

Understanding Demand

For Commercial Customers

What is demand?

"Demand" is the total amount of electricity being used by a consumer at any one time. Demand varies from hour to hour, day to day and season to season. This usage, which is expressed in kilowatts (not kilowatt-hours) is called the "demand" on the system. HomeWorks Tri-County Electric Cooperative monitors demand over a 15-minute period. The customer is charged for the highest 15-minute average recorded on the demand meter. After HomeWorks reads the meter each month, demand is reset to zero and the meter starts over, recording the highest 15-minute average for the next billing period.

What is demand charge?

Demand charge is based on each customer's maximum 15-minute demand on the cooperative's distribution system each month. Demand is measured in kilowatts (kW). Customers are billed according to kW of demand for their rate.

To illustrate how demand charge can affect an electric bill, let's look at two simple examples:

Example 1:

Running a 20 kW load for one hour would result in usage of 20 kilowatt hours (kWh) and accrue a demand charge of 20 kW.

$$20 \text{ kW} \times 1 \text{ hour} = 20 \text{ kWh.}$$

$$\text{Demand} = 20 \text{ kW.}$$

Example 2:

Running a 2 kW load for 10 hours would also result in usage of 20 kWh but would only accrue a demand of 2 kW.

$$2 \text{ kW} \times 10 \text{ hours} = 20 \text{ kWh.}$$

$$\text{Demand} = 2 \text{ kW}$$

Both examples use the exact same amount of energy (20 kWh) and perform the same amount of work. However, the resulting bill will be very different.

Applying HomeWorks's large power rate demand charge of \$8.72 per kW and an energy charge of 5.44 cents per kWh to both examples produces the following results:

Bill number 1

$$20 \text{ kW} \times \$12.00 = \$240.00$$

$$20 \text{ kWh} \times .07 = \$1.40$$

$$\text{Total} = \$241.40$$

Bill number 2

$$2 \text{ kW} \times \$12.002 = \$24.00$$

$$20 \text{ kWh} \times .07 = 1.40$$

$$\text{Total} = \$25.40$$

Why so different?

The actual energy (kWh) used is the same, and the work done is the same. The difference between the bills is based entirely on the highest demand recorded during any given 15-minute period that month.

Why are demand charges used?

Demand charges are the way your co-op pays for generation and distribution capacity it needs to meet peak demand that occurs from time to time. The demand charge your co-op pays to its wholesale power supplier is also calculated on the basis of the highest demand during the month. HomeWorks uses the same method to bill demand to its demand-rate customers.

Who incurs a demand charge?

All customers that exceed 15 kW for three consecutive months are billed for demand. This includes:

- Three-phase customers requiring a transformer over 50 kilowatt volt amp (KVA).
- Single-phase customers requiring a transformer over 50 KVA.
Irrigators.

Are demand charges unique to HomeWorks?

No. Demand charge billing is used consistently in the electric utility industry.

How can demand charges be reduced?

To reduce demand charge, simply examine your operation.

- What energy-efficient improvements can be made?
- Does all of the equipment need to be running at the same time?
- If not, what can be turned off while other equipment is running?

Often there is equipment that is operated infrequently. If this is the case, can some other equipment be turned off while this equipment is running? The result may be a significant savings in your monthly demand charge.

It is helpful to know when your meter is read by HomeWorks. If possible, wait until after the meter has been read to run equipment that is operated infrequently. Check your past energy bills for the usual reading dates; you can use SmartHub to check bills from the past 18 months, or call us and we'll be happy to look it up for you.

For example, you want to test your irrigation system in the spring, instead of waiting until you need it on a hot day in July, only to discover that it's not running properly. You know that your meter is read on the 25th of each month. If you haven't used the system during the first part of the month, you may want to wait until after the meter is read for the month to test the system. Even for a short test, you will be billed for the energy used by the irrigation system, plus a demand charge for the entire month. By waiting a few days, you could move that demand charge into a month when you'll be using the irrigation system anyway, saving an extra month's demand charges.

What else can be done to reduce demand charge?

Consult the Energy Experts at HomeWorks to help evaluate ways to improve the energy efficiency of your operation.

For more information, call 1-800-562-8232.