-27	13847	5.3	1470	6.7	44	10.3	583	7.5	4374	4.7	4982	5.9
2027-28	14569	5.2	1567	6.6	48	9.3	624	7.0	4577	4.7	5274	5.9
2028-29	15249	4.7	1670	6.6	52	8.5	664	6.4	4810	5.1	5579	5.8
2029-30	15955	4.6	1775	6.3	56	7.9	705	6.1	5095	5.9	5898	5.7
2030-31	16452	3.1	1886	6.2	60	7.3	745	5.8	5476	7.5	6291	6.7
2031-32	16957	3.1	2002	6.2	64	6.8	785	5.4	5866	7.1	6702	6.5
Ave. Growth (2022-2032)	4.8%		6.4%		10.6%		7.5%		6.7%		6.0%	

Table 1-2.

4.3 Category wise Forecasted Demand (MW)

The forecast of consumption (Demand) in MW without and with incorporating load shedding impact is shown in Table 1-3andTable 1-4respectively.

4.4 Civil Administrative Area Forecast

The MEPCO service area comprises of 4 civil administrative divisions i-e Bahawalpur, D G. Khan, Multan and Sahiwal. These divisions have 13 districts, Bahawal Nagar, Bahawal Pur, Rahimyar Khan, Lodhran, D.G. Khan, Leiah, Muzaffar Garh, Rajan Pur, Khane Wal, Multan, Vehari, Sahiwal and Pak Pattan. The civil administrative Division-wise andDistrict-wise energy and demand projections have been presented in Table 1-5toTable 1-21. The last column of the table contains peak demand.

4.5 Monthly Demand (MW) and Energy (GWh) Purchase Projections

The Month–wise demand (MW) and energy (GWh) purchase projections have been presented inTable 1-22and Table 1-23.To develop the projection, monthly demand and energy factors are computed for last five years and then its average is taken as a base factorfor monthly demand and Energy projection.For this, each month peak is calculated from the ratio of the historical peak of that particular month to the annual historical peak of that year. Whereas each month Energy purchase is calculated from the ratio of historical monthly energy purchase of that particular month to annual energy purchase of that year. In this manner, historical ratios are calculated for each month of the last five years. The average of these values is taken as the monthly factor and multiplied with the peak demand of the year to obtain monthly peak demand and energy purchase.

4.6 List of Overloaded Substations

The list of overloaded substations will inform about that particular year in which a substation will be overloaded. The overloading criterion of a substation has been considered as 85% i.e., when any sub station is 85% loaded, the remedial measures should be taken in the form of new substation or augmentation of the existing transformers. Table 1-24 & Table 1-27 show the lists of overloaded substations based on overloading criterion of 85% and 100% respectively. Based on the overloading criterion of 85% the number of overloaded substations in the year 2018-19 are 8, five (05) additional grids in 2019-20 and four (04) additional grids will be overloaded in 2020-21.

4.7 Per Capita Consumption

Per capita consumption is a very vivid indicator of development in a country. Usually developed countries have very high per capita consumption. Per capita consumption (kWh/person) for the year 2021-22, 2026-27, and 2031-32 is given in

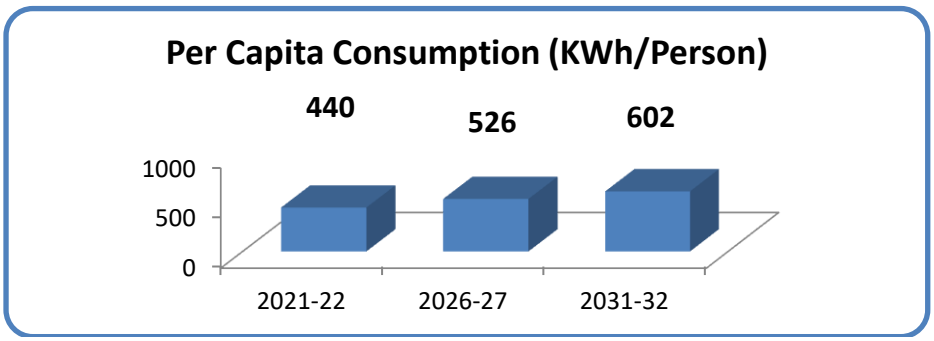


Figure 1-9: Per Capita Consumption

Table 1-A: Forecast without incorporating Load Sheddingeffect- Low Forecast

Year	Energy Sale		Distribution Losses		Energy Receved at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Peak Demand at 132 kV
	(GWh)	G.R	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)
2021-22	19202		2927	13.2	22129	4426	383	1.70	22512	57.1	4503
2022-23	20549	7.0	3071	13.0	23620	4729	394	1.64	24014	57.0	4808
2023-24	21867	6.4	3169	12.7	25035	5030	401	1.58	25436	56.8	5110
2024-25	23093	5.6	3264	12.4	26356	5328	406	1.52	26762	56.5	5410
2025-26	24356	5.5	3357	12.1	27713	5626	409	1.45	28122	56.2	5709
2026-27	25671	5.4	3451	11.9	29122	5955	411	1.39	29533	55.8	6039
2027-28	27047	5.4	3545	11.6	30592	6294	412	1.33	31004	55.5	6379
2028-29	28442	5.2	3628	11.3	32070	6631	411	1.27	32481	55.2	6716
2029-30	29916	5.2	3710	11.0	33626	6986	410	1.20	34035	54.9	7071
2030-31	31367	4.9	3767	10.7	35134	7323	406	1.14	35540	54.8	7407
2031-32	32864	4.8	3821	10.4	36686	7666	400	1.08	37086	54.6	7750
Ave. Growth (2022-2032)	5.52%				5.18%	5.65%			5.12%		5.58%

Table 1-B: Computed Forecast (Base Forecast)

Year	Computed Sale	G.R	Distribution Losses		Energy Receved at 11 kV	Peak Demand at 11 kV	Transmission Losses		Energy Sent out at 132 kV	Load Factor	Computed Peak Demand at 132 kV	G.R
		(%)	(GWh)	(%)	GWh	MW	(GWh)	(%)	(GWh)	(%)	(MW)	(%)
2021-22	19400		2957	13.2	22356	4772	386.9	1.70	22743	53.5	4855	
2022-23	20746	6.9	3101	13.0	23847	5095	397.5	1.64	24244	53.4	5180	6.7
2023-24	22064	6.4	3197	12.7	25261	5416	404.9	1.58	25666	53.2	5503	6.2
2024-25	23341	5.8	3299	12.4	26640	5747	409.9	1.52	27050	52.9	5835	6.0
2025-26	24655	5.6	3398	12.1	28054	6078	413.7	1.45	28467	52.7	6168	5.7
2026-27	26073	5.7	3505	11.9	29578	6454	417.3	1.39	29995	52.3	6545	6.1
2027-28	27551	5.7	3611	11.6	31162	6842	419.7	1.33	31582	52.0	6934	5.9
2028-29	29099	5.6	3712	11.3	32811	7240	420.9	1.27	33232	51.7	7333	5.7
2029-30	30727	5.6	3810	11.0	34537	7658	420.9	1.20	34958	51.5	7751	5.7
2030-31	32382	5.4	3889	10.7	36271	8068	418.8	1.14	36690	51.3	8161	5.3
2031-32	34084	5.3	3963	10.4	38048	8485	415.0	1.08	38463	51.2	8578	5.1
Ave. Growth (2022-2032)	5.80%				5.46%	5.92%			5.39%		5.86%	

Table 1-1: Category Wise Sale – GWh without incorporating Load Shedding effect- Low Forecast

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Traction	Bulk		Total	
	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	(GWh)	G.R	(GWh)	G.R
2021-22	10611		1077		23		381		3079		3737			294.0		19202	
2022-23	11227	5.8	1145	6.3	27	17.3	421	10.6	3467	12.6	3954	5.8		307.0	4.4	20549	7.0
2023-24	11859	5.6	1222	6.7	31	14.8	462	9.6	3795	9.4	4180	5.7		318.0	3.6	21867	6.4
2024-25	12494	5.3	1298	6.2	35	12.9	503	8.8	3987	5.1	4435	6.1		341.0	7.2	23093	5.6
2025-26	13156	5.3	1378	6.2	40	11.4	543	8.0	4177	4.8	4703	6.0		360.0	5.6	24356	5.5
2026-27	13847	5.3	1470	6.7	44	10.3	583	7.5	4374	4.7	4982	5.9		371.0	3.1	25671	5.4
2027-28	14569	5.2	1567	6.6	48	9.3	624	7.0	4577	4.7	5274	5.9		388.0	4.6	27047	5.4
2028-29	15249	4.7	1670	6.6	52	8.5	664	6.4	4810	5.1	5579	5.8		417.0	7.5	28442	5.2
2029-30	15955	4.6	1775	6.3	56	7.9	705	6.1	5095	5.9	5898	5.7		432.0	3.6	29916	5.2
2030-31	16452	3.1	1886	6.2	60	7.3	745	5.8	5476	7.5	6291	6.7		457.0	5.8	31367	4.9
2031-32	16957	3.1	2002	6.2	64	6.8	785	5.4	5866	7.1	6702	6.5		488.0	6.8	32864	4.8
Ave. Growth (2022-2032)	4.8%		6.4%		10.6%		7.5%		6.7%		6.0%			5.2%		5.5%	

Table 1-2: Category Wise Sale – GWh (Base Forecast)

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R	(GWh)	G.R
2021-22	10720		1089		24		385		3111		3775		297		19400	
2022-23	11335	5.7	1156	6.2	28	17.2	425	10.5	3501	12.5	3992	5.7	310	4.4	20746	6.9
2023-24	11966	5.6	1233	6.7	32	14.7	466	9.5	3829	9.4	4217	5.7	321	3.5	22064	6.4
2024-25	12628	5.5	1312	6.4	36	13.1	508	9.0	4030	5.3	4483	6.3	344	7.2	23341	5.8
2025-26	13318	5.5	1395	6.3	40	11.6	550	8.2	4229	4.9	4761	6.2	364	5.8	24655	5.6
2026-27	14064	5.6	1493	7.0	44	10.6	593	7.8	4442	5.1	5060	6.3	377	3.6	26073	5.7
2027-28	14840	5.5	1596	6.9	49	9.6	636	7.3	4663	5.0	5372	6.2	395	4.8	27551	5.7
2028-29	15601	5.1	1709	7.1	53	9.0	680	6.9	4921	5.6	5708	6.2	427	8.1	29099	5.6
2029-30	16388	5.0	1823	6.7	57	8.3	724	6.5	5233	6.3	6058	6.1	444	4.0	30727	5.6
2030-31	16984	3.6	1947	6.8	62	7.9	769	6.3	5653	8.0	6495	7.2	472	6.3	32382	5.4
2031-32	17586	3.5	2077	6.7	66	7.3	814	5.9	6084	7.6	6951	7.0	506	7.2	34084	5.3
Ave. Growth (2022-2032)	5.1%		6.7%		10.9%		7.8%		6.9%		6.3%		5.5%		5.8%	

Table 1-3: Category Wise Demand – MW without incorporating Load Shedding effect- Low Forecast

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R
2021-22	2883		278		8		50		510		873		66		3840	
2022-23	3052	5.9	296	6.3	9	17.3	55	10.6	574	12.4	924	5.8	90	36.4	4116	7.2
2023-24	3226	5.7	316	6.7	10	14.8	60	9.6	636	11.0	977	5.7	104	15.6	4397	6.8
2024-25	3401	5.4	335	6.2	12	12.9	65	8.8	671	5.4	1036	6.1	139	33.7	4675	6.3
2025-26	3583	5.3	356	6.2	13	11.4	71	8.0	704	5.0	1099	6.0	166	19.4	4955	6.0
2026-27	3772	5.3	380	6.6	14	10.3	76	7.5	739	5.0	1164	5.9	210	26.5	5263	6.2
2027-28	3970	5.2	405	6.6	16	9.3	81	7.0	775	4.9	1233	5.9	254	21.0	5584	6.1
2028-29	4157	4.7	431	6.6	17	8.5	87	6.5	817	5.4	1304	5.8	299	17.7	5903	5.7
2029-30	4351	4.7	459	6.3	18	7.9	92	6.1	868	6.3	1378	5.7	343	14.7	6242	5.7
2030-31	4488	3.1	487	6.3	20	7.3	97	5.8	938	8.1	1470	6.7	388	13.1	6568	5.2
2031-32	4627	3.1	517	6.2	21	6.8	102	5.4	1010	7.6	1566	6.5	432	11.3	6901	5.1
Ave. Growth (2022-2032)	4.8%		6.4%		10.6%		7.5%		7.1%		6.0%				6.0%	

Table 1-4: Category Wise Demand (MW) Base Forecast

Year	Domestic		Commercial		Public Light		Small Industries		M&L Industries		Tube Well		Bulk		Total	
	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R	(MW)	G.R
2021-22	3108		300		8		53		550		941		71		4141	
2022-23	3289	5.8	319	6.2	10	17.3	59	10.5	618	12.3	995	5.7	97	36.6	4435	7.1
2023-24	3474	5.6	340	6.7	11	14.7	65	9.6	685	10.9	1052	5.7	112	15.5	4735	6.8
2024-25	3668	5.6	362	6.4	12	13.1	71	9.0	723	5.6	1118	6.3	150	33.9	5043	6.5
2025-26	3870	5.5	385	6.3	14	11.6	76	8.2	761	5.2	1187	6.2	179	19.3	5353	6.1
2026-27	4089	5.6	412	7.0	15	10.6	82	7.8	801	5.3	1262	6.3	228	27.4	5705	6.6
2027-28	4316	5.6	440	6.9	17	9.6	88	7.3	843	5.2	1340	6.2	277	21.5	6070	6.4
2028-29	4539	5.2	471	7.0	18	9.0	94	6.9	892	5.8	1424	6.3	326	17.7	6446	6.2
2029-30	4769	5.1	503	6.7	20	8.3	101	6.5	952	6.7	1511	6.1	376	15.3	6842	6.1
2030-31	4945	3.7	537	6.8	21	7.9	107	6.3	1034	8.6	1620	7.2	427	13.6	7236	5.8
2031-32	5121	3.6	573	6.7	23	7.3	113	5.9	1118	8.1	1734	7.0	478	11.9	7638	5.6
Ave. Growth (2022-2032)	5.1%		6.7%		10.9%		7.8%		7.3%		6.3%				6.3%	

Table 1-5: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Bahawal Pur

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	5704		959	14.40	48	0.72	6712	51.7	1482
2022-23	6041	5.89	996	14.16	47	0.66	7083	51.7	1566
2023-24	6589	9.08	1033	13.55	45	0.59	7668	51.7	1694
2024-25	6984	5.99	1071	13.30	43	0.53	8098	51.7	1789
2025-26	7393	5.86	1109	13.04	40	0.47	8542	51.7	1888
2026-27	7836	5.99	1149	12.79	36	0.40	9022	51.6	1995
2027-28	8297	5.88	1189	12.54	32	0.34	9518	51.6	2105
2028-29	8766	5.66	1228	12.29	28	0.28	10022	51.6	2217
2029-30	9274	5.79	1266	12.01	22	0.21	10562	51.6	2336
2030-31	9777	5.42	1296	11.71	16	0.15	11089	51.7	2450
2031-32	10287	5.22	1325	11.41	10	0.08	11622	51.7	2565
Ave. Growth (2022-2032)	6.07 %						5.64 %		5.64 %

Table 1-6: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - D.G. Khan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	3530		533	13.11	29	0.72	4092	51.9	900
2022-23	3766	6.67	561	12.97	29	0.66	4356	52.1	954
2023-24	3956	5.06	578	12.75	27	0.59	4562	52.1	999
2024-25	4161	5.17	595	12.51	25	0.53	4781	52.1	1048
2025-26	4371	5.05	612	12.28	23	0.47	5006	52.1	1098
2026-27	4599	5.22	630	12.05	21	0.40	5250	52.0	1152
2027-28	4836	5.14	648	11.82	19	0.34	5503	52.0	1208
2028-29	5077	4.98	665	11.58	16	0.28	5758	52.0	1264
2029-30	5325	4.89	682	11.35	13	0.21	6020	52.0	1322
2030-31	5598	5.13	694	11.03	9	0.15	6302	52.0	1382
2031-32	5878	5.00	706	10.72	6	0.08	6590	52.1	1444
Ave. Growth (2022-2032)	5.23 %						4.88 %		4.83 %

Table 1-7: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast – Multan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	7575		1249	14.16	64	0.72	8888	55.2	1838
2022-23	8191	8.14	1326	13.94	63	0.66	9581	54.9	1993
2023-24	8644	5.52	1371	13.69	60	0.59	10074	54.4	2113
2024-25	9180	6.20	1418	13.38	56	0.53	10654	53.6	2270
2025-26	9728	5.98	1465	13.09	52	0.47	11245	53.0	2421
2026-27	10314	6.02	1515	12.81	48	0.40	11877	52.1	2602
2027-28	10928	5.95	1565	12.53	43	0.34	12536	51.3	2787
2028-29	11594	6.09	1614	12.22	37	0.28	13244	50.7	2981
2029-30	12288	5.99	1662	11.91	30	0.21	13979	50.1	3183
2030-31	12993	5.74	1703	11.58	22	0	14718	49.7	3382
2031-32	13724	5.63	1742	11.26	13	0.08	15479	49.3	3585
Ave. Growth (2022-2032)	6.12 %						5.70 %		6.91 %

Table 1-8: Division-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast – Sahiwal

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	2590		439	14.48	22	1	3051	52.8	659
2022-23	2748	6.11	456	14.24	21	1	3226	53.0	695
2023-24	2875	4.59	468	13.99	20	1	3362	53.0	724
2024-25	3016	4.93	481	13.74	19	1	3516	53.0	758
2025-26	3163	4.86	493	13.49	17	0	3673	52.9	792
2026-27	3323	5.07	507	13.24	16	0	3846	52.9	830
2027-28	3490	5.03	521	12.99	14	0	4025	52.9	869
2028-29	3662	4.92	535	12.74	12	0	4208	52.9	908
2029-30	3840	4.86	548	12.48	9	0	4397	52.9	949
2030-31	4014	4.53	559	12.22	7	0	4580	52.9	987
2031-32	4195	4.50	570	11.97	4	0	4769	53.0	1027
Ave. Growth (2022-2032)	4.94 %						4.57 %		4.53 %

Table 1-9: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Bahawal Nagar

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1278		216	14.48	11	0.72	1505	55.8	308
2022-23	1364	6.76	226	14.24	11	0.66	1601	55.8	327
2023-24	1454	6.60	237	13.99	10	0.59	1701	55.9	348
2024-25	1549	6.49	247	13.74	10	0.53	1805	55.9	369
2025-26	1646	6.32	257	13.49	9	0.47	1912	55.9	390
2026-27	1752	6.43	267	13.24	8	0.40	2028	55.9	414
2027-28	1862	6.28	278	12.99	7	0.34	2148	55.9	438
2028-29	1974	6.01	288	12.74	6	0.28	2269	56.0	463
2029-30	2090	5.87	298	12.48	5	0.21	2393	56.0	488
2030-31	2197	5.10	306	12.22	4	0.15	2506	56.0	511
2031-32	2307	5.01	314	11.97	2	0.08	2623	56.1	534
Ave. Growth (2022-2032)	6.09%						5.71%		5.67%

Table 1-10: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Bahawal Pur

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1673		283	14.48	14	0.72	1971	50.7	444
2022-23	1777	6.20	295	14.24	14	0.66	2086	50.6	471
2023-24	1885	6.08	307	13.99	13	0.59	2205	50.5	499
2024-25	2023	7.31	319	13.61	12	0.53	2354	50.4	533
2025-26	2166	7.04	331	13.25	12	0.47	2508	50.4	568
2026-27	2319	7.06	344	12.91	11	0.40	2673	50.3	606
2027-28	2477	6.84	357	12.58	10	0.34	2843	50.3	645
2028-29	2639	6.52	369	12.26	8	0.28	3016	50.3	685
2029-30	2827	7.14	381	11.87	7	0.21	3215	50.2	730
2030-31	3027	7.08	390	11.42	5	0.15	3422	50.3	777
2031-32	3232	6.77	399	10.99	3	0.08	3634	50.3	825
Ave. Growth (2022-2032)	6.80%						6.31%		6.39%

Table 1-11: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Rahim Yar Khan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1985		329	14.24	17	0.72	2331	48.3	551
2022-23	2089	5.22	340	14.01	16	0.66	2445	48.2	579
2023-24	2396	14.74	351	12.78	16	0.59	2764	48.4	652
2024-25	2512	4.84	362	12.60	15	0.53	2890	48.4	682
2025-26	2632	4.77	373	12.42	14	0.47	3020	48.3	714
2026-27	2764	4.99	385	12.23	13	0.40	3162	48.2	748
2027-28	2901	4.95	397	12.04	11	0.34	3309	48.2	784
2028-29	3040	4.82	408	11.84	10	0.28	3458	48.1	820
2029-30	3185	4.75	420	11.64	8	0.21	3612	48.1	858
2030-31	3318	4.17	428	11.43	6	0.15	3751	48.1	890
2031-32	3455	4.13	436	11.21	3	0.08	3894	48.1	924
Ave. Growth (2022-2032)	5.70%						5.27%		5.30%

Table 1-12: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast – Lodhran

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	768		130	14.48	7	0.72	905	45.4	227
2022-23	811	5.51	135	14.24	6	0.66	952	45.4	239
2023-24	853	5.23	139	13.99	6	0.59	998	45.4	251
2024-25	900	5.50	143	13.74	6	0.53	1049	45.4	264
2025-26	949	5.41	148	13.49	5	0.47	1102	45.4	277
2026-27	1002	5.57	153	13.24	5	0.40	1159	45.5	291
2027-28	1057	5.49	158	12.99	4	0.34	1218	45.5	306
2028-29	1113	5.36	162	12.74	4	0.28	1279	45.5	321
2029-30	1172	5.26	167	12.48	3	0.21	1342	45.6	336
2030-31	1235	5.41	172	12.22	2	0.15	1409	45.7	352
2031-32	1294	4.75	176	11.97	1	0.08	1471	45.9	366
Ave. Growth (2022-2032)	5.35%						4.98%		4.87%

Table 1-13: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - D.G. Khan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1084		165	13.18	9	0.72	1258	53.8	267
2022-23	1138	4.98	170	13.01	9	0.66	1317	53.8	280
2023-24	1211	6.38	176	12.67	8	0.59	1395	53.9	295
2024-25	1267	4.65	181	12.50	8	0.53	1456	54.0	308
2025-26	1326	4.61	186	12.32	7	0.47	1519	54.2	320
2026-27	1390	4.83	192	12.14	6	0.40	1588	54.3	334
2027-28	1456	4.80	198	11.96	6	0.34	1660	54.4	348
2028-29	1524	4.67	203	11.76	5	0.28	1732	54.5	363
2029-30	1594	4.60	208	11.56	4	0.21	1807	54.7	377
2030-31	1660	4.10	213	11.35	3	0.15	1875	54.7	391
2031-32	1727	4.07	217	11.14	2	0.08	1945	54.8	405
Ave. Growth (2022-2032)	4.77%						4.46%		4.25%

Table 1-14: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast – Layyah

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	732		120	14.11	6	0.72	858	47.9	205
2022-23	781	6.73	126	13.89	6	0.66	913	48.1	217
2023-24	821	5.11	130	13.67	6	0.59	957	48.1	227
2024-25	863	5.05	134	13.44	5	0.53	1002	48.1	238
2025-26	905	4.95	138	13.21	5	0.47	1048	48.1	249
2026-27	952	5.15	142	12.97	4	0.40	1098	48.1	261
2027-28	1000	5.09	146	12.74	4	0.34	1150	48.1	273
2028-29	1049	4.91	150	12.50	48	0.28	1203	48.1	286
2029-30	1100	4.84	154	12.26	3	0.21	1257	48.1	298
2030-31	1145	4.10	156	12.01	2	0.15	1304	48.2	309
2031-32	1192	4.06	159	11.77	1	0.08	1352	48.2	320
Ave. Growth (2022-2032)	5.00%						4.65%		4.57%

Table 1-15: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast- Muzaffar Garh

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1365		191	12.30	11	0.72	1567	50.4	355
2022-23	1480	8.48	207	12.26	11	0.66	1698	50.9	381
2023-24	1541	4.11	213	12.12	10	0.59	1764	50.7	397
2024-25	1630	5.73	219	11.83	10	0.53	1858	50.6	419
2025-26	1720	5.53	225	11.55	9	0.47	1953	50.4	442
2026-27	1816	5.63	231	11.28	8	0.40	2056	50.3	467
2027-28	1916	5.50	237	11.02	7	0.34	2161	50.1	492
2028-29	2018	5.32	244	10.77	6	0.28	2268	50.0	517
2029-30	2123	5.20	250	10.52	5	0.21	2378	50.0	543
2030-31	2266	6.74	254	10.07	4	0.15	2524	50.0	576
2031-32	2412	6.43	258	9.66	2	0.08	2672	50.0	610
Ave. Growth (2022-2032)	5.86%						5.48%		5.56%

Table 1-16: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Rajan Pur

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	349		57	13.94	3	0.72	409	45.3	103
2022-23	366	4.73	58	13.72	3	0.66	427	45.2	108
2023-24	383	4.71	60	13.51	3	0.59	446	45.2	112
2024-25	401	4.78	62	13.29	2	0.53	465	45.2	117
2025-26	420	4.73	63	13.07	2	0.47	486	45.2	123
2026-27	441	4.94	65	12.84	2	0.40	508	45.2	128
2027-28	463	4.89	67	12.61	2	0.34	531	45.2	134
2028-29	485	4.69	68	12.38	2	0.28	555	45.2	140
2029-30	507	4.63	70	12.15	1	0.21	578	45.2	146
2030-31	527	3.89	71	11.91	1	0.15	599	45.3	151
2031-32	547	3.85	72	11.66	1	0.08	620	45.3	156
Ave. Growth (2022-2032)	4.58%						4.25%		4.23%

Table 1-17: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Khanewal

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1700		288	14.48	14	0.72	2002	56.2	406
2022-23	1870	10.00	310	14.24	14	0.66	2195	56.9	440
2023-24	1968	5.25	320	13.99	14	0.59	2302	56.9	462
2024-25	2074	5.36	330	13.74	13	0.53	2417	56.9	485
2025-26	2183	5.26	340	13.49	12	0.47	2535	56.9	509
2026-27	2301	5.43	351	13.24	11	0.40	2663	56.8	535
2027-28	2425	5.37	362	12.99	9	0.34	2797	56.8	562
2028-29	2552	5.24	372	12.74	8	0.28	2933	56.8	589
2029-30	2683	5.15	383	12.48	7	0.21	3073	56.8	618
2030-31	2812	4.77	392	12.22	5	0.15	3208	56.8	645
2031-32	2942	4.66	400	11.97	3	0.08	3345	56.8	672
Ave. Growth (2022-2032)	5.64%						5.27%		5.16%

Table 1-18: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast -Multan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	3958		637	13.86	33	0.72	4629	55.6	951
2022-23	4265	7.75	675	13.66	33	0.66	4972	54.7	1038
2023-24	4473	4.88	692	13.40	31	0.59	5196	53.9	1100
2024-25	4723	5.59	711	13.09	29	0.53	5463	52.4	1191
2025-26	4975	5.34	730	12.80	27	0.47	5732	51.4	1273
2026-27	5241	5.35	751	12.53	24	0.40	6016	49.7	1380
2027-28	5522	5.36	771	12.26	21	0.34	6315	48.4	1490
2028-29	5845	5.85	791	11.92	18	0.28	6655	47.3	1606
2029-30	6185	5.81	811	11.59	15	0.21	7011	46.3	1728
2030-31	6517	5.36	826	11.25	11	0.15	7353	45.5	1846
2031-32	6863	5.31	840	10.91	7	0.08	7709	44.8	1965
Ave. Growth (2022-2032)	5.66%						5.23%		7.53%

Table 1-19: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast – Vehari

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1916		324	14.48	16	0.72	2257	47.6	541
2022-23	2056	7.30	341	14.24	16	0.66	2413	47.5	580
2023-24	2202	7.10	358	13.99	15	0.59	2576	47.4	620
2024-25	2383	8.20	376	13.63	15	0.53	2774	47.4	668
2025-26	2570	7.87	394	13.29	14	0.47	2978	47.4	718
2026-27	2772	7.82	413	12.96	13	0.40	3197	47.3	771
2027-28	2981	7.55	432	12.65	12	0.34	3424	47.3	826
2028-29	3196	7.23	450	12.35	10	0.28	3656	47.3	883
2029-30	3419	6.98	468	12.05	8	0.21	3896	47.3	941
2030-31	3665	7.19	485	11.69	6	0.15	4157	47.4	1002
2031-32	3919	6.93	502	11.35	4	0.08	4425	47.5	1064
Ave. Growth (2022-2032)	7.42%						6.96%		7.01%

Table 1-20: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Sahiwal

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	1932		327	14.48	16	0.72	2275	53.6	484
2022-23	2059	6.57	342	14.24	16	0.66	2416	53.9	512
2023-24	2152	4.54	350	13.99	15	0.59	2517	53.8	534
2024-25	2256	4.85	359	13.74	14	0.53	2630	53.8	558
2025-26	2364	4.79	369	13.49	13	0.47	2746	53.8	583
2026-27	2483	5.01	379	13.24	12	0.40	2873	53.8	610
2027-28	2606	4.98	389	12.99	10	0.34	3006	53.7	639
2028-29	2733	4.86	399	12.74	9	0.28	3141	53.7	667
2029-30	2864	4.80	408	12.48	7	0.21	3280	53.7	697
2030-31	2990	4.37	416	12.22	5	0.15	3411	53.8	724
2031-32	3120	4.35	424	11.97	3	0.08	3547	53.8	752
Ave. Growth (2022-2032)	4.91%						4.54%		4.50%

Table 1-21: District-wise Sale (GWh), Generation (GWh) and Demand (MW) Forecast - Pakpattan

Year	Energy Sale		Distribution Losses		Transmission Losses		Generation	Load Factor	Peak Demand
	(GWh)	G.R.(%)	(GWh)	%	(GWh)	%	(GWh)	%	(MW)
2021-22	659		112	14.48	6	0.72	776	45.1	196
2022-23	690	4.77	115	14.24	5	0.66	810	45.1	205
2023-24	723	4.74	118	13.99	5	0.59	845	45.0	214
2024-25	760	5.16	121	13.74	5	0.53	886	45.0	225
2025-26	799	5.08	125	13.49	4	0.47	927	45.0	235
2026-27	840	5.25	128	13.24	4	0.40	973	45.0	247
2027-28	884	5.18	132	12.99	3	0.34	1019	45.0	259
2028-29	929	5.10	136	12.74	3	0.28	1068	45.0	271
2029-30	976	5.03	139	12.48	2	0.21	1117	45.0	283
2030-31	1025	4.99	143	12.22	2	0.15	1169	45.2	295
2031-32	1075	4.94	146	11.97	1	0.08	1222	45.3	308
Ave. Growth (2022-2032)	5.02%						4.65%		4.60%

Table 1-22: Monthly Peak Demand Forecast- Base Forecast

July	August	September	October	November	December	January	February	March	April	May	June
(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)
4579	4296	4104	3346	2077	2029	2115	2240	2778	4153	4177	4856
5134	5132	4728	3967	2711	2525	2640	2606	3016	4054	4749	5180
5454	5452	5022	4215	2880	2683	2804	2768	3204	4307	5045	5503
5783	5781	5326	4469	3054	2845	2974	2936	3397	4567	5350	5835
6113	6111	5630	4724	3228	3007	3143	3103	3591	4827	5655	6168
6487	6484	5974	5013	3426	3191	3335	3293	3811	5122	6001	6545
6873	6870	6329	5311	3629	3380	3534	3489	4037	5427	6357	6934
7268	7265	6693	5616	3838	3575	3737	3689	4269	5739	6723	7333
7682	7679	7074	5936	4057	3779	3950	3900	4513	6066	7106	7751
8088	8085	7448	6250	4271	3978	4159	4106	4751	6387	7482	8161
8501	8498	7829	6570	4490	4182	4371	4315	4994	6713	7864	8578

Table 1-23: Monthly Energy Purchased Forecast - Base Forecast

Year	July	August	September	October	November	December	January	February	March	April	May	June	Total
	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2022-23	2966	3149	2718	1927	1342	1304	1325	1077	1391	1921	2476	2648	24244
2023-24	3139	3334	2877	2040	1421	1380	1402	1141	1473	2034	2621	2804	25666
2024-25	3309	3513	3033	2150	1497	1455	1478	1202	1552	2143	2762	2955	27050
2025-26	3482	3698	3192	2263	1576	1531	1555	1265	1634	2256	2907	3110	28467
2026-27	3669	3896	3363	2384	1661	1613	1639	1333	1722	2377	3063	3277	29995
2027-28	3863	4102	3541	2510	1748	1698	1725	1404	1813	2503	3225	3450	31582
2028-29	4065	4316	3726	2641	1840	1787	1816	1477	1907	2633	3394	3630	33232
2029-30	4276	4541	3919	2778	1935	1880	1910	1554	2006	2770	3570	3819	34958
2030-31	4488	4766	4113	2916	2031	1973	2004	1631	2106	2907	3747	4008	36690
2031-32	4705	4996	4312	3057	2129	2068	2101	1709	2208	3048	3928	4202	38463

Table 1-24: List of Overloaded Substations during Period 2021-22 to 2031-32 Criterion= 85%

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
		KV		(MVA)	(MW)	(MW)	(%)		(MW)	
1	Ahmad Pur East	132	2	132	118.80	100.98	85.00	2030-31	97.40	0.90
2	Bahawal Pur	132	8	120	108.00	91.80	85.00	2029-30	90.70	0.90
3	Bahawal Nagar-I	132	9	106	95.40	81.09	85.00	2029-30	77.80	0.90
4	Basti Malook	132	12	92	83.72	71.16	85.00	2024-25	69.10	0.91
5	Bonga Hayat	132	17	80	72.00	61.20	85.00	2027-28	59.50	0.90
6	Bosan Road Mult	132	18	120	108.00	91.80	85.00	2021-22	94.20	0.90
7	Azeemabad	132	20	120	108.00	91.80	85.00	2026-27	90.00	0.90
8	Chowk Munda/CSS	132	31	66	60.72	51.61	85.00	2027-28	49.60	0.92
9	Damar wala	132	36	36	32.40	27.54	85.00	2023-24	26.70	0.90
10	Garah More	132	42	66	59.40	50.49	85.00	2030-31	49.20	0.90
11	Harappa	132	58	66	60.06	51.05	85.00	2029-30	51.00	0.91
12	Industrial Esta	132	65	120	110.40	93.84	85.00	2029-30	91.20	0.92
13	Suraj Miani	132	76	52	46.80	39.78	85.00	2028-29	38.70	0.90
14	Kabirwala	132	87	106	96.46	81.99	85.00	2026-27	81.30	0.91
15	Kacha Khu	132	88	92	82.80	70.38	85.00	2030-31	70.20	0.90
16	Khan Pur	132	102	106	95.40	81.09	85.00	2023-24	78.50	0.90
17	Khanewal Road	132	104	120	110.40	93.84	85.00	2026-27	91.90	0.92
18	Liaqat Pur	132	122	52	46.80	39.78	85.00	2030-31	39.50	0.90
19	MESCO	132	132	120	109.20	92.82	85.00	2024-25	92.40	0.91
20	Mian Channu	132	133	146	132.86	112.93	85.00	2029-30	111.60	0.91

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
21	Muzaffar Garh	132	140	120	110.40	93.84	85.00	2026-27	93.80	0.92
22	Noor Ahmad Wali	132	148	39	35.10	29.84	85.00	2023-24	29.70	0.90
23	Qasim Pur	132	168	120	109.20	92.82	85.00	2028-29	92.20	0.91
24	Rahim Yar Khan-	132	171	160	145.60	123.76	85.00	2027-28	121.90	0.91
25	Sadiq Abad	132	181	120	108.00	91.80	85.00	2021-22	88.00	0.90
26	Noor Pur	132	196	65	58.50	49.73	85.00	2030-31	48.90	0.90
27	Taunsa	132	216	65	58.50	49.73	85.00	2026-27	47.70	0.90
28	Vehari	132	219	106	95.40	81.09	85.00	2022-23	76.10	0.90
29	Vehari Road	132	220	120	108.00	91.80	85.00	2028-29	88.60	0.90
30	Ali Pur	132	229	52	46.80	39.78	85.00	2025-26	38.30	0.90
31	Jalal Pur Pirwa	132	285	106	95.40	81.09	85.00	2025-26	77.20	0.90
32	Khair Pur Tamew	132	297	52	46.80	39.78	85.00	2025-26	38.80	0.90
33	Lal Sohanra	132	313	13	11.70	9.95	85.00	2021-22	10.20	0.90
34	Ludden	132	317	52	46.80	39.78	85.00	2022-23	37.50	0.90
35	Rajan Pur	132	354	65	58.50	49.73	85.00	2028-29	49.50	0.90
36	Shujabad	132	374	92	82.80	70.38	85.00	2022-23	69.10	0.90
37	Head Sidhnai	132	376	52	46.80	39.78	85.00	2026-27	39.00	0.90
38	66 KV Kot Khali	66	397	26	23.40	19.89	85.00	2024-25	19.00	0.90
39	Chak 211/WB	132	528	65	58.50	49.73	85.00	2026-27	49.20	0.90
40	Jamal Din Wali	132	531	65	58.50	49.73	85.00	2024-25	49.40	0.90
41	Khan Bela	132	533	66	59.40	50.49	85.00	2027-28	48.60	0.90
42	Mian Wali Qures	132	534	78	70.20	59.67	85.00	2027-28	58.80	0.90

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
43	Sheikh Fazil	132	536	78	70.20	59.67	85.00	2028-29	57.80	0.90
44	Sahuka	132	537	66	59.40	50.49	85.00	2024-25	48.80	0.90
45	Chak 83/12-L	132	538	52	46.80	39.78	85.00	2024-25	38.70	0.90
46	66 KV Karor Lal	66	542	52	46.80	39.78	85.00	2027-28	38.10	0.90
47	Minchinabad	66	545	52	46.80	39.78	85.00	2030-31	39.20	0.90
48	Noor Sar	132	546	39	35.10	29.84	85.00	2027-28	28.30	0.90
49	66 KV Rang Pur	66	549	14	12.60	10.71	85.00	2021-22	11.20	0.90
50	Mailsi	132	552	106	95.40	81.09	85.00	2026-27	80.00	0.90
51	500 KV Yousaf W	220	584	52	47.32	40.22	85.00	2021-22	38.80	0.91
52	Rojhan	132	589	13	11.70	9.95	85.00	2024-25	9.70	0.90
53	Chotti Zarin	66	602	26	23.40	19.89	85.00	2023-24	19.50	0.90
54	Maroot	66	606	39	35.10	29.84	85.00	2021-22	28.30	0.90
55	Karam Pur	132	685	66	59.40	50.49	85.00	2023-24	49.70	0.90
56	Chishtian	132	728	78	70.20	59.67	85.00	2025-26	59.40	0.90
57	Chowk Azam	132	730	53	47.70	40.55	85.00	2028-29	39.50	0.90
58	Makhdom Rasheed	132	766	52	46.80	39.78	85.00	2024-25	38.10	0.90
59	Rahim Yar Khan-	132	767	106	95.40	81.09	85.00	2029-30	80.70	0.90
60	Khan Garh	132	769	26	23.40	19.89	85.00	2028-29	19.10	0.90
61	Lar	132	780	52	47.32	40.22	85.00	2026-27	38.80	0.91
62	Kahror Pacca	132	927	120	108.00	91.80	85.00	2024-25	88.20	0.90
63	Uch Sharif	132	932	52	46.80	39.78	85.00	2024-25	39.30	0.90
64	Dunya Pur	132	982	52	46.80	39.78	85.00	2023-24	38.70	0.90

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
65	Burewala old	132	989	66	59.40	50.49	85.00	2028-29	49.90	0.90
66	WAPDA Town	132	1041	92	82.80	70.38	85.00	2027-28	67.80	0.90
67	Nawazabad	132	1058	52	46.80	39.78	85.00	2024-25	38.00	0.90
68	Makhdoom Pur	132	1059	39	35.10	29.84	85.00	2022-23	29.50	0.90
69	Sahiwal-III	132	1089	52	46.80	39.78	85.00	2027-28	38.40	0.90
70	Bati Banglow	132	1093	26	23.40	19.89	85.00	2027-28	19.10	0.90
71	D.G. Khan-II	132	1099	66	59.40	50.49	85.00	2028-29	49.10	0.90
72	Kameer	132	1113	52	46.80	39.78	85.00	2029-30	39.50	0.90
73	Miran Pur	132	1118	52	46.80	39.78	85.00	2028-29	38.30	0.90
74	Mubarak Pur	132	1148	52	46.80	39.78	85.00	2025-26	39.30	0.90
75	Sanjar Pur	132	1182	52	46.80	39.78	85.00	2030-31	39.40	0.90
76	Bahawal Nagar-I	132	1197	26	23.40	19.89	85.00	2027-28	18.90	0.90
77	Khan Pur Bagga	132	1219	39	35.49	30.17	85.00	2028-29	29.90	0.91

Table 1-25: List of Overloaded Substations during Period 2020-21 to 2030-31 Criterion= 100%

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
		KV		(MVA)	(MW)	(MW)	(%)		(MW)	
1	Basti Malook	132	12	92	83.72	83.72	100.00	2027-28	80.90	0.91
2	Bosan Road Mult	132	18	120	108.00	108.00	100.00	2024-25	107.00	0.90
3	Azeemabad	132	20	120	108.00	108.00	100.00	2029-30	107.00	0.90
4	Damar wala	132	36	36	32.40	32.40	100.00	2027-28	32.30	0.90
5	Kabirwala	132	87	106	96.46	96.46	100.00	2030-31	95.40	0.91
6	Khan Pur	132	102	106	95.40	95.40	100.00	2027-28	92.60	0.90
7	Khanewal Road	132	104	120	110.40	110.40	100.00	2030-31	107.20	0.92
8	MESCO	132	132	120	109.20	109.20	100.00	2028-29	108.50	0.91
9	Muzaffar Garh	132	140	120	110.40	110.40	100.00	2030-31	107.60	0.92
10	Noor Ahmad Wali	132	148	39	35.10	35.10	100.00	2026-27	34.20	0.90
11	Sadiq Abad	132	181	120	108.00	108.00	100.00	2027-28	107.60	0.90
12	Vehari	132	219	106	95.40	95.40	100.00	2027-28	92.90	0.90
13	Ali Pur	132	229	52	46.80	46.80	100.00	2029-30	45.90	0.90
14	Jalal Pur Pirwa	132	285	106	95.40	95.40	100.00	2029-30	93.30	0.90
15	Khair Pur Tamew	132	297	52	46.80	46.80	100.00	2028-29	46.40	0.90
16	Lal Sohanra	132	313	13	11.70	11.70	100.00	2024-25	11.50	0.90
17	Ludden	132	317	52	46.80	46.80	100.00	2025-26	46.30	0.90
18	Shujabad	132	374	92	82.80	82.80	100.00	2028-29	82.30	0.90
19	Head Sidhnai	132	376	52	46.80	46.80	100.00	2030-31	46.70	0.90
20	66 KV Kot Khali	66	397	26	23.40	23.40	100.00	2027-28	23.30	0.90

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
21	Chak 211/WB	132	528	65	58.50	58.50	100.00	2029-30	58.30	0.90
22	Jamal Din Wali	132	531	65	58.50	58.50	100.00	2028-29	58.10	0.90
23	Mian Wali Qures	132	534	78	70.20	70.20	100.00	2030-31	69.10	0.90
24	Sahuka	132	537	66	59.40	59.40	100.00	2027-28	59.10	0.90
25	Chak 83/12-L	132	538	52	46.80	46.80	100.00	2027-28	45.60	0.90
26	Noor Sar	132	546	39	35.10	35.10	100.00	2030-31	33.80	0.90
27	66 KV Rang Pur	66	549	14	12.60	12.60	100.00	2022-23	11.90	0.90
28	Mailsi	132	552	106	95.40	95.40	100.00	2028-29	90.80	0.90
29	500 KV Yousaf W	220	584	52	47.32	47.32	100.00	2025-26	45.60	0.91
30	Rojhan	132	589	13	11.70	11.70	100.00	2028-29	11.70	0.90
31	Chotti Zarin	66	602	26	23.40	23.40	100.00	2025-26	22.30	0.90
32	Maroot	66	606	39	35.10	35.10	100.00	2024-25	33.30	0.90
33	Karam Pur	132	685	66	59.40	59.40	100.00	2026-27	56.30	0.90
34	Chishtian	132	728	78	70.20	70.20	100.00	2028-29	67.70	0.90
35	Makhdom Rasheed	132	766	52	46.80	46.80	100.00	2028-29	46.10	0.90
36	Lar	132	780	52	47.32	47.32	100.00	2030-31	45.80	0.91
37	Kahror Pacca	132	927	120	108.00	108.00	100.00	2028-29	104.50	0.90
38	Uch Sharif	132	932	52	46.80	46.80	100.00	2026-27	46.70	0.90
39	Dunya Pur	132	982	52	46.80	46.80	100.00	2026-27	44.80	0.90
40	Nawazabad	132	1058	52	46.80	46.80	100.00	2028-29	45.50	0.90
41	Makhdoom Pur	132	1059	39	35.10	35.10	100.00	2025-26	34.20	0.90
42	Mubarak Pur	132	1148	52	46.80	46.80	100.00	2027-28	45.30	0.90

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
43	Sakhi Sarwar	132	535	13	11.83	11.83	100.00	2024-25	11.60	0.91
44	Sheikh Fazil	132	536	78	70.20	70.20	100.00	2025-26	66.70	0.90
45	Sahuka	132	537	66	59.40	59.40	100.00	2024-25	57.00	0.90
46	Chak No.83/12L	132	538	52	46.80	46.80	100.00	2028-29	45.20	0.90
47	Dajal	66	540	6	5.40	5.40	100.00	2020-21	7.30	0.90
48	Karor lali San	66	542	52	46.80	46.80	100.00	2022-23	41.90	0.90
49	Kot Sultan	66	543	26	23.40	23.40	100.00	2022-23	22.50	0.90
50	Kot Chutta	132	544	39	35.49	35.49	100.00	2028-29	34.10	0.91
51	Minchanabad	66	545	52	46.80	46.80	100.00	2027-28	46.50	0.90
52	Noor Sar	132	546	39	35.10	35.10	100.00	2025-26	34.40	0.90
53	Shah Sadarudin	132	547	26	23.40	23.40	100.00	2020-21	17.80	0.90
54	Rang Pur	66	549	14	12.60	12.60	100.00	2021-22	11.90	0.90
55	Mailsi	132	552	106	95.40	95.40	100.00	2027-28	90.80	0.90
56	Rojhan	132	589	0	0.00	0.00	100.00	2020-21	12.70	0.90
57	Chotti	66	602	0	0.00	0.00	100.00	2020-21	12.90	0.90
58	Fateh Pur	132	642	52	46.80	46.80	100.00	2028-29	46.50	0.90
59	Karam Pur	132	685	26	23.40	23.40	100.00	2020-21	31.60	0.90
60	Fort Manro	132	705	0	0.00	0.00	100.00	2020-21	0.90	0.90
61	Chishtian New	132	728	78	70.20	70.20	100.00	2028-29	68.30	0.90
62	Chowk Azam	132	730	53	47.70	47.70	100.00	2029-30	47.60	0.90
63	Jampur	132	743	26	23.40	23.40	100.00	2022-23	23.40	0.90
64	Makhdom Rashid	132	766	52	46.80	46.80	100.00	2024-25	44.60	0.90

S.No.	Name	Rating	Grid #	Total Capacity	Total Capacity	Overloading Criterion	Overloading Criterion	Year of Overloading	Overloading Status	Power Factor
65	R.Y.Khan-II	132	767	106	95.40	95.40	100.00	2027-28	92.40	0.90
66	Khan Garh	132	769	26	23.40	23.40	100.00	2027-28	22.30	0.90
67	Lar	132	780	52	47.32	47.32	100.00	2026-27	47.30	0.91
68	Vehari	220	806	52	46.80	46.80	100.00	2024-25	44.60	0.90
69	Karror Pakka	132	927	106	95.40	95.40	100.00	2028-29	92.70	0.90
70	Uch Sharif	132	932	26	23.40	23.40	100.00	2020-21	26.30	0.90
71	Makhdum Pur	132	1059	39	35.10	35.10	100.00	2026-27	34.40	0.90
72	Sahiwal-III	132	1089	52	46.80	46.80	100.00	2027-28	45.70	0.90
73	D.G Khan	132	1099	40	36.00	36.00	100.00	2020-21	40.40	0.90
74	132 KV Sanjar P	132	1182	26	23.40	23.40	100.00	2027-28	23.00	0.90
75	132 KV B/Nagar-	132	1197	13	11.83	11.83	100.00	2022-23	11.60	0.91

Table 1-26: List of Grids with their Codes and MVA Capacities

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
				T1	T2	T3	T4	T5	
1	2	132	Ahmad Pur East	40	26	40	26	0	132
2	5	132	Arifwala	40	40	40	40	0	160
3	8	132	Bahawal Pur	40	40	40	0	0	120
4	9	132	Bahawal Nagar-I	40	40	26	0	0	106
5	12	132	Basti Malook	40	26	26	0	0	92
6	17	132	Bonga Hayat	40	40	0	0	0	80
7	18	132	Bosan Road Multan	40	40	40	0	0	120
8	20	132	Azeemabad	40	40	40	0	0	120
9	27	132	Chichawatni	38	40	26	40	0	144
10	29	132	Choubara	38	13	0	0	0	51
11	31	132	Chowk Munda/CSS	40	26	0	0	0	66
12	33	132	D.G.Khan-I	40	26	40	40	0	146
13	36	132	Damar wala	10	26	0	0	0	36
14	42	132	Garah More	26	40	0	0	0	66
15	52	132	Gujrat South	26	26	13	0	0	65
16	58	132	Harappa	40	26	0	0	0	66
17	65	132	Industrial Estate MTN	40	40	40	0	0	120
18	69	132	Jahanian	40	26	40	0	0	106
19	75	132	Jatoi	10	26	13	0	0	49
20	76	132	Suraj Miani	26	26	0	0	0	52
21	83	132	Khair Pur Sadat	26	10	0	0	0	36
22	87	132	Kabirwala	26	40	40	0	0	106
23	88	132	Kacha Khu	26	26	40	0	0	92
24	102	132	Khan Pur	26	40	40	0	0	106

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
25	103	132	Khanewal	26	40	40	40	0	146
26	104	132	Khanewal Road	40	40	40	0	0	120
27	112	132	Kot Addu	40	38	26	40	0	144
28	122	132	Liaqat Pur	26	26	0	0	0	52
29	123	132	Lodhran	40	40	40	40	0	160
30	131	132	Mahra Khas	26	26	13	0	0	65
31	132	132	MESCO	40	40	40	0	0	120
32	133	132	Mian Channu	40	40	40	26	0	146
33	140	132	Muzaffar Garh	40	40	40	0	0	120
34	148	132	Noor Ahmad Wali	26	13	0	0	0	39
35	154	132	Pakpattan	40	40	40	26	0	146
36	165	132	Qabula	26	26	40	0	0	92
37	166	132	Qadir Abad	26	26	0	0	0	52
38	168	132	Qasim Pur	40	40	40	0	0	120
39	171	132	Rahim Yar Khan-I	40	40	40	40	0	160
40	181	132	Sadiq Abad	40	40	40	0	0	120
41	183	132	Sahiwal Old	40	26	26	0	0	92
42	186	132	Sama Satta	26	26	0	0	0	52
43	196	132	Noor Pur	26	26	13	0	0	65
44	216	132	Taunsa	26	26	13	0	0	65
45	219	132	Vehari	40	40	26	0	0	106
46	220	132	Vehari Road	40	40	40	0	0	120
47	229	132	Ali Pur	13	26	13	0	0	52
48	253	66	66 KV Chishtian	13	3	0	0	0	16
49	261	132	Dahran wala	26	26	0	0	0	52
50	274	132	Fazil Pur	13	26	0	0	0	39
51	276	132	Fort Abbas	26	26	0	0	0	52

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
52	285	132	Jalal Pur Pirwala	40	40	26	0	0	106
53	293	66	Jam Pur Dajal Road	26	0	0	0	0	26
54	297	132	Khair Pur Tamewali	26	26	0	0	0	52
55	313	132	Lal Sohanra	13	0	0	0	0	13
56	316	132	Layyah	26	26	26	26	0	104
57	317	132	Ludden	26	26	0	0	0	52
58	327	66	Mclod Gunj	26	26	0	0	0	52
59	354	132	Rajan Pur	26	26	13	0	0	65
60	374	132	Shujabad	26	40	26	0	0	92
61	376	132	Head Sidhnai	26	26	0	0	0	52
62	397	66	66 KV Kot Khalifa	13	13	0	0	0	26
63	404	132	Yazman	26	26	0	0	0	52
64	472	132	Hasil Pur	40	26	40	13	0	119
65	528	132	Chak 211/WB	26	13	26	0	0	65
66	530	132	Feroza	13	26	0	0	0	39
67	531	132	Jamal Din Wali	26	26	13	0	0	65
68	533	132	Khan Bela	26	40	0	0	0	66
69	534	132	Mian Wali Qureshian	26	26	26	0	0	78
70	535	132	Sakhi Sarwar	10	13	0	0	0	23
71	536	132	Sheikh Fazil	26	26	26	0	0	78
72	537	132	Sahuka	26	40	0	0	0	66
73	538	132	Chak 83/12-L	26	26	0	0	0	52
74	540	66	66 KV Dajal	13	6	0	0	0	19
75	541	132	Faqirwali	26	26	0	0	0	52
76	542	66	66 KV Karor Lal Eason	26	26	0	0	0	52
77	543	66	Kot Sultan	26	26	0	0	0	52
78	544	132	Kot Chutta	26	26	13	0	0	65

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
79	545	66	Minchinabad	26	26	0	0	0	52
80	546	132	Noor Sar	26	13	0	0	0	39
81	547	132	Shah Sadar Din	26	26	0	0	0	52
82	548	132	Shahdan Lund	26	13	0	0	0	39
83	549	66	66 KV Rang Pur	14	0	0	0	0	14
84	550	66	66 KV Nawan Kot	5	0	0	0	0	5
85	551	132	Sahiwal New	40	26	26	0	0	92
86	552	132	Mailsi	40	40	26	0	0	106
87	584	220	500 KV Yousaf Wala	26	26	0	0	0	52
88	589	132	Rojhan	13	0	0	0	0	13
89	602	66	Chotti Zarin	26	0	0	0	0	26
90	606	66	Maroot	26	13	0	0	0	39
91	626	132	Baghdad ul Jadid	40	26	13	0	0	79
92	642	132	Fateh Pur	26	13	13	0	0	52
93	685	132	Karam Pur	40	26	0	0	0	66
94	705	132	Fort Manro	8	0	0	0	0	8
95	728	132	Chishtian	26	26	26	0	0	78
96	730	132	Chowk Azam	13	40	0	0	0	53
97	743	132	Jam Pur	26	26	0	0	0	52
98	763	132	Qasim Bagh	26	40	0	0	0	66
99	766	132	Makhdom Rasheed	26	26	0	0	0	52
100	767	132	Rahim Yar Khan-II	40	26	40	0	0	106
101	769	132	Khan Garh	13	13	0	0	0	26
102	773	132	Chuna Wala	26	0	0	0	0	26
103	780	132	Lar	26	26	0	0	0	52
104	806	220	220 KV Vehari	26	26	0	0	0	52
105	815	220	220 KV Nauabad	26	26	0	0	0	52

Sr. No.	Grid No.	KV	Grid Name	Transformer (MVA)					Total (MVA)
106	852	66	Head Rajkan	13	26	0	0	0	39
107	924	132	Haroonabad	40	26	26	0	0	92
108	927	132	Kahror Pacca	40	40	40	0	0	120
109	932	132	Uch Sharif	13	13	26	0	0	52
110	982	132	Dunya Pur	26	26	0	0	0	52
111	989	132	Burewala old	26	40	0	0	0	66
112	1041	132	WAPDA Town	26	40	26	0	0	92
113	1058	132	Nawazabad	26	26	0	0	0	52
114	1059	132	Makhdoom Pur	26	13	0	0	0	39
115	1068	132	Bahawal Pur Cantt	26	40	0	0	0	66
116	1072	132	Jail Road	26	26	40	0	0	92
117	1089	132	Sahiwal-III	26	26	0	0	0	52
118	1093	132	Bati Banglow	26	0	0	0	0	26
119	1099	132	D.G. Khan-II	26	40	0	0	0	66
120	1113	132	Kameer	26	26	0	0	0	52
121	1115	132	Maan Kot	13	13	13	0	0	39
122	1118	132	Miran Pur	26	26	0	0	0	52
123	1123	132	Hota	40	26	0	0	0	66
124	1148	132	Mubarak Pur	26	26	0	0	0	52
125	1151	66	66 KV Bakhshan Khan	13	0	0	0	0	13
126	1174	132	PGHS	26	26	0	0	0	52
127	1182	132	Sanjar Pur	26	26	0	0	0	52
128	1197	132	Bahawal Nagar-II	13	13	0	0	0	26
129	1203	132	Kassowal	26	13	0	0	0	39
130	1208	132	Khichi Wala	13	13	0	0	0	26
131	1219	132	Khan Pur Bagga Sher	26	13	0	0	0	39
132	1229	132	Buch Villas	26	26	0	0	0	52

Table 1-27: Maximum Demand (MW) of Substations - Base Forecast

S .No	Grid No	Name of Grid Station	KV	Year										
				2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
1	2	Ahmad Pur East	132	53.6	58	62.6	67.3	72.1	77.1	82.3	87.5	92.8	97.4	102.1
2	5	Arifwala	132	86.5	90.2	93.9	79.3	82.6	78.2	81.5	84.8	88.1	91.1	94.2
3	8	Bahawal Pur	132	67.1	69.6	72.4	75.1	78.1	81.2	84.4	87.5	90.7	93.3	95.9
4	9	Bahawal Nagar-I	132	50.3	53.8	55	58.5	62.1	65.9	69.8	73.7	77.8	81.5	85.3
5	12	Basti Malook	132	58.9	62.1	65.5	69.1	72.8	76.7	80.9	85.1	89.5	93.6	98
6	17	Bonga Hayat	132	44.8	47	49.3	51.7	54.2	56.8	59.5	62.2	64.9	67.4	70
7	18	Bosan Road Mult	132	94.2	98.3	102.6	107	111.6	116.4	121.5	126.3	131.3	135	138.8
8	20	Azeemabad	132	70.9	75.8	80.9	82.9	84.6	90	95.6	101.2	107	112.1	117.4
9	27	Chichawatni	132	63.4	66.1	68.9	71.8	74.9	75.2	78.5	81.6	84.9	87.8	90.7
10	29	Choubara	132	4.3	4.6	4.9	5.2	5.6	5.9	6.2	6.5	6.9	7.2	7.5
11	31	Chowk Munda/CSS	132	35.9	39.6	41.5	43.5	45.4	47.5	49.6	51.8	54	56.1	58.3
12	33	D.G.Khan-I	132	35.7	38.7	40.5	42.3	36.4	38	39.7	41.4	43.1	44.5	46
13	36	Damar wala	132	24.2	25.4	26.7	28	29.4	30.8	32.3	33.7	35.2	36.3	37.5
14	42	Garah More	132	32.1	34.8	37.5	40.2	36.7	39.1	41.7	44.2	46.8	49.2	51.7
15	52	Gujrat South	132	37.5	39.7	41.9	39.7	38.1	40.1	42.2	44.2	46.2	47.8	49.5
16	58	Harappa	132	42.8	44.7	46.7	48.8	51.1	45	47	48.9	51	53	55.1
17	65	Industrial Esta	132	80.9	83.9	87.3	90.7	78.5	81.5	84.7	87.9	91.2	94.2	97.4
18	69	Jahanian	132	48.9	51.8	54.7	57.8	61	64.4	67.8	71.3	74.8	78	81

S .No	Grid No	Name of Grid Station	KV	Year										
19	75	Jatoi	132	24	25.2	26.5	27.8	29.1	30.5	31.9	33.3	34.7	35.7	36.8
20	76	Suraj Miani	132	23.1	29.7	31	32.5	33.9	35.5	37.1	38.7	40.3	41.6	42.9
21	83	Khair Pur Sadat	132	11.6	12.2	12.9	13.6	14.4	15.2	16	16.7	17.5	18.2	18.9
22	87	Kabirwala	132	52.1	68.5	71.7	74.8	78	81.3	84.7	88.2	91.8	95.4	99.1
23	88	Kacha Khu	132	46.9	49.1	51.5	53.9	56.5	59.1	61.9	64.6	67.4	70.2	73
24	102	Khan Pur	132	68.7	73.5	78.5	83.5	82.3	87.3	92.6	97.7	102.9	107.2	111.6
25	103	Khanewal	132	88.9	93.2	97.7	102.3	77.7	81.3	85.1	88.7	92.6	96	99.5
26	104	Khanewal Road	132	91.3	100.1	104.4	84.5	88.1	91.9	95.9	99.7	103.8	107.2	110.8
27	112	Kot Addu	132	64.3	67.7	71.2	74.8	78.4	82.2	86.1	89.9	93.8	96.7	99.7
28	122	Liaqat Pur	132	27.8	29.2	30.6	31.8	33.1	34.5	35.9	37.2	38.5	39.5	40.4
29	123	Lodhran	132	92	97.6	81.7	85.8	90.1	94.5	99.1	103.7	108.3	113.4	116.6
30	131	Mahra Khas	132	40.9	43.1	45.3	36.4	38.2	40.1	42.1	44	45.9	47.5	49
31	132	MESCO	132	80.5	85.3	88.8	92.4	96.1	100.1	104.3	108.5	112.7	116.1	119.7
32	133	Mian Channu	132	91.9	96.5	84.7	88.9	93.1	97.6	102.3	106.9	111.6	115.8	120.2
33	140	Muzaffar Garh	132	90.8	97.3	101	104.8	90.4	93.8	97.3	100.8	104.5	107.6	110.8
34	148	Noor Ahmad Wali	132	26.9	28.3	29.7	31.1	32.6	34.2	35.8	37.5	39.2	40.9	42.8
35	154	Pakpattan	132	84.8	88.6	77.8	81.4	85.2	77.7	81.2	84.6	88.1	91.3	94.5
36	165	Qabula	132	63	65.8	68.8	71.8	75	42.2	44.1	45.9	47.7	49.4	51.1
37	166	Qadir Abad	132	25.2	26.5	27.7	29.1	30.5	31.9	33.5	34.9	36.4	37.6	38.8
38	168	Qasim Pur	132	69.3	72.1	75.2	78.4	81.7	85.1	88.7	92.2	95.9	99.1	102.4

S .No	Grid No	Name of Grid Station	KV	Year										
39	171	Rahim Yar Khan-	132	107.6	112.2	117.1	109.3	114	116.8	121.9	126.8	132	136.4	141
40	181	Sadiq Abad	132	88	92	96.3	100.7	105.2	103	107.6	112.1	116.7	120.5	124.5
41	183	Sahiwal Old	132	42.7	50.8	52.8	54.9	57	59.1	61.4	63.8	66.3	68.7	71.1
42	186	Sama Satta	132	22.9	23.8	24.8	25.8	26.8	27.9	29	30.1	31.2	32.2	33.2
43	196	Noor Pur	132	36.1	37.7	36	37.7	39.5	41.3	43.2	45.1	47	48.9	50.9
44	216	Taunsa	132	37.6	39.6	41.7	43.6	45.6	47.7	49.9	52	54.2	56	57.9
45	219	Vehari	132	70.7	76.1	81.8	87.8	81.3	87	92.9	98.7	104.8	110.4	116.3
46	220	Vehari Road	132	74.6	81.8	85.5	89.4	78.1	81.5	85.1	88.6	92.2	95.1	98.1
47	229	Ali Pur	132	31.5	33.1	34.8	36.5	38.3	40.2	42.2	44	45.9	47.5	49.1
48	253	66 KV Chishtian	66	7.9	8.3	8.7	9	9.4	9.8	10.3	10.7	11.1	11.4	11.7
49	261	Dahran wala	132	18.1	19	19.9	20.8	21.7	22.7	23.8	24.7	25.7	26.4	27.1
50	274	Fazil Pur	132	18.4	19.2	20.1	21	21.9	22.9	23.9	24.9	25.9	26.7	27.5
51	276	Fort Abbas	132	12.3	13.2	14	15	15.9	16.9	18	19	20	21	22
52	285	Jalal Pur Pirwa	132	68.8	72.4	76.2	80.1	77.2	81.1	85.2	89.2	93.3	97	100.9
53	293	Jam Pur Dajal R	66	11.6	12.2	12.8	13.3	13.9	14.5	15.2	15.8	16.4	16.9	17.4
54	297	Khair Pur Tamew	132	29.9	32	34.1	36.4	38.8	41.3	43.8	46.4	49.1	51.7	54.4
55	313	Lal Sohanra	132	10.2	10.6	11.1	11.5	12	12.5	13	13.5	14	14.4	14.9
56	316	Layyah	132	63.9	67	70.1	73.2	32.1	33.4	34.9	36.2	37.6	38.6	39.7
57	317	Ludden	132	34.9	37.5	40.3	43.2	46.3	49.4	52.7	56	59.4	62.8	66.3
58	327	Mclod Gunj	66	17.9	19.7	21.6	23.2	24.9	26.6	28.4	30.1	31.9	33.5	35.1

S .No	Grid No	Name of Grid Station	KV	Year										
59	354	Rajan Pur	132	37	38.6	40.3	42.1	43.8	45.7	47.7	49.5	51.4	52.9	54.5
60	374	Shujabad	132	65.8	69.1	72.5	76.1	71.6	75.1	78.8	82.3	86	89.1	92.3
61	376	Head Sidhnai	132	29.9	31.7	33.4	35.2	37.1	39	41	43	45	46.7	48.4
62	397	66 KV Kot Khali	66	14.9	16.3	17.7	19	20.4	21.8	23.3	24.7	26.1	27.3	28.5
63	404	Yazman	132	25.1	26.3	27.5	28.6	29.8	31	32.3	33.6	34.8	35.7	36.7
64	472	Hasil Pur	132	48.8	51.7	54.7	58	61.3	64.9	68.6	72.2	76	79.3	82.7
65	528	Chak 211/WB	132	35.4	38	40.7	43.4	46.2	49.2	52.2	55.2	58.3	61	63.9
66	530	Feroza	132	18	18.7	19.5	20.3	21.1	21.9	22.8	23.6	24.5	25.1	25.8
67	531	Jamal Din Wali	132	44.2	46.1	48	49.4	51.5	53.6	55.9	58.1	60.4	62.5	64.8
68	533	Khan Bela	132	35.5	37.8	40.1	42.1	44.2	46.4	48.6	50.8	53	54.7	56.4
69	534	Mian Wali Qures	132	46.3	50.1	54.1	55.4	51.7	55.1	58.8	62.3	66	69.1	72.4
70	535	Sakhi Sarwar	132	9.9	10.4	11.1	11.6	12.1	12.7	13.3	13.9	14.5	15.1	15.7
71	536	Sheikh Fazil	132	47.7	50.5	53.5	49.2	52.1	51.9	54.8	57.8	60.9	63.7	66.6
72	537	Sahuka	132	40.8	43.7	46.8	48.8	52.1	55.5	59.1	62.6	66.3	70.1	73.9
73	538	Chak 83/12-L	132	32.6	34.5	36.5	38.7	40.9	43.2	45.6	47.9	50.3	52.6	55
74	540	66 KV Dajal	66	7.6	8	8.4	8.7	9.2	9.6	10	10.4	10.9	11.3	11.7
75	541	Faqirwali	132	14.2	15.1	16.1	17.1	18.1	19.1	20.2	21.3	22.3	23.2	24
76	542	66 KV Karor Lal	66	28.1	29.7	31.4	33	34.6	36.3	38.1	39.8	41.6	43	44.6
77	543	Kot Sultan	66	17.9	18.9	19.9	20.8	21.7	22.7	23.7	24.6	25.6	26.3	27
78	544	Kot Chutta	132	23.4	24.3	25.3	26.3	27.3	28.4	29.5	30.6	31.7	32.5	33.3

S .No	Grid No	Name of Grid Station	KV	Year										
79	545	Minchinabad	66	22.2	24	26	27.7	29.6	31.5	33.5	35.4	37.4	39.2	41.1
80	546	Noor Sar	132	20	21.9	21.2	22.9	24.6	26.4	28.3	30.2	32.1	33.8	35.5
81	547	Shah Sadar Din	132	19	20.2	21.4	22.5	18.5	19.4	20.4	21.2	22.2	22.9	23.7
82	548	Shahdan Lund	132	17.8	18.8	19.8	20.7	21.6	22.5	23.5	24.5	25.6	26.7	27.8
83	549	66 KV Rang Pur	66	11.2	11.9	12.7	13.4	14.2	15	15.9	16.8	17.6	18.5	19.3
84	550	66 KV Nawan Kot	66	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9
85	551	Sahiwal New	132	50.3	52.6	55.1	57.7	60.5	51.2	53.6	55.9	58.2	60	61.8
86	552	Mailsi	132	71	76.7	82.7	79.3	74.8	80	85.4	90.8	96.4	101.6	106.9
87	584	500 KV Yousaf W	220	38.8	40.4	42.1	43.8	45.6	47.5	49.5	51.4	53.3	54.8	56.4
88	589	Rojhan	132	8.3	8.8	9.3	9.7	10.2	10.7	11.2	11.7	12.2	12.6	13
89	602	Chotti Zarin	66	16.9	18.2	19.5	20.9	22.3	23.8	25.4	27	28.6	30.2	31.9
90	606	Maroot	66	28.3	29.9	31.6	33.3	35.2	37.1	39.1	41.1	43.1	45.2	47.4
91	626	Baghdad ul Jadi	132	48.3	50.5	52.6	54.8	42.3	44.1	46	47.8	49.8	51.3	52.8
92	642	Fateh Pur	132	24	25.3	26.7	28.1	29.6	31.1	32.6	34.1	35.7	36.9	38.1
93	685	Karam Pur	132	43	46.3	49.7	53.2	52.8	56.3	59.9	63.5	67.3	70.8	74.4
94	705	Fort Manro	132	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2
95	706	DG Cement Facto	132	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
96	724	PARCO	132	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
97	728	Chishtian	132	49.7	52	54.3	56.8	59.4	62.1	65	67.7	70.6	73.1	75.7
98	729	CTM Ismailabad	132	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9

S .No	Grid No	Name of Grid Station	KV	Year										
99	730	Chowk Azam	132	28.8	30.3	31.8	33.2	34.7	36.3	37.9	39.5	41	42.2	43.4
100	743	Jam Pur	132	20.5	21.5	22.4	23.4	24.4	25.5	26.6	27.7	28.8	29.5	30.3
101	763	Qasim Bagh	132	35	36.3	37.7	39.2	40.6	42.2	43.8	45.3	46.9	48	49.1
102	766	Makhdom Rasheed	132	32.7	34.4	36.2	38.1	40	42	44.1	46.1	48.2	50.2	52.2
103	767	Rahim Yar Khan-	132	61.5	64.6	67.8	71.1	72.8	70.4	73.9	77.2	80.7	83.3	86.1
104	769	Khan Garh	132	16	16.8	17.7	15.9	16.7	17.5	18.3	19.1	20	20.6	21.2
105	773	Chuna Wala	132	6.1	6.4	6.7	7.1	7.4	7.8	8.2	8.6	9	9.3	9.6
106	775	Coca Cola	132	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
107	780	Lar	132	31.2	32.6	34	35.6	37.2	38.8	40.5	42.3	44	45.8	47.6
108	806	220 KV Vehari	220	40.8	44	47.2	50.4	48.2	28.9	30.8	32.6	34.4	36	37.7
109	815	220 KV Nauabad	220	24.6	25.8	27	28.3	29.6	30.9	32.3	33.7	35.1	36.3	37.5
110	818	220 KV PARCO Gu	220	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
111	852	Head Rajkan	66	11.7	12.7	13.8	14.9	16.1	17.2	18.5	19.7	21	22	23.1
112	891	Alhamd Textile	132	11.2	11.2	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
113	924	Haroonabad	132	29.7	31.7	29.3	31.1	33	35	37.1	39.1	41.2	42.9	44.6
114	927	Kahror Pacca	132	77.5	80.9	84.4	88.2	92.1	96.1	100.4	104.5	108.8	112.8	117
115	932	Uch Sharif	132	28.9	32.3	35.8	39.3	42.9	46.7	50.5	54.4	58.3	61.8	65.4
116	933	PMDC DG Khan	132	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
117	934	PAEC	132	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
118	959	Ahamad Hassan T	132	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4

S .No	Grid No	Name of Grid Station	KV	Year										
119	982	Dunya Pur	132	34.9	36.7	38.7	40.6	42.7	44.8	47.1	49.2	51.5	53.5	55.6
120	989	Burewala old	132	33.8	36.3	38.8	41.5	41.4	44.2	47	49.9	52.8	55.5	58.3
121	1041	WAPDA Town	132	51	53.5	56.1	58.9	61.7	64.7	67.8	70.8	74	76.4	78.9
122	1058	Nawazabad	132	33.2	34.7	36.3	38	39.8	41.7	43.6	45.5	47.5	49.4	51.4
123	1059	Makhdoom Pur	132	28.1	29.5	31	32.6	34.2	35.9	37.7	39.3	41.1	42.6	44.2
124	1068	Bahawal Pur Can	132	28.8	30	31.3	32.5	33.9	35.3	36.8	38.2	39.7	40.7	41.8
125	1072	Jail Road	132	36.7	38.4	40.2	42	43.9	46	48.1	50.1	52.1	53.7	55.3
126	1089	Sahiwal-III	132	38.5	41.1	42.9	44.8	46.8	36.8	38.4	40	41.6	43	44.4
127	1093	Bati Banglow	132	14.1	14.9	15.7	16.5	17.3	18.2	19.1	20	20.9	21.7	22.6
128	1099	D.G. Khan-II	132	41.1	43.1	45	47	43.4	45.3	47.2	49.1	51	52.4	53.9
129	1113	Kameer	132	30.2	31.6	32.9	34.4	35.9	34.9	36.4	37.9	39.5	40.9	42.4
130	1115	Maan Kot	132	15.2	16	16.9	17.8	18.7	19.6	20.6	21.6	22.6	23.7	24.8
131	1118	Miran Pur	132	28.5	30.1	31.9	33.7	32.9	34.7	36.5	38.3	40.2	42	43.9
132	1123	Hota	132	35.5	37	38.6	40.4	42.2	32.4	33.9	35.3	36.7	38.2	39.6
133	1148	Mubarak Pur	132	28.4	31	33.7	36.5	39.3	42.3	45.3	48.4	51.5	54.3	57.2
134	1151	66 KV Bakhshan	66	5.3	5.6	5.9	6.2	6.6	6.9	7.2	7.6	7.9	8.2	8.5
135	1174	PGHS	132	14.8	23.2	24.4	25.6	16.9	17.7	18.6	19.4	20.3	21	21.8
136	1182	Sanjar Pur	132	27.2	28.4	29.7	31	32.4	33.9	35.4	36.8	38.3	39.4	40.6
137	1193	Fatima Energy	132	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
138	1197	Bahawal Nagar-I	132	12.8	13.7	14.7	15.7	16.7	17.8	18.9	20	21.2	22.1	23

S .No	Grid No	Name of Grid Station	KV	Year										
139	1203	Kassowal	132	14.5	15.2	16	16.8	17.7	18.6	19.5	20.5	21.5	22.4	23.4
140	1208	Khichi Wala	132	7.5	7.8	8.2	8.5	8.9	9.3	9.6	10	10.4	10.6	10.9
141	1219	Khan Pur Bagga	132	15.7	23.7	24.7	25.7	26.6	27.7	28.8	29.9	31	32.1	33.2
142	1229	Buch Villas	132	10.9	11.5	12.1	12.8	13.5	14.2	14.9	15.7	16.4	17	17.6
143	1231	S.M. Food	132	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
144	1232	RYK industrial	132	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
145	1233	DHA-1	132	0	0	0	0	0	50	70	80	80	80	80
146	1234	DHA-2	132	0	25	35	45	50	50	50	50	50	50	50
147	1235	DHA-3	132	0	0	0	0	0	0	0	0	0	20	60
148	1236	DHA-4	132	0	0	5	25	50	50	50	50	50	50	50
149	1237	DHA-5	132	0	0	0	0	0	0	0	0	40	70	80
150	1238	DHA-6	132	0	0	0	0	0	0	30	70	80	80	80
151	1239	FCCL	132	0	0	45	45	45	45	45	45	45	45	45
152	1240	Nishter-II	132	0	0	0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
153	1241	MTN Industrial	132	0	0	5	10	15	20	25	35	50	65	80
154	1242	BWP Industrial	132	0	0	0	5	10	15	20	25	35	50	65
155	1243	Vehari Industri	132	0	0	0	5	10	15	20	25	30	40	50
156	1244	M.Garh Industri	132	0	0	0	5	10	15	20	25	30	45	60
157	4001	Donga Bonga	132	0	0	9.7	10.3	11	11.7	12.4	13.1	13.8	14.3	14.9
158	4002	Musa Virk	132	0	0	16.6	17.4	18.2	19.1	20	20.9	21.9	22.8	23.7

S .No	Grid No	Name of Grid Station	KV	Year											
159	4003	Lodhran- II	132	0	0	21	22	23.2	24.3	25.6	26.7	28	29.1	30.3
160	4004	Pakpattan-II	132	0	0	18.2	19	19.9	20.8	21.7	22.7	23.6	24.6	25.6
161	4005	RYK - III	132	0	0	0	15.9	16.7	17.5	18.3	19.1	20	20.8	21.6
162	4006	Arif Wala - II	132	0	0	0	18.7	19.5	20.3	21.2	22	22.9	23.7	24.5
163	4007	Rawan Road	132	0	0	0	24.4	25.2	26.1	27.1	28.1	29.1	30.1	31.2
164	4008	Gaggo	132	0	0	0	12	12.8	13.5	14.3	15.1	16	16.7	17.5
165	4009	Shah Jamal	132	0	0	0	18.4	19.3	20.3	21.3	22.3	23.3	24.1	24.9
166	4010	Array Wahan	132	0	0	0	9.4	10	10.7	11.4	12.1	12.9	13.6	14.4
167	4011	Khanewal - II	132	0	0	0	0	29.4	30.9	32.4	33.8	35.3	36.8	38.2
168	4012	Machiwal	132	0	0	0	0	19.2	20.5	21.9	23.2	24.7	26	27.4
169	4013	Piran Gaib	132	0	0	0	0	25.2	26.4	27.7	28.9	30.1	31.1	32.1
170	4014	MTN New Industr	132	0	0	0	0	15.6	16.3	16.9	17.6	18.3	18.9	19.6
171	4015	Layyah - II	132	0	0	0	0	44.3	46.3	48.3	50.3	52.3	53.7	55.2
172	4016	Kot Samaba	132	0	0	0	0	15.7	16.6	17.6	18.5	19.5	20.4	21.3
173	4017	D.G. Khan - III	132	0	0	0	0	18.5	19.3	20.2	21	21.9	22.6	23.2
174	4018	Makhdoom Jahani	132	0	0	0	0	17.8	18.8	19.7	20.6	21.6	22.5	23.4
175	4019	Bahawalpur - II	132	0	0	0	0	14.9	15.6	16.3	17	17.7	18.2	18.8
176	4020	Muzaffer Garh -	132	0	0	0	0	22.1	23	23.9	24.8	25.8	26.5	27.3
177	4021	Sargana	132	0	0	0	0	26.1	27.9	29.7	31.6	33.5	35.3	37.2
178	4022	Vehari - II	132	0	0	0	0	0	28.8	30.5	32.2	33.9	35.6	37.3

S .No	Grid No	Name of Grid Station	KV	Year										
179	4023	Koray Shah	132	0	0	0	0	0	38	39.7	41.5	43.3	45.1	47
180	4024	Chowk Maralay	132	0	0	0	0	0	27.6	28.8	29.9	31.1	32.2	33.3
181	4025	Sadiqabad - II	132	0	0	0	0	0	16	16.8	17.4	18.2	18.7	19.2
182	4026	Jalal kot	132	0	0	0	0	0	24.4	25.5	26.6	27.8	29	30.2
183	4027	157/9-L Chowk	132	0.0	0	0	0	0	11.4	12	12.5	13.1	13.7	14.3
184	0	TOTAL DISCO:	0	**5166.1**	**5518.1**	**5869.6**	**6217.2**	**6566.3**	**6948.8**	**7344.7**	**7737.9**	**8152.7**	**8545.4**	**8945.9**

Table 1-28: Family of Grids (Existing, Proposed & Transit Grid)

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
					2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
1	1	4001	Donga Bonga	132	0	0	0	0	0	0	0	0	0	0	0
2	1	9	Bahawal Nagar-I	132	48.6	55.8	63.4	69.8	76.4	83	89.8	96.6	103.4	110.4	117.4
3	1	5001	Bahawal Nagar-I	0	2.2	2.5	2.9	3.1	3.4	3.6	3.9	4.2	4.4	4.7	5
4	2	4001	Donga Bonga	132	0	0	0	0	0	0	0	0	0	0	0
5	2	546	Noor Sar	132	17.9	22.5	27.2	30.9	34.7	38.6	42.4	46.3	50.2	54.2	58.1
6	2	5002	Noor Sar-Donga	0	2.3	2.9	3.5	3.9	4.3	4.7	5.2	5.6	6	6.5	6.9
7	3	4001	Donga Bonga	132	0	0	0	0	0	0	0	0	0	0	0
8	3	924	Haroonabad	132	26.1	29.4	33	36.2	39.5	42.9	46.4	50	53.5	57.1	60.8
9	3	5003	Haroonabad-Dong	0	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	8.4	9
10	4	4002	Musa Virk	132	0	0	0	0	0	0	0	0	0	0	0
11	4	133	Mian Channu	132	77.6	82.6	88	92.2	96.6	101.1	105.8	110.6	115.3	120	124.8
12	4	5004	Mian Channu-Mus	0	15.3	16.2	17.2	18	18.8	19.7	20.6	21.4	22.3	23.2	24.1
13	5	4003	Lodhran- II	132	0	0	0	0	0	0	0	0	0	0	0
14	5	123	Lodhran	132	89.1	96.8	103.9	109.4	115.1	121	127.2	133.4	139.5	149.2	150.4
15	5	5005	Lodhran-Lodhran	0	19.1	20.6	22.1	23.3	24.6	25.8	27.1	28.5	29.8	31.1	32.5
16	6	4004	Pakpattan-II	132	0	0	0	0	0	0	0	0	0	0	0
17	6	154	Pakpattan	132	62.8	65.7	68.6	71	73.4	76	78.5	81.1	83.7	86.4	89

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
18	6	5006	Pakpattan-Pakpa	0	13.7	14.2	14.8	15.3	15.8	16.3	16.8	17.3	17.9	18.4	18.9
19	7	4004	Pakpattan-II	132	0	0	0	0	0	0	0	0	0	0	0
20	7	196	Noor Pur	132	33.3	34.8	36.4	37.8	39.2	40.7	42.1	43.6	45.1	46.5	48
21	7	5007	Noor Pur-Pakpat	0	3.2	3.3	3.5	3.7	3.8	4	4.1	4.3	4.5	4.6	4.8
22	8	4005	RYK - III	132	0	0	0	0	0	0	0	0	0	0	0
23	8	171	Rahim Yar Khan-	132	95.7	99.6	104.3	108	112	116	120.2	124.5	128.8	133.1	137.6
24	8	5008	Rahim Yar Khan-	0	11.3	11.9	12.4	12.9	13.4	14	14.5	15.1	15.6	16.2	16.8
25	9	4005	RYK - III	132	0	0	0	0	0	0	0	0	0	0	0
26	9	531	Jamal Din Wali	132	44.2	45.4	46.7	47.5	48.3	49.1	50	50.9	51.8	52.7	53.6
27	9	5009	Jamal Din Wali-	0	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
28	10	4005	RYK - III	132	0	0	0	0	0	0	0	0	0	0	0
29	10	534	Mian Wali Qures	132	38.9	46.7	54.7	61	67.4	73.9	80.6	87.3	94.1	101	108
30	10	5010	Mian Wali Qures	0	2.1	2.3	2.6	2.9	3.1	3.4	3.6	3.9	4.1	4.4	4.7
31	11	4006	Arif Wala - II	132	0	0	0	0	0	0	0	0	0	0	0
32	11	5	Arifwala	132	64.1	66.3	68.6	70.3	72.2	74	76	77.9	79.9	81.9	83.9
33	11	5011	Arifwala-Arif W	0	16.7	17.3	17.8	18.3	18.8	19.2	19.7	20.2	20.7	21.2	21.7
34	12	4007	Rawan Road	132	0	0	0	0	0	0	0	0	0	0	0
35	12	104	Khanewal Road	132	72.1	78.5	82.5	85.6	88.8	91.9	95.1	98.3	101.6	104.8	108.1
36	12	5012	Khanewal Road-R	0	20.1	22.6	23.3	23.9	24.5	25	25.5	26	26.5	27.1	27.6

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
37	13	4008	Gaggo	132	0	0	0	0	0	0	0	0	0	0	0
38	13	537	Sahuka	132	40.2	46.9	53.6	59.9	66.2	72.6	79.1	85.6	92.1	98.6	105.1
39	13	5013	Sahuka-Gaggo	0	1	1.2	1.3	1.5	1.7	1.8	2	2.1	2.3	2.5	2.6
40	14	4008	Gaggo	132	0	0	0	0	0	0	0	0	0	0	0
41	14	20	Azeemabad	132	66	75.8	85.9	95.5	105.2	115.2	125.5	136	146.5	157.1	168
42	14	5014	Azeemabad-Gaggo	0	2.8	3.3	3.7	4.2	4.6	5	5.5	6	6.4	6.9	7.4
43	15	4008	Gaggo	132	0	0	0	0	0	0	0	0	0	0	0
44	15	536	Sheikh Fazil	132	39.5	43.7	48.2	52.3	56.6	61.1	65.8	70.5	75.4	80.5	85.6
45	15	5015	Sheikh Fazil-Ga	0	6.3	7	7.6	8.3	9	9.6	10.3	11.1	11.8	12.6	13.4
46	16	4009	Shah Jamal	132	0	0	0	0	0	0	0	0	0	0	0
47	16	131	Mahra Khas	132	31.6	34.1	36.5	38.6	40.7	42.8	45	47.2	49.5	51.7	53.9
48	16	5016	Mahra Khas-Shah	0	9.7	10.4	11.2	11.8	12.5	13.1	13.8	14.5	15.2	15.9	16.6
49	17	4009	Shah Jamal	132	0	0	0	0	0	0	0	0	0	0	0
50	17	52	Gujrat South	132	30.9	34	37.1	39.7	42.4	45.1	47.9	50.7	53.5	56.4	59.2
51	17	5017	Gujrat South-Sh	0	3.9	4.3	4.7	5	5.4	5.7	6.1	6.5	6.8	7.2	7.6
52	18	4009	Shah Jamal	132	0	0	0	0	0	0	0	0	0	0	0
53	18	769	Khan Garh	132	13.8	14.8	15.9	16.7	17.6	18.5	19.4	20.4	21.3	22.3	23.2
54	18	5018	Khan Garh-Shah	0	2.3	2.5	2.7	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8
55	19	4010	Array Wahan	132	0	0	0	0	0	0	0	0	0	0	0

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
56	19	552	Mailsi	132	56.4	67.6	79	89.1	99.3	109.7	120.3	131	141.8	152.7	163.7
57	19	5019	Mailsi-Array W	0	7.6	9	10.5	11.8	13.1	14.4	15.7	17.1	18.4	19.8	21.2
58	20	4011	Khanewal - II	132	0	0	0	0	0	0	0	0	0	0	0
59	20	103	Khanewal	132	65.3	69.1	73.1	76.4	79.8	83.3	86.8	90.5	94.1	97.8	101.6
60	20	5020	Khanewal-Khanew	0	24.5	26.2	27.9	29.3	30.8	32.3	33.8	35.4	37	38.5	40.1
61	21	4012	Machiwal	132	0	0	0	0	0	0	0	0	0	0	0
62	21	989	Burewala old	132	32	37.2	42.5	47.6	52.7	58	63.4	68.8	74.4	79.9	85.6
63	21	5021	Burewala old-Ma	0	2.2	2.6	3	3.3	3.7	4	4.4	4.8	5.2	5.6	6
64	22	4012	Machiwal	132	0	0	0	0	0	0	0	0	0	0	0
65	22	20	Azeemabad	132	66	75.8	85.9	95.5	105.2	115.2	125.5	136	146.5	157.1	168
66	22	5022	Azeemabad-Machi	0	2.8	3.2	3.7	4.1	4.5	4.9	5.4	5.8	6.2	6.7	7.2
67	23	4012	Machiwal	132	0	0	0	0	0	0	0	0	0	0	0
68	23	219	Vehari	132	61.8	73.1	84.8	95.9	107.2	118.7	130.6	142.7	154.8	167	179.5
69	23	5023	Vehari-Machiwal	0	9.6	11.5	13.3	15.1	16.9	18.8	20.7	22.6	24.5	26.5	28.4
70	24	4013	Piran Gaib	132	0	0	0	0	0	0	0	0	0	0	0
71	24	1174	PGHS	132	9.1	15.2	16.4	17.4	18.4	19.5	20.5	21.6	22.7	23.7	24.7
72	24	5024	PGHS-Piran Gaib	0	5.8	9	9.7	10.3	11	11.6	12.3	13	13.6	14.3	15
73	25	4013	Piran Gaib	132	0	0	0	0	0	0	0	0	0	0	0
74	25	220	Vehari Road	132	62.8	69.4	72.9	75.8	78.8	81.8	84.9	88.1	91.4	94.7	98

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
75	25	5025	PGHS-Piran Gaib	0	12.5	13.6	14.3	14.9	15.5	16.1	16.8	17.5	18.2	18.9	19.6
76	26	4014	MTN New Industr	132	0	0	0	0	0	0	0	0	0	0	0
77	26	65	Industrial Esta	132	68.3	70.3	73.1	75.6	78.1	80.4	82.8	85.2	87.6	90	92.3
78	26	5026	Industrial Esta	0	13.4	13.9	14.5	15	15.6	16.1	16.6	17.1	17.6	18.1	18.6
79	27	4015	Layyah - II	132	0	0	0	0	0	0	0	0	0	0	0
80	27	316	Layyah	132	27.2	28.5	30	30.8	31.8	32.7	33.7	34.7	35.7	36.7	37.7
81	27	5027	Layyah-Layyah -	0	37.4	39.4	41.5	42.7	44.1	45.5	47	48.4	50	51.5	53
82	28	4016	Kot Samaba	132	0	0	0	0	0	0	0	0	0	0	0
83	28	534	Mian Wali Qures	132	38.9	46.7	54.7	61	67.4	73.9	80.6	87.3	94.1	101	108
84	28	5028	Mian Wali Qures	0	5.8	6.7	7.7	8.5	9.2	10	10.8	11.6	12.4	13.2	14
85	29	4016	Kot Samaba	132	0	0	0	0	0	0	0	0	0	0	0
86	29	767	Rahim Yar Khan-	132	55.9	59.7	63.7	66.7	70	73.7	77.6	81.7	85.8	90.2	94.7
87	29	5029	Rahim Yar Khan-	0	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4
88	30	4016	Kot Samaba	132	0	0	0	0	0	0	0	0	0	0	0
89	30	102	Khan Pur	132	64.3	73.4	82.8	90.9	99.2	107.6	116.2	124.9	133.7	142.6	151.6
90	30	5030	Khan Pur-Kot Sa	0	5.1	5.7	6.4	7	7.6	8.2	8.9	9.5	10.2	10.8	11.5
91	31	4017	D.G. Khan - III	132	0	0	0	0	0	0	0	0	0	0	0
92	31	33	D.G.Khan-I	132	29.5	32.3	33.9	35.1	36.3	37.6	39	40.5	42	43.6	45.2
93	31	5031	D.G.Khan-I-D.G.	0	6.5	6.9	7.3	7.6	7.9	8.2	8.5	8.9	9.2	9.6	9.9

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
94	32	4017	D.G. Khan - III	132	0	0	0	0	0	0	0	0	0	0	0
95	32	1099	D.G. Khan-II	132	36.8	38.4	40.1	41.2	42.3	43.5	44.7	46	47.2	48.5	49.8
96	32	5032	D.G. Khan-II-D.	0	4.8	5	5.2	5.3	5.4	5.6	5.7	5.8	6	6.1	6.3
97	33	4017	D.G. Khan - III	132	0	0	0	0	0	0	0	0	0	0	0
98	33	547	Shah Sadar Din	132	15.1	16.9	18.9	19.8	20.7	21.6	22.6	23.6	24.6	25.6	26.6
99	33	5033	Shah Sadar Din-	0	4.1	4.6	5.2	5.4	5.6	5.8	6	6.3	6.5	6.7	7
100	34	4018	Makhdoom Jahani	132	0	0	0	0	0	0	0	0	0	0	0
101	34	374	Shujabad	132	59.6	63.6	67.7	71	74.5	78.2	82	86	89.9	93.8	97.9
102	34	5034	Shujabad-Makhdo	0	6.9	7.3	7.7	8.1	8.4	8.8	9.2	9.6	10	10.4	10.8
103	35	4018	Makhdoom Jahani	132	0	0	0	0	0	0	0	0	0	0	0
104	35	1118	Miran Pur	132	26.8	29.2	31.6	33.6	35.6	37.7	39.8	41.9	44	46.1	48.2
105	35	5035	Miran Pur-Makhd	0	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6	3.8	4
106	36	4018	Makhdoom Jahani	132	0	0	0	0	0	0	0	0	0	0	0
107	36	285	Jalal Pur Pirwa	132	63.7	68.6	73.6	77.8	82.2	86.6	91.1	95.6	100.1	104.7	109.3
108	36	5036	Jalal Pur Pirwa	0	5.8	6.3	6.7	7.1	7.5	7.9	8.3	8.7	9.1	9.5	10
109	37	4019	Bahawalpur - II	132	0	0	0	0	0	0	0	0	0	0	0
110	37	626	Baghdad ul Jadi	132	36.1	37.4	38.8	39.8	41	42.4	43.9	45.5	47.1	48.8	50.6
111	37	5037	Baghdad ul Jadi	0	12.7	13.2	13.7	14.1	14.5	15	15.6	16.2	16.8	17.4	18.1
112	38	4020	Muzaffer Garh -	132	0	0	0	0	0	0	0	0	0	0	0

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
113	38	140	Muzaffar Garh	132	76.2	80.3	82.3	83.8	85.4	86.8	88.4	90	91.6	93.3	95.1
114	38	5038	Muzaffar Garh-M	0	15.6	16.2	16.7	16.9	17.3	17.6	18	18.3	18.7	19.1	19.6
115	39	4020	Muzaffer Garh -	132	0	0	0	0	0	0	0	0	0	0	0
116	39	52	Gujrat South	132	30.9	34	37.1	39.7	42.4	45.1	47.9	50.7	53.5	56.4	59.2
117	39	5039	Gujrat South-Mu	0	3.1	3.4	3.7	4	4.2	4.5	4.8	5.1	5.4	5.6	5.9
118	40	4021	Sargana	132	0	0	0	0	0	0	0	0	0	0	0
119	40	806	220 KV Vehari	220	20.8	24.6	28.5	31.6	34.8	38.1	41.4	44.9	48.4	51.9	55.5
120	40	5040	220 KV Vehari-S	0	4.2	5	5.8	6.5	7.2	7.8	8.6	9.3	10	10.7	11.5
121	41	4021	Sargana	132	0	0	0	0	0	0	0	0	0	0	0
122	41	685	Karam Pur	132	40.3	47.5	54.8	61.1	67.5	74	80.6	87.2	93.9	100.5	107.2
123	41	5041	Karam Pur-Sarga	0	3.1	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.3	7.8	8.3
124	42	4021	Sargana	132	0	0	0	0	0	0	0	0	0	0	0
125	42	42	Garah More	132	27.7	33.5	39.4	44.3	49.2	54.2	59.3	64.4	69.4	74.4	79.5
126	42	5042	Garah More-Sarg	0	4.8	5.8	7	7.9	8.9	9.9	10.9	11.9	12.9	13.8	14.8
127	43	4021	Sargana	132	0	0	0	0	0	0	0	0	0	0	0
128	43	552	Mailsi	132	56.4	67.6	79	89.1	99.3	109.7	120.3	131	141.8	152.7	163.7
129	43	5043	Mailsi-Sargana	0	7.7	9.1	10.5	11.8	13.1	14.4	15.7	17.1	18.4	19.8	21.1
130	44	4022	Vehari - II	132	0	0	0	0	0	0	0	0	0	0	0
131	44	806	220 KV Vehari	220	20.8	24.6	28.5	31.6	34.8	38.1	41.4	44.9	48.4	51.9	55.5

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
132	44	5044	220 KV Vehari-V	0	16.2	19.1	22	24.5	27	29.5	32.2	34.8	37.5	40.2	43
133	45	4022	Vehari - II	132	0	0	0	0	0	0	0	0	0	0	0
134	45	1089	Sahiwal-III	132	29.5	31.3	32.6	33.6	34.8	36	37.3	38.7	40.2	41.8	43.4
135	45	5045	Sahiwal-III-Veh	0	4.9	5.4	5.6	5.8	6.1	6.3	6.6	6.9	7.1	7.4	7.7
136	46	4023	Koray Shah	132	0	0	0	0	0	0	0	0	0	0	0
137	46	183	Sahiwal Old	132	43	50.7	52.5	54	55.6	57.1	58.6	60.2	61.8	63.5	65.2
138	46	5046	Sahiwal Old-Kor	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
139	47	4023	Koray Shah	132	0	0	0	0	0	0	0	0	0	0	0
140	47	551	Sahiwal New	132	41	43.2	45.5	47.4	49.5	51.8	54.2	56.7	58.9	61.1	63.3
141	47	5047	Sahiwal New-Kor	0	9.7	10.3	10.9	11.4	11.9	12.5	13.1	13.6	14.2	14.8	15.3
142	48	4023	Koray Shah	132	0	0	0	0	0	0	0	0	0	0	0
143	48	1089	Sahiwal-III	132	29.5	31.3	32.6	33.6	34.8	36	37.3	38.7	40.2	41.8	43.4
144	48	5048	Sahiwal-III-Kor	0	4.5	4.9	5.2	5.4	5.7	6	6.3	6.6	6.9	7.3	7.6
145	49	4023	Koray Shah	132	0	0	0	0	0	0	0	0	0	0	0
146	49	165	Qabula	132	34.3	35.9	37.4	38.4	39.4	40.5	41.6	42.7	43.8	44.9	46
147	49	5049	Qabula-Koray Sh	0	11.1	11.5	11.9	12.2	12.6	12.9	13.2	13.5	13.9	14.2	14.5
148	50	4023	Koray Shah	132	0	0	0	0	0	0	0	0	0	0	0
149	50	1123	Hota	132	26.4	27.3	28.3	29	29.8	30.5	31.3	32.1	32.9	33.7	34.6
150	50	5050	Hota-Koray Shah	0	5	5.2	5.4	5.5	5.6	5.8	5.9	6.1	6.2	6.4	6.5

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
151	51	4024	Chowk Maralay	132	0	0	0	0	0	0	0	0	0	0	0
152	51	5	Arifwala	132	64.1	66.3	68.6	70.3	72.2	74	76	77.9	79.9	81.9	83.9
153	51	5051	Arifwala-Chowk	0	4.3	4.4	4.6	4.7	4.8	4.9	5	5.1	5.2	5.3	5.4
154	52	4024	Chowk Maralay	132	0	0	0	0	0	0	0	0	0	0	0
155	52	165	Qabula	132	34.3	35.9	37.4	38.4	39.4	40.5	41.6	42.7	43.8	44.9	46
156	52	5052	Qabula-Chowk Ma	0	18.2	19	19.8	20.3	20.9	21.4	22	22.6	23.1	23.7	24.3
157	53	4025	Sadiqabad - II	132	0	0	0	0	0	0	0	0	0	0	0
158	53	181	Sadiq Abad	132	83.2	87.2	91.5	94.8	98.4	102	105.7	109.5	113.3	117	120.9
159	53	5053	Sadiq Abad-Sadi	0	5.7	5.9	6.2	6.5	6.7	6.9	7.2	7.4	7.7	7.9	8.2
160	54	4025	Sadiqabad - II	132	0	0	0	0	0	0	0	0	0	0	0
161	54	171	Rahim Yar Khan-	132	95.7	99.6	104.3	108	112	116	120.2	124.5	128.8	133.1	137.6
162	54	5054	Rahim Yar Khan-	0	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5	2.6
163	55	4025	Sadiqabad - II	132	0	0	0	0	0	0	0	0	0	0	0
164	55	767	Rahim Yar Khan-	132	55.9	59.7	63.7	66.7	70	73.7	77.6	81.7	85.8	90.2	94.7
165	55	5055	Rahim Yar Khan-	0	4.8	5.1	5.4	5.6	5.9	6.2	6.5	6.8	7.1	7.5	7.8
166	56	4025	Sadiqabad - II	132	0	0	0	0	0	0	0	0	0	0	0
167	56	1113	Kameer	132	28.4	29.5	30.7	31.6	32.5	33.5	34.5	35.5	36.5	37.5	38.5
168	56	5056	Kameer-Sadiqaba	0	0.8	0.9	0.9	0.9	1	1	1	1	1.1	1.1	1.1
169	57	4026	Jalal kot	132	0	0	0	0	0	0	0	0	0	0	0

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
170	57	1123	Hota	132	26.4	27.3	28.3	29	29.8	30.5	31.3	32.1	32.9	33.7	34.6
171	57	5057	Hota-Jalal kot	0	4.4	4.6	4.8	4.9	5	5.1	5.3	5.4	5.5	5.7	5.8
172	58	4026	Jalal kot	132	0	0	0	0	0	0	0	0	0	0	0
173	58	154	Pakpattan	132	62.8	65.7	68.6	71	73.4	76	78.5	81.1	83.7	86.4	89
174	58	5058	Pakpattan-Jalal	0	9.1	9.5	9.9	10.3	10.7	11	11.4	11.8	12.1	12.5	12.9
175	59	4026	Jalal kot	132	0	0	0	0	0	0	0	0	0	0	0
176	59	536	Sheikh Fazil	132	39.5	43.7	48.2	52.3	56.6	61.1	65.8	70.5	75.4	80.5	85.6
177	59	5059	Sheikh Fazil-Ja	0	2.4	2.7	3	3.2	3.5	3.8	4.1	4.4	4.7	5	5.3
178	60	4026	Jalal kot	132	0	0	0	0	0	0	0	0	0	0	0
179	60	5	Arifwala	132	64.1	66.3	68.6	70.3	72.2	74	76	77.9	79.9	81.9	83.9
180	60	5060	Arifwala-Jalal	0	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.8	2.9	2.9	3
181	61	4026	Jalal kot	132	0	0	0	0	0	0	0	0	0	0	0
182	61	1113	Kameer	132	28.4	29.5	30.7	31.6	32.5	33.5	34.5	35.5	36.5	37.5	38.5
183	61	5061	Kameer-Jalal ko	0	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.7
184	62	4027	157/9-L Chowk	132	0	0	0	0	0	0	0	0	0	0	0
185	62	27	Chichawatni	132	61.6	63.7	66	67.8	69.8	71.8	74	76.3	78.7	81.1	83.6
186	62	5062	Chichawatni-157	0	2.4	2.5	2.6	2.7	2.8	2.9	3	3.1	3.2	3.3	3.4
187	63	4027	157/9-L Chowk	132	0	0	0	0	0	0	0	0	0	0	0
188	63	58	Harappa	132	36.6	38.3	40.2	41.8	43.6	45.3	47	48.8	50.6	52.4	54.2

S .No	Group No	Grid No	Name of Grid Station	KV	Year										
189	63	5063	Harappa-157/9-L	0	6.6	7.1	7.6	8.1	8.5	9	9.5	10	10.4	10.9	11.4
	0	0	Total DISCO:	0	3387.1	3692.6	3981.9	4222.8	4472.4	4726	4988.6	5255	5522.1	5796.8	6066.5

Table 1-29: Category-wise (kWh) and (kW) of Substations for Year 2026-27 (Base Forecast)

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
										Private	Public					
1	4027	157/9-L Chowk	132	kWh	26000	1107	3	793	4573	24932	0	0	0	57408	0.90	6.00
				kW	6165	268	1	121	870	6831	0	0	0	11583		
2	815	220 KV Nauabad	132	kWh	42505	3157	21	2253	5012	34504	0	158	0	87610	0.90	15.00
				kW	26957	1502	8	343	953	9453	0	39	0	31403		
3	818	220 KV PARCO Gujrat	132	kWh	0	0	0	0	236056	0	0	0	0	236056	0.93	13.00
				kW	0	0	0	0	32379	0	0	0	0	32379		
4	806	220 KV Vehari	132	kWh	51406	2735	35	1253	4635	22377	0	10	0	82450	0.90	14.00
				kW	27944	1561	13	191	882	6131	0	1	0	29378		
5	584	500 KV Yousaf Wala	132	kWh	102817	15735	307	4375	48129	5719	0	17	0	177100	0.91	22.00
				kW	41918	6909	117	666	9158	1567	0	3	0	48270		
6	1151	66 KV Bakhshan Khan	132	kWh	14900	903	0	1110	807	6033	0	110	0	23863	0.90	3.00
				kW	6075	368	0	169	153	1653	0	22	0	7005		
7	253	66 KV Chishtian	132	kWh	36488	6788	143	537	54	0	0	27	0	44037	0.90	5.00
				kW	10413	1937	54	82	10	0	0	6	0	10002		
8	540	66 KV Dajal	132	kWh	25235	2702	0	354	1321	14152	0	0	0	43762	0.90	5.00
				kW	7202	771	0	54	251	3877	0	0	0	9724		
9	542	66 KV Karor Lal Easo	132	kWh	109477	9335	130	5126	6197	30632	0	0	0	160897	0.90	18.00
				kW	32888	2804	49	780	1180	8392	0	0	0	36875		
10	397	66 KV Kot Khalifa	132	kWh	76103	5445	291	4692	1348	5289	0	0	0	93169	0.90	11.00
				kW	23480	1680	111	714	257	1449	0	0	0	22153		
11	550	66 KV Nawan Kot	132	kWh	4834	548	0	31	186	685	0	0	0	6283	0.90	1.00
				kW	1577	179	0	5	36	188	0	0	0	1587		
12	549	66 KV Rang Pur	132	kWh	17672	2386	0	1415	3331	23346	0	10	0	48161	0.90	7.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	10618	1238	0	215	634	6396	0	2	0	15283		
13	959	Ahamad Hassan Textil	132	kWh	0	0	0	0	22194	0	0	0	0	22194	0.93	2.00
				kW	0	0	0	0	5533	0	0	0	0	5533		
14	2	Ahmad Pur East	132	kWh	191912	18484	5527	14573	10217	46565	0	5099	0	292378	0.90	38.00
				kW	70670	7033	2103	2218	1944	12758	0	1165	0	78313		
15	891	Alhamd Textile	132	kWh	0	0	0	0	63056	0	0	0	0	63056	0.93	6.00
				kW	0	0	0	0	15527	0	0	0	0	15527		
16	229	Ali Pur	132	kWh	104186	9922	473	4373	4601	28195	0	0	0	151751	0.90	20.00
				kW	38366	3236	180	666	875	7725	0	0	0	40838		
17	4006	Arif Wala - II	132	kWh	45006	2672	0	1732	19259	26355	0	0	0	95024	0.90	10.00
				kW	13885	763	0	264	3665	7221	0	0	0	20638		
18	5	Arifwala	132	kWh	188555	17358	43	4893	38947	101985	0	9	0	351789	0.90	38.00
				kW	58174	4954	16	745	7410	27941	0	2	0	79394		
19	4010	Array Wahan	132	kWh	17948	794	0	380	828	24433	0	0	0	44382	0.90	5.00
				kW	6403	283	0	58	157	6694	0	0	0	10876		
20	20	Azeemabad	132	kWh	276604	32328	280	7894	38646	68414	0	21	0	424187	0.90	44.00
				kW	71763	8387	107	1202	7353	18743	0	5	0	91426		
21	1242	BWP Industrial Est	132	kWh	0	0	0	0	66728	0	0	0	0	66728	0.93	6.00
				kW	0	0	0	0	15235	0	0	0	0	15235		
22	626	Baghdad ul Jadid	132	kWh	141167	15607	2009	1682	8726	11976	0	22498	0	203664	0.90	22.00
				kW	40287	4454	765	256	1660	3281	0	5259	0	44769		
23	9	Bahawal Nagar-I	132	kWh	178928	21754	101	9802	67495	51722	0	5841	0	335643	0.90	32.00
				kW	44404	4435	39	1492	12841	14170	0	1335	0	66908		
24	1197	Bahawal Nagar-II	132	kWh	62457	3542	0	1664	9452	3118	0	57	0	80290	0.90	9.00
				kW	17390	986	0	253	1798	854	0	11	0	18099		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
25	8	Bahawal Pur	132	kWh	260791	55266	1104	3646	31173	11496	0	53729	0	417205	0.90	40.00
				kW	62022	12618	420	555	5931	3150	0	12267	0	82418		
26	1068	Bahawal Pur Cantt	132	kWh	126098	17818	461	881	4124	3069	0	8537	0	160988	0.90	17.00
				kW	33476	4843	175	134	785	841	0	1948	0	35872		
27	4019	Bahawalpur - II	132	kWh	53533	5958	279	496	1176	7765	0	1265	0	70472	0.90	8.00
				kW	15278	1700	106	75	224	2127	0	291	0	15842		
28	12	Basti Malook	132	kWh	121194	7434	0	6821	65742	107191	0	0	0	308381	0.91	36.00
				kW	51240	3264	0	1038	12508	29367	0	0	0	77934		
29	1093	Bati Banglow	132	kWh	38013	2553	7	3230	655	23790	0	27	0	68275	0.90	9.00
				kW	14963	1005	3	492	124	6518	0	6	0	18488		
30	17	Bonga Hayat	132	kWh	60528	3056	3	2843	9216	87851	0	0	0	163497	0.90	28.00
				kW	43185	2683	1	433	1753	24069	0	0	0	57699		
31	18	Bosan Road Multan	132	kWh	402543	93761	3260	7578	14310	125	0	1097	0	522674	0.90	57.00
				kW	109411	24326	1241	1153	2723	34	0	250	0	118267		
32	1229	Buch Villas	132	kWh	42274	5542	29	785	3603	108	0	367	0	52709	0.90	7.00
				kW	15081	1977	11	119	685	30	0	82	0	14388		
33	989	Burewala old	132	kWh	105945	3640	0	2690	13437	54910	0	0	0	180622	0.90	22.00
				kW	33595	1187	0	409	2556	15044	0	0	0	44873		
34	729	CTM Ismailabad	132	kWh	2	0	0	0	117948	0	0	0	0	117949	0.93	11.00
				kW	1	0	0	0	27301	0	0	0	0	27301		
35	528	Chak 211/WB	132	kWh	89900	5253	0	2200	1253	60470	0	0	0	159077	0.90	24.00
				kW	42761	2499	0	335	239	16567	0	0	0	49920		
36	538	Chak 83/12-L	132	kWh	90194	3350	0	2238	2471	75087	0	8	0	173348	0.90	21.00
				kW	32175	1234	0	341	470	20572	0	1	0	43834		
37	27	Chichawatni	132	kWh	225226	22899	13	6574	45257	67550	0	33	0	367551	0.90	37.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	55893	5809	5	1001	8611	18507	0	7	0	76358		
38	728	Chishtian	132	kWh	156010	11148	249	4758	14857	75261	0	294	0	262576	0.90	31.00
				kW	50884	3636	95	724	2826	20619	0	66	0	63080		
39	602	Chotti Zarin	132	kWh	43001	5298	0	2536	1166	53652	0	109	0	105762	0.90	12.00
				kW	13267	1634	0	386	223	14699	0	22	0	24185		
40	29	Choubara	132	kWh	14021	2308	9	2211	2827	1802	0	0	0	23179	0.90	3.00
				kW	5002	824	3	337	538	494	0	0	0	5973		
41	730	Chowk Azam	132	kWh	100520	13048	31	3162	11752	4203	0	0	0	132717	0.90	18.00
				kW	35859	4655	12	481	2236	1151	0	0	0	36848		
42	4024	Chowk Maralay	132	kWh	38330	2841	0	1299	13154	39116	0	0	0	94739	0.90	14.00
				kW	20131	1465	0	198	2503	10717	0	0	0	28011		
43	31	Chowk Munda/CSS	132	kWh	86860	9255	29	2820	155675	14941	0	0	0	269580	0.92	21.00
				kW	23609	2515	11	429	29619	4093	0	0	0	48221		
44	773	Chuna Wala	132	kWh	26161	1756	0	298	851	976	0	0	0	30042	0.90	4.00
				kW	8533	573	0	45	162	267	0	0	0	7952		
45	775	Coca Cola	132	kWh	0	0	0	0	24570	0	0	0	0	24570	0.93	2.00
				kW	0	0	0	0	4973	0	0	0	0	4973		
46	4017	D.G. Khan - III	132	kWh	76181	5707	2	2619	6571	9378	0	356	0	100813	0.90	10.00
				kW	17989	1273	1	399	1251	2569	0	0	0	19626		
47	1099	D.G. Khan-II	132	kWh	138047	20954	7	3390	4388	7296	0	1378	0	175460	0.90	22.00
				kW	43774	6645	3	516	834	1999	0	314	0	45972		
48	33	D.G.Khan-I	132	kWh	223189	28809	229	6886	21605	15786	0	2015	0	298519	0.90	19.00
				kW	30331	3915	87	1048	4111	4325	0	1603	0	38607		
49	706	DG Cement Factory	132	kWh	0	0	0	0	24454	0	0	0	0	24454	0.93	8.00
				kW	0	0	0	0	19500	0	0	0	0	19500		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
50	1233	DHA-1	132	kWh	0	0	0	0	0	0	0	5561	0	5561	0.92	22.00
				kW	0	0	0	0	0	0	0	50783	0	50783		
51	1234	DHA-2	132	kWh	0	0	0	0	0	0	0	15755	0	15755	0.92	22.00
				kW	0	0	0	0	0	0	0	50783	0	50783		
52	1235	DHA-4	132	kWh	0	0	0	0	0	0	0	20575	0	20575	0.92	22.00
				kW	0	0	0	0	0	0	0	50783	0	50783		
53	1236	Dahran wala	132	kWh	89706	6502	10	3729	3213	577	0	82	0	103821	0.90	11.00
				kW	25601	1903	4	568	612	158	0	17	0	23091		
54	1237	Damar wala	132	kWh	98111	7079	0	3807	3346	17543	0	33	0	129918	0.90	15.00
				kW	31111	2020	0	580	636	4806	0	7	0	31328		
55	1238	Donga Bonga	132	kWh	48860	3320	0	1514	6338	526	0	0	0	60557	0.90	6.00
				kW	12300	704	0	230	1206	144	0	0	0	11846		
56	261	Dunya Pur	132	kWh	96169	7777	13	5398	7900	63868	0	18	0	181143	0.90	22.00
				kW	34307	2774	5	822	1503	17498	0	3	0	45530		
57	36	FCCL	132	kWh	0	0	0	0	200185	0	0	0	0	200185	0.93	18.00
				kW	0	0	0	0	45704	0	0	0	0	45704		
58	4001	Faqirwali	132	kWh	84284	5126	0	1063	7025	396	0	0	0	97893	0.90	9.00
				kW	21381	1300	0	162	1337	108	0	0	0	19431		
59	982	Fateh Pur	132	kWh	110237	11706	5	5675	5716	9861	0	0	0	143200	0.90	15.00
				kW	31460	3341	2	864	1087	2702	0	0	0	31564		
60	1239	Fatima Energy	132	kWh	0	0	0	0	0	0	0	1649	0	1649	0.92	2.00
				kW	0	0	0	0	0	0	0	4794	0	4794		
61	541	Fazil Pur	132	kWh	45638	6615	43	2479	4453	14516	0	29	0	73772	0.90	11.00
				kW	20839	3020	16	377	848	3977	0	6	0	23267		
62	642	Feroza	132	kWh	62451	6264	16	1556	5712	9752	0	22	0	85774	0.90	11.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	21603	2235	6	237	1087	2672	0	5	0	22275		
63	1193	Fort Abbas	132	kWh	85121	7616	28	3476	11709	20030	0	0	0	127980	0.90	8.00
				kW	12146	1087	11	529	2228	5488	0	0	0	17191		
64	274	Fort Manro	132	kWh	849	317	0	0	0	0	0	0	0	1166	0.90	1.00
				kW	1385	517	0	0	0	0	0	0	0	1521		
65	530	Gaggo	132	kWh	32117	2834	1	979	4981	17803	0	0	0	58716	0.90	7.00
				kW	10034	898	0	149	948	4878	0	0	0	13757		
66	276	Garah More	132	kWh	109876	6765	6	1984	4823	51369	0	1025	0	175848	0.90	19.00
				kW	32161	1980	2	302	918	14074	0	235	0	39738		
67	705	Gujrat South	132	kWh	128067	11172	14	6156	12977	7428	0	65	0	165879	0.90	20.00
				kW	41770	3644	5	937	2469	2035	0	14	0	40699		
68	4008	Harappa	132	kWh	106974	7158	0	3182	72693	58868	0	0	0	248875	0.91	21.00
				kW	24922	1702	0	484	13830	16128	0	0	0	45653		
69	42	Haroonabad	132	kWh	176727	16532	31	4157	26924	2694	0	0	0	227066	0.90	17.00
				kW	34783	3145	12	633	5122	738	0	0	0	35546		
70	52	Hasil Pur	132	kWh	190082	19795	163	5752	19289	64509	0	188	0	299778	0.90	32.00
				kW	51664	5380	62	875	3670	17674	0	44	0	65877		
71	58	Head Rajkan	132	kWh	54291	3939	725	2961	5816	3891	0	0	0	71624	0.90	8.00
				kW	17708	1285	276	451	1106	1066	0	0	0	17513		
72	924	Head Sidhnai	132	kWh	116977	10552	25	4702	5703	33014	0	1625	0	172597	0.90	19.00
				kW	35141	3170	9	716	1085	9045	0	371	0	39629		
73	472	Hota	132	kWh	30520	1195	0	1765	119	71109	0	0	0	104709	0.90	16.00
				kW	20494	910	0	269	22	19482	0	0	0	32941		
74	852	Industrial Estate MT	132	kWh	153753	15976	110	10734	237169	12635	0	49727	0	480104	0.92	35.00
				kW	32503	3316	42	1634	45124	3462	0	11353	0	82819		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
75	376	Jahanian	132	kWh	179607	14018	19	7228	11772	87622	0	24	0	300289	0.90	32.00
				kW	47682	3721	7	1100	2239	24006	0	5	0	65371		
76	1123	Jail Road	132	kWh	144336	13612	1321	8924	39084	8590	0	1505	0	217373	0.91	21.00
				kW	39230	3700	503	1358	7436	2353	0	344	0	46686		
77	65	Jalal Pur Pirwala	132	kWh	157495	9820	38	5101	7960	124904	0	605	0	305924	0.90	40.00
				kW	61996	4312	15	776	1514	34220	0	137	0	82376		
78	69	Jalal kot	132	kWh	38526	1626	2	1412	2209	56930	0	0	0	100704	0.90	12.00
				kW	14095	609	1	215	419	15597	0	0	0	24749		
79	1072	Jam Pur	132	kWh	79528	8162	84	3584	1535	4237	0	10	0	97140	0.90	13.00
				kW	27511	2823	32	546	292	1161	0	2	0	25894		
80	285	Jam Pur Dajal Road	132	kWh	44351	7594	36	1393	5045	2058	0	0	0	60478	0.90	7.00
				kW	13684	2343	14	212	960	564	0	0	0	14754		
81	4026	Jamal Din Wali	132	kWh	63471	5332	0	2696	10289	102858	0	0	0	184645	0.90	26.00
				kW	34502	3043	0	410	1958	28180	0	0	0	54476		
82	743	Jatoi	132	kWh	87033	7379	290	3066	2499	10224	0	27	0	110517	0.90	15.00
				kW	32049	2808	110	467	475	2801	0	6	0	30973		
83	293	Kabirwala	132	kWh	156380	12644	107	12226	210513	90995	0	0	0	482865	0.91	38.00
				kW	33682	2624	41	1861	40052	24930	0	0	0	82552		
84	531	Kacha Khu	132	kWh	120078	6582	0	5174	14936	121788	0	0	0	268558	0.90	29.00
				kW	36073	1977	0	788	2841	33367	0	0	0	60036		
85	75	Kahror Pacca	132	kWh	152400	11510	36	7106	8939	182956	0	0	0	362948	0.90	47.00
				kW	64434	4693	14	1082	1701	50125	0	0	0	97639		
86	87	Kameer	132	kWh	62398	3141	0	1159	5449	59709	0	0	0	131856	0.90	17.00
				kW	25439	1280	0	176	1036	16359	0	0	0	35433		
87	88	Karam Pur	132	kWh	55079	2704	0	913	1182	99030	0	0	0	158909	0.90	28.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	41917	2058	0	139	225	27132	0	0	0	57177		
88	927	Kassowal	132	kWh	52722	3297	0	1921	1455	27057	0	0	0	86452	0.90	9.00
				kW	13374	836	0	292	277	7413	0	0	0	18864		
89	1113	Khair Pur Sadat	132	kWh	43421	2850	0	2324	1113	13133	0	0	0	62841	0.90	7.00
				kW	14162	930	0	354	212	3598	0	0	0	15404		
90	685	Khair Pur Tamewali	132	kWh	84140	6140	46	3881	2313	82312	0	747	0	179578	0.90	20.00
				kW	26681	1947	18	591	440	22551	0	170	0	41918		
91	1203	Khan Bela	132	kWh	140326	14334	0	5656	5981	11261	0	534	0	178092	0.90	23.00
				kW	48542	5113	0	861	1137	3085	0	122	0	47088		
92	83	Khan Garh	132	kWh	49128	4118	0	3673	1626	3885	0	0	0	62430	0.90	9.00
				kW	18694	1567	0	559	310	1064	0	0	0	17756		
93	297	Khan Pur	132	kWh	266473	30766	300	10925	22116	24705	0	630	0	355915	0.90	43.00
				kW	82214	9242	114	1663	4207	6769	0	144	0	88700		
94	533	Khan Pur Bagga Sher	132	kWh	37043	2676	0	3135	86908	16047	0	0	0	145809	0.92	12.00
				kW	12814	926	0	477	16535	4396	0	0	0	28119		
95	769	Khanewal	132	kWh	217219	22986	255	6617	52703	79707	0	5354	0	384840	0.90	40.00
				kW	59040	6247	97	1007	10026	21837	0	1223	0	82566		
96	102	Khanewal - II	132	kWh	77564	4206	0	3538	9635	46804	0	1595	0	143342	0.90	15.00
				kW	21082	1143	0	538	1834	12823	0	365	0	31362		
97	1219	Khanewal Road	132	kWh	109623	13137	58	7331	165687	32736	0	7702	0	336273	0.92	40.00
				kW	59590	6816	22	1116	31524	8969	0	1758	0	93326		
98	103	Khichi Wala	132	kWh	40698	3459	0	292	2502	85	0	0	0	47037	0.90	5.00
				kW	10324	877	0	44	477	23	0	0	0	9397		
99	4011	Koray Shah	132	kWh	59067	2899	0	1565	5938	85942	0	0	0	155411	0.90	19.00
				kW	21391	966	0	238	1131	23546	0	0	0	38556		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
100	104	Kot Addu	132	kWh	232429	26993	2478	14893	18626	18057	0	401	0	313877	0.90	40.00
				kW	82916	9629	943	2267	3543	4947	0	92	0	83470		
101	1208	Kot Chutta	132	kWh	87815	8648	0	2197	25037	4697	0	0	0	128394	0.90	14.00
				kW	27093	2598	0	334	4764	1287	0	0	0	28861		
102	4023	Kot Samaba	132	kWh	39018	3381	0	1515	3113	16599	0	18	0	63643	0.90	8.00
				kW	13939	1114	0	231	594	4548	0	3	0	16858		
103	112	Kot Sultan	132	kWh	66944	6564	12	2938	1341	6719	0	63	0	84581	0.90	11.00
				kW	23881	2342	5	447	255	1841	0	13	0	23027		
104	544	Lal Sohanra	132	kWh	23232	1671	0	648	1912	14772	0	0	0	42235	0.90	6.00
				kW	10608	763	0	99	363	4047	0	0	0	12704		
105	4016	Lar	132	kWh	62794	4478	0	2361	59427	56908	0	331	0	186299	0.91	18.00
				kW	20481	1460	0	359	11307	15591	0	74	0	39418		
106	543	Layyah	132	kWh	76080	5383	22	4229	13739	6862	0	0	0	106314	0.90	16.00
				kW	33404	2363	8	644	2615	1880	0	0	0	33958		
107	313	Layyah - II	132	kWh	107054	18395	257	2916	4437	573	0	143	0	133775	0.90	23.00
				kW	47003	8076	98	444	844	157	0	33	0	47024		
108	780	Liaqat Pur	132	kWh	122805	10640	170	3507	4672	7282	0	50	0	149126	0.90	17.00
				kW	36892	3374	65	534	889	1995	0	10	0	35007		
109	316	Lodhran	132	kWh	197821	19971	268	5544	20096	131550	0	4195	0	379445	0.90	46.00
				kW	78547	7295	82	675	3060	28833	0	1490	0	95985		
110	4015	Lodhran- II	132	kWh	34868	2700	0	1090	1595	43376	0	141	0	83770	0.90	12.00
				kW	17306	1233	0	166	303	11884	0	0	0	24713		
111	122	Ludden	132	kWh	72118	4326	0	1263	3821	111901	0	0	0	193428	0.90	24.00
				kW	29402	1764	0	192	726	30658	0	0	0	50194		
112	123	M.Garh	132	kWh	0	0	0	0	66728	0	0	0	0	66728	0.93	6.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
		Industrial Es		kW	0	0	0	0	15235	0	0	0	0	15235		
113	4003	MESCO	132	kWh	243664	92727	3370	11871	84356	206	0	39204	0	475399	0.91	46.00
				kW	66228	25203	1283	1807	16049	56	0	8952	0	101641		
114	317	MTN Industrial Est-I	132	kWh	0	0	0	0	77850	0	0	0	0	77850	0.93	8.00
				kW	0	0	0	0	20313	0	0	0	0	20313		
115	1244	MTN New Industrial E	132	kWh	35180	4073	31	1242	48830	6007	0	6	0	95369	0.92	7.00
				kW	7437	845	12	189	9290	1646	0	1	0	16507		
116	132	Maan Kot	132	kWh	65566	3934	0	3580	4878	46120	0	0	0	124078	0.90	10.00
				kW	8806	528	0	545	928	12636	0	0	0	19926		
117	1241	Machiwal	132	kWh	52494	2724	0	1422	6022	28629	0	2	0	91293	0.90	10.00
				kW	14925	766	0	216	1146	7844	0	0	0	20829		
118	4014	Mahra Khas	132	kWh	116696	8919	0	5679	1838	22574	0	0	0	155706	0.90	20.00
				kW	40368	3182	0	864	350	6185	0	0	0	40759		
119	1115	Mailsi	132	kWh	171862	14509	471	3779	7529	118199	0	2356	0	318705	0.90	39.00
				kW	61309	5176	179	575	1434	32383	0	537	0	81275		
120	4012	Makhdom Rasheed	132	kWh	96975	4496	0	5174	16588	55682	0	0	0	178914	0.90	21.00
				kW	30750	1426	0	787	3155	15255	0	0	0	42641		
121	131	Makhdoom Jahania	132	kWh	34340	1588	580	1457	6517	27017	0	28	0	71526	0.90	9.00
				kW	13922	666	221	222	1240	7402	0	6	0	19044		
122	552	Makhdoom Pur	132	kWh	68195	4332	0	3634	3445	44052	0	218	0	123876	0.90	18.00
				kW	27803	1766	0	553	655	12069	0	51	0	36463		
123	766	Maroot	132	kWh	43841	3187	0	314	3830	90603	0	0	0	141775	0.90	18.00
				kW	20019	1455	0	48	729	24823	0	0	0	37659		
124	4018	Mclod Gunj	132	kWh	83364	4001	0	5959	4106	18750	0	45	0	116224	0.90	13.00
				kW	25720	1234	0	907	781	5137	0	9	0	27031		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
125	1059	Mian Channu	132	kWh	252967	23846	86	11609	80235	94564	0	36	0	463342	0.91	45.00
				kW	70433	6049	33	1767	15265	25908	0	7	0	99153		
126	606	Mian Wali Qureshian	132	kWh	112308	13903	6	5041	6472	37502	0	456	0	175688	0.90	27.00
				kW	51282	6349	2	767	1230	10274	0	105	0	56008		
127	327	Minchinabad	132	kWh	78561	5847	2	6311	2153	34114	0	0	0	126987	0.90	15.00
				kW	27176	2086	1	961	410	9346	0	0	0	31983		
128	133	Miran Pur	132	kWh	49538	2619	580	2572	2848	67062	0	169	0	125388	0.90	17.00
				kW	21750	1150	221	391	542	18373	0	41	0	35248		
129	534	Mubarak Pur	132	kWh	97019	5129	5217	6035	1969	55301	0	0	0	170669	0.90	21.00
				kW	31643	1673	1985	919	374	15151	0	0	0	42948		
130	545	Musa Virk	132	kWh	38032	2689	0	2507	23329	26651	0	0	0	93208	0.91	9.00
				kW	10589	682	0	382	4439	7302	0	0	0	19416		
131	1118	Muzaffar Garh	132	kWh	119479	14613	74	5389	264066	3958	0	647	0	408226	0.92	41.00
				kW	52458	7253	28	820	50241	1084	0	146	0	95226		
132	1148	Muzaffer Garh - II	132	kWh	48265	3649	8	1962	29241	1708	0	292	0	85125	0.91	11.00
				kW	19666	1674	3	299	5563	468	0	66	0	23327		
133	4002	Nawazabad	132	kWh	33179	2142	0	1934	3017	91198	0	757	0	132226	0.90	20.00
				kW	25250	1630	0	294	573	24986	0	172	0	42325		
134	140	Nishter-II	132	kWh	0	0	0	0	0	0	0	4226	0	4226	0.92	4.00
				kW	0	0	0	0	0	0	0	9649	0	9649		
135	4020	Noor Ahmad Wali	132	kWh	70889	5469	0	1727	2211	88242	0	0	0	168538	0.90	17.00
				kW	17218	1328	0	263	421	24176	0	0	0	34724		
136	1058	Noor Pur	132	kWh	55152	2909	0	2034	19818	79743	0	0	0	159656	0.90	20.00
				kW	25184	1329	0	310	3770	21847	0	0	0	41951		
137	1240	Noor Sar	132	kWh	62281	3739	0	3775	5028	22098	0	0	0	96922	0.90	13.00

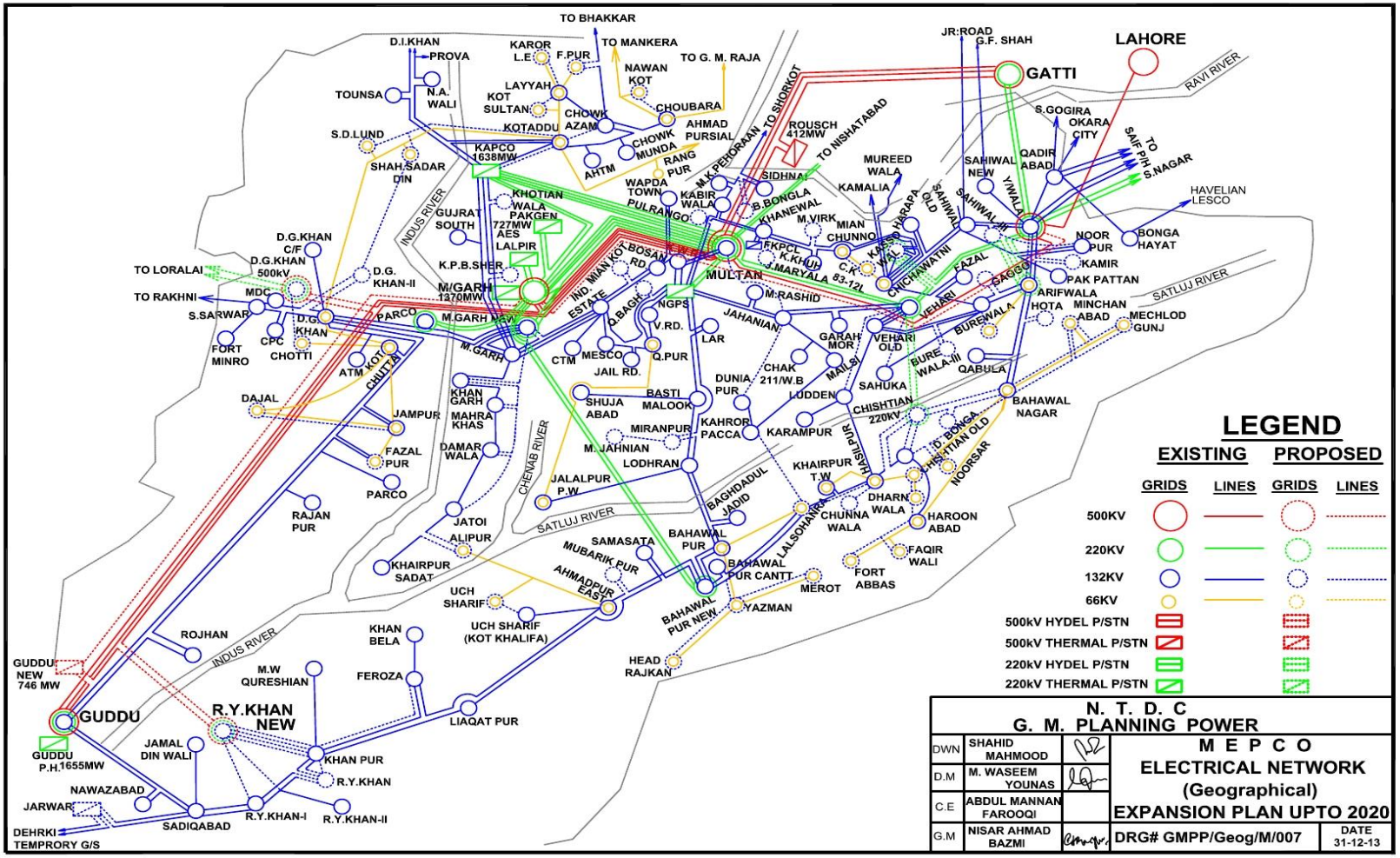
SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	24516	1472	0	575	957	6054	0	0	0	26859		
138	148	PAEC	132	kWh	0	0	0	0	0	0	0	34883	0	34883	0.92	6.00
				kW	0	0	0	0	0	0	0	13553	0	13553		
139	196	PARCO	132	kWh	1	0	0	0	15330	0	0	0	0	15331	0.93	1.00
				kW	1	0	0	0	2208	0	0	0	0	2209		
140	546	PGHS	132	kWh	35114	5259	170	1122	39604	814	0	0	0	82083	0.92	8.00
				kW	11453	1715	65	171	7530	223	0	0	0	17983		
141	934	PMDC DG Khan	132	kWh	0	0	0	0	0	0	0	7303	0	7303	0.92	1.00
				kW	0	0	0	0	0	0	0	1668	0	1668		
142	724	Pakpattan	132	kWh	190099	17308	270	6844	25459	105228	0	1475	0	346684	0.90	38.00
				kW	58651	4819	103	1042	4843	28830	0	339	0	78900		
143	1174	Pakpattan-II	132	kWh	32668	2265	0	1484	13186	43157	0	0	0	92762	0.90	10.00
				kW	11117	709	0	226	2510	11824	0	0	0	21108		
144	933	Piran Gaib	132	kWh	87582	11979	521	4884	30337	3533	0	513	0	139350	0.91	12.00
				kW	20800	2954	198	743	5775	968	0	117	0	26822		
145	154	Qabula	132	kWh	51017	1788	0	992	2579	71146	0	0	0	127522	0.90	21.00
				kW	32355	1134	0	151	492	19492	0	0	0	42899		
146	4004	Qadir Abad	132	kWh	70295	3134	0	2672	6970	18794	0	0	0	101865	0.90	16.00
				kW	32098	1555	0	407	1326	5149	0	0	0	32428		
147	4013	Qasim Bagh	132	kWh	116964	15731	3529	24153	11113	13	0	0	0	171502	0.90	21.00
				kW	38149	5131	1343	3676	2115	4	0	0	0	42854		
148	165	Qasim Pur	132	kWh	273770	33599	2614	31839	168692	28266	0	13219	0	551999	0.91	39.00
				kW	52970	6393	994	4846	32096	7744	0	3018	0	86449		
149	166	RYK - III	132	kWh	35009	3903	0	1565	12104	24699	0	0	0	77281	0.90	9.00
				kW	10677	1123	0	238	2303	6767	0	0	0	17724		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
150	763	RYK industrial Estat	132	kWh	0	0	0	0	39530	0	0	0	0	39530	0.93	3.00
				kW	0	0	0	0	6581	0	0	0	0	6581		
151	168	Rahim Yar Khan-I	132	kWh	271022	42853	298	9170	207849	37972	0	12316	0	581480	0.91	54.00
				kW	73663	11647	114	1396	39545	10403	0	2813	0	118644		
152	4005	Rahim Yar Khan-II	132	kWh	237915	32738	96	2861	15843	10377	0	2379	0	302210	0.90	35.00
				kW	67898	9343	37	436	3013	2843	0	543	0	71496		
153	1232	Rajan Pur	132	kWh	116928	16190	365	5688	10218	24828	0	3525	0	177741	0.90	22.00
				kW	41712	5775	139	866	1944	6802	0	805	0	46435		
154	171	Rawan Road	132	kWh	13468	1420	0	1433	115585	3320	0	257	0	135484	0.93	10.00
				kW	7321	737	0	218	21991	910	0	59	0	26550		
155	767	Rojhan	132	kWh	22439	3652	3	1048	459	4730	0	575	0	32906	0.90	5.00
				kW	10246	1668	1	160	87	1296	0	131	0	10871		
156	354	S.M. Food	132	kWh	0	0	0	0	55394	0	0	0	0	55394	0.93	4.00
				kW	0	0	0	0	10969	0	0	0	0	10969		
157	4007	Sadiq Abad	132	kWh	292025	41081	73	9179	51033	65942	0	295	0	459629	0.90	51.00
				kW	83341	10421	28	1397	9711	18066	0	66	0	104575		
158	589	Sadiqabad - II	132	kWh	59629	3048	1	654	1891	2918	0	9	0	68149	0.90	8.00
				kW	17118	836	0	100	360	799	0	2	0	16268		
159	1231	Sahiwal New	132	kWh	196785	24457	342	6500	11939	10369	0	0	0	250391	0.90	25.00
				kW	48835	6069	130	989	2272	2841	0	0	0	51966		
160	181	Sahiwal Old	132	kWh	169132	34017	928	4487	148167	35762	0	949	0	393443	0.91	27.00
				kW	26091	5248	353	683	28190	9798	0	217	0	59992		
161	4025	Sahiwal-III	132	kWh	106507	7447	172	1724	17316	24447	0	5474	0	163087	0.90	18.00
				kW	32860	2298	66	262	3294	6698	0	1250	0	37382		
162	551	Sahuka	132	kWh	85522	3144	0	1579	2213	135722	0	0	0	228180	0.90	27.00

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
				kW	31493	1158	0	240	421	37184	0	0	0	56397		
163	183	Sakhi Sarwar	132	kWh	24998	2570	0	665	22133	9426	0	9848	0	69639	0.91	6.00
				kW	6342	652	0	101	4211	2582	0	2248	0	12909		
164	1089	Sama Satta	132	kWh	53420	5191	0	1450	36838	19956	0	1557	0	118413	0.91	13.00
				kW	20327	1975	0	221	7008	5467	0	411	0	28327		
165	537	Sanjar Pur	132	kWh	37189	3230	0	596	9340	18697	0	0	0	69052	0.90	17.00
				kW	32656	3352	0	91	1776	5123	0	0	0	34398		
166	535	Sargana	132	kWh	45591	1587	0	1075	1557	55162	0	10	0	104983	0.90	14.00
				kW	19166	650	0	164	296	15113	0	2	0	28314		
167	186	Shah Jamal	132	kWh	60416	4619	0	3439	1446	9279	0	0	0	79200	0.90	10.00
				kW	20832	1618	0	523	274	2542	0	0	0	20632		
168	1182	Shah Sadar Din	132	kWh	38464	4287	0	1096	7336	13078	0	0	0	64261	0.90	10.00
				kW	17563	1958	0	167	1395	3583	0	0	0	19733		
169	4021	Shahdan Lund	132	kWh	41201	3223	0	1251	7015	47183	0	15734	0	115606	0.90	11.00
				kW	9799	766	0	190	1334	12927	0	3593	0	22887		
170	4009	Sheikh Fazil	132	kWh	122248	7079	2	3452	12812	71338	0	0	0	216931	0.90	26.00
				kW	41045	2309	1	525	2437	19545	0	0	0	52689		
171	547	Shujabad	132	kWh	163094	12850	781	4638	9717	74893	0	1178	0	267151	0.90	37.00
				kW	66493	5239	297	706	1849	20519	0	269	0	76297		
172	548	Suraj Miani	132	kWh	109563	8124	87	815	48884	307	0	0	0	167780	0.91	16.00
				kW	30505	2318	33	124	9301	84	0	0	0	36011		
173	536	Taunsa	132	kWh	137647	10892	57	2682	12107	40097	0	3636	0	207118	0.90	23.00
				kW	42468	3553	22	408	2303	10986	0	830	0	48456		
174	374	Uch Sharif	132	kWh	97601	8227	5652	8876	3081	37329	0	318	0	161084	0.90	23.00
				kW	41266	3612	2151	1351	586	10227	0	71	0	47410		

SR No.	Grid Number	Name of Grid Station	kV	Unit	Domestic	Commercial	Public Lighting	Small Industry	M&L Industries	Tubewell		Bulk	Traction	Total of Grid Station	Power Factor (%)	Reactive-Power (Mvar)
175	76	Vehari	132	kWh	230912	25032	295	3762	28165	97127	0	3088	0	388381	0.90	43.00
				kW	65900	7144	112	573	5359	26610	0	707	0	88315		
176	216	Vehari - II	132	kWh	45462	2162	1	1514	11146	42061	0	21	0	102367	0.90	14.00
				kW	21573	1048	0	230	2121	11524	0	5	0	29200		
177	932	Vehari Industrial Es	132	kWh	0	0	0	0	66728	0	0	0	0	66728	0.93	6.00
				kW	0	0	0	0	15235	0	0	0	0	15235		
178	219	Vehari Road	132	kWh	286903	34144	1090	50478	104165	10323	0	0	0	487104	0.90	40.00
				kW	59548	7087	415	7683	19820	2828	0	0	0	82774		
179	4022	WAPDA Town	132	kWh	239331	35773	383	8599	9033	4715	0	27121	0	324955	0.90	32.00
				kW	58130	8508	146	1309	1719	1292	0	6192	0	65700		
180	1243	Yazman	132	kWh	119932	10414	296	2748	11114	1403	0	73	0	145979	0.90	15.00
				kW	33392	2972	113	418	2115	384	0	15	0	31528		
181	220	157/9-L Chowk	132	kWh	27143	1173	3	844	4733	26439	0	0	0	60334	0.90	6.00
				kW	6436	284	1	129	900	7243	0	0	0	12182		
182	1041	220 KV Nauabad	132	kWh	44428	3426	21	2416	5187	36362	0	161	0	92002	0.90	16.00
				kW	28176	1630	8	368	986	9962	0	40	0	32935		
183	404	220 KV PARCO Gujrat	132	kWh	0	0	0	0	236750	0	0	0	0	236750	0.93	13.00
				kW	0	0	0	0	32474	0	0	0	0	32474		
		Total	132	GWh	1	0	0	0	0	0	5	5	66 KV Nawan Kot	1577		
				MW	5	550	66	0	0	0			4834	548		

Figure 1- 10: Distribution Network Map (MEPCO)



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