

POLK COUNTY RURAL PUBLIC POWER DISTRICT

‘The Livewire’

“Committed to enhancing the lives of our customers by providing safe, reliable and economical energy through excellence in customer service and innovation”



February 2024

Watt Matters

By Barb Fowler - General Manager

Last month, we reviewed the pieces and parts of your bill, but let's dive a little deeper. A question we frequently get is, what is demand? Simply put, demand is the amount of power needed to supply everything running off electricity in your home at a specific point in time.

Demand is the peak amount of electricity being used at any one time. Demand varies from hour to hour, day to day, and season to season. This usage, expressed in kilowatts (kW), is called “demand” on the system. For residential customers, PCRPPD monitors the average demand over a 15-minute period. For those living in the towns we serve, the customer is

charged for the highest 15-minute average recorded on the demand meter over the period of a day. After PCRPPD reads the meter each day, demand monitoring in the meter starts over, recording the highest 15-minute average for the next day. At the end of the billing period, the highest demand reading recorded is used to calculate the demand charge. In the meter, the demand resets to zero and begins monitoring for the next billing period. Currently, rural customer demand charges are based on the transformer size required for the service.

But control how you use electricity, and you can control your demand charges. For example, running a 10

kW load for one hour would result in a 10 kW demand charge. $10 \times \$1.85 = \18.50 in demand. Running a 2 kW load for five hours would result in a 2 kW demand charge. $2 \times \$1.85 = \3.70 in demand.

Both examples use the exact same amount of energy (10 kWh) and perform the same amount of work, but will result in different bill amounts. You can lower your demand charge by spreading out the use of major appliances such as the oven or dryer. We encourage rural customers to notify us of any significant service load changes that may result in decreasing the transformer size. Give us a call for more information.

Benson Joins PCRPPD

By Wade Rahn

Kane Benson started his duties as an Apprentice Lineman in December of 2023. Kane is a lifetime Polk County native. He attended Osceola Public Schools and graduated with the class of 2021. In 2021 Benson was awarded PCRPPD's M.G. Lindburg/Eugene Kosch Memorial Scholarship for students pursuing a Lineworker Degree.

After high school, Benson enrolled for college classes at Northeast Community College in the Line Worker's program, in Norfolk, Nebraska, where he successfully graduated in the spring of 2023. While

attending college Benson also served as an intern here at PCRPPD.

After college Kane was employed by David City Utilities in David City, Nebraska, as a Lineman.

Kane said, "I'm glad to be back here, this is where I started my career and back in the area of where I grew up."

Randy Reese, PCRPPD Operations Manager, commented, "We are excited to have a hard working guy that grew up here and interned here. He is exactly what we were looking for!"

In Kane's free time he enjoys being outdoors, hunting, and fishing.

We are excited to have Kane join the PCRPPD family. Please join us in welcoming him to PCRPPD.



HEAT PUMPS: WHAT

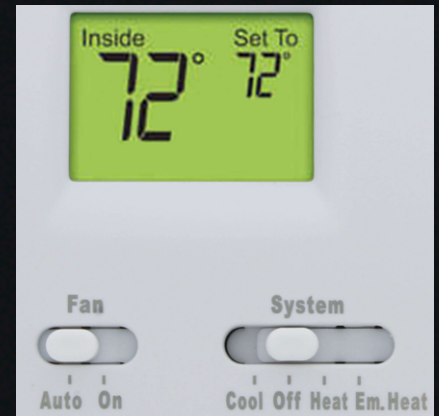
HEAT VS. EMERGENCY HEAT

In our Nebraska winters, heat pumps alone are not fully capable of meeting the heating needs of a home 100% of the time. All heat pumps are installed with an auxiliary source of heat to assist during the colder temperatures.

Your thermostat has two heat settings: Heat and Emergency Heat. While they sound similar, choosing the right setting can significantly impact your heating cost.

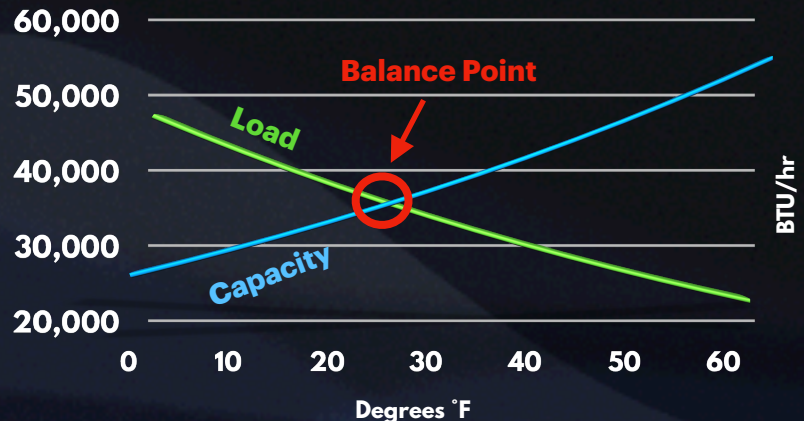
Heat - This setting runs both your heat pump and your auxiliary source of heat when needed.

Emergency Heat - This mode only runs the auxiliary source of heat and uses more energy.



BALANCE POINT

Knowing the Balance Point of your heat pump is important. As the temperature drops outside, there is less heat for your heat pump to absorb and transfer into your house. Also, the colder the temperature, the more heat your home loses. The balance point is where these two values intersect. Temperatures colder than the balance point will require auxiliary heat to heat your home adequately.



MYTH: Heat Pumps don't work this far north; it gets too cold!

FACT: Heat pumps are able to satisfy approximately 75% of a home's heating needs and are able to transfer heat from the outside into the home in extremely cold temperatures. Running in conjunction with auxiliary heat, they are more than capable.

MYTH: When it's really cold, I should turn my thermostat to Emergency Heat.

FACT: While during extreme cold, your auxiliary source of heat will handle most of the heating, you risk forgetting to switch back to normal operation and taking advantage of your energy-efficient heat pump when it warms back up.

DO I NEED TO KNOW?

THERMOSTAT OPERATION

We recommend having your heat pump thermostat set to the HEAT mode. In this mode, the thermostat will decide when to run the heat pump and when the auxiliary heat is needed for assistance.

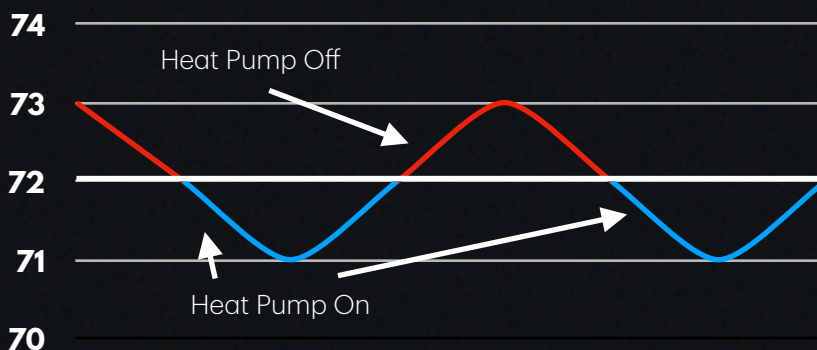
Example #1: The thermostat is set to heat, and the outdoor temperature is above the balance point, meaning the heat pump can handle the heating. Once the temperature dips below the desired 72, the thermostat engages the heat pump, and the home warms back up. Once all the heat created is delivered into the house, the temperature starts to drop again, and the cycle will repeat.

Example #2: Again, the thermostat is set to 72 degrees, but the outside air temperature is much colder, and the heat pump will not be able to handle the entire heating load by itself. When the temperature drops below 72, the heat pump is engaged and creates heat but not enough to overcome the heat loss of the home, and the temperature continues to drop, causing the thermostat to engage the auxiliary heat and the temperature to climb above the set point.

Also, we recommend setting the thermostat on a heat pump to a constant temperature to be the most energy efficient. When a heat pump thermostat is turned up more than a couple of degrees, the thermostat reacts much like example #2 and will engage the auxiliary heat, which can cost 5 to 10 times more to operate.

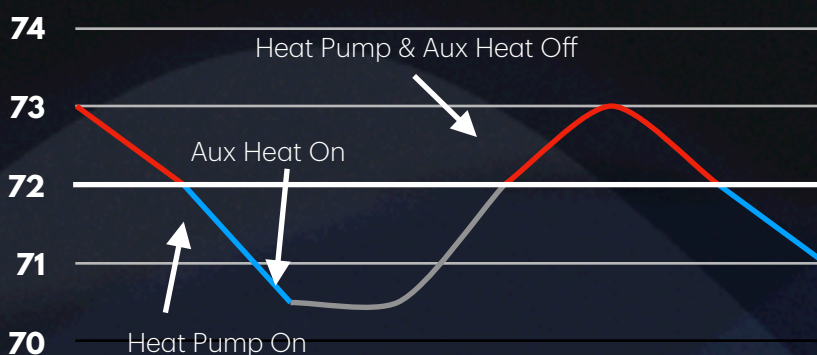
Example #1

Outdoor Temperature: 25°F



Example #2

Outdoor Temperature: 0°F



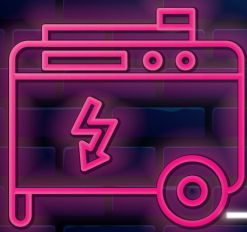
MYTH: I should close heat registers in the rooms in my house that I do not use.

FACT: While this may have minimal savings in certain instances, more harm than good can come out of this.

If a ductwork system is designed correctly in your home, it has been calculated to deliver the correct amount of heat to each room. When a register is closed, only a portion of the air intended for that space is redistributed to the other registers as the pressure inside the ductwork increases. Additionally, with the reduced delivered air, your heating system becomes less efficient and, in some instances, can damage your heating equipment.

WHAT IS backfeed?

Avoid deadly backfeed and help keep lineworkers safe.

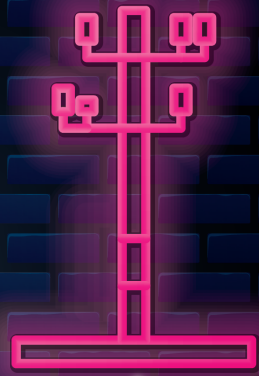


Backfeed happens when a person connects their portable generator to a wall outlet, which allows power to flow in reverse – that is, the alternate power source feeds energy back through their home's electrical system, their meter and back into the power lines.

Potentially deadly backfeed can also happen with permanently installed generators that are not used or installed correctly. They should be wired into your home by a qualified electrician, who will install either an automatic or manual transfer switch, depending on the generator. The job of this switch is to transfer a power source safely from its primary source to a backup source.

To keep utility crews safe, never plug a portable generator directly into a wall outlet or electrical system, and ensure transfer switches are professionally installed and working properly. Electric lineworkers thank you in advance.

Learn more at: [SafeElectricity.org](https://www.SafeElectricity.org)



POLK COUNTY RURAL PUBLIC POWER DISTRICT

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