

Glossary of Electrical Terms – Commercial Customers

Watt – a watt is a unit of energy.

Kilowatt (kW) – a kilowatt is 1000 watts. For example, ten 100-watt light bulb requires a kilowatt of energy when in use.

Kilowatt Hour (kWh) – a kilowatt hour is a unit of measurement that equals the amount of energy used. The ten 100-watt light bulbs mentioned earlier will use a kilowatt hour after being turned on for one hour.

Demand – demand is the rate of using electricity. It's measured in kilowatts. Some industries require a large number of kilowatts to run their equipment; many more than what the average household uses.

The City of Rock Hill charges some commercial customers for peak demand over a six-month period in addition to kilowatt hours. The peak is used to determine the generating capacity needed to meet that demand at any given time, even if it occurs only occasionally.

Load Factor – load factor is a measure of the efficiency electrical usage, determined by the ratio of average demand to peak demand. It determines whether a system's energy usage is somewhat stable or has excessive peaks and valleys. A high load factor indicates the electric system is being used efficiently.

Multiplier – often times, the current going into a commercial building is too large for the electrical meter to register so the meter reading will reflect only a percentage of the actual energy used. A multiplier must be applied to determined exactly how many kilowatt hours were used in a given time period.

Net Billing – Net billing is a system that allows a customer with solar panels to “sell back” unused solar-generated power.

On-Peak – On Peak is defined as power provided at times of high system demand.

The City of Rock Hill defines On-Peak as:

June – September 1:00 p.m. through 9:00 p.m. Monday – Friday

October – May 6:00 a.m. through 1:00 p.m. Monday – Friday

Off-Peak – Off Peak is defined as power provided at times of general low system demand.

The City of Rock Hill defines Off-Peak as:

All hours that are not On-Peak hours and all hours on Saturday and Sunday

Power factor – power factor is another indication of the utilization of electrical power. In this case, it's determined by the ratio of two types of electrical load – resistive load and inductive load. A high power factor is beneficial to both the electric customer and the utility. A low power factor signifies poor utilization of electricity. It's expressed by a number of zero to 1.00. Commercial customers may be charged a correction fee if the power factor drops below .85.

The City of Rock Hill determines a customer's power factor using the following formula:

$$KW/SQ(KW_{max}^2 + KVAR_{max}^2)$$

You can check this yourself on the **Time Series Plot** under Reports. Enter your billing dates, select Interval Data, select the appropriate meter and select RPEAK (KW). Next, add a data set, select Interval Data, select the same meter and select RPEAK (KVAR). Hover over the peak of each to determine the KW_{max} and KVAR_{max}. Plug these numbers into the formula and you will determine the power factor.