

Off-Peak Electric Heating Programs and Systems

Keep every room in your home comfortable and cozy with safe, energy efficient electric heating systems, and do it with low cost electricity from Pierce Pepin Cooperative Services (PPCS).

Off-peak heating systems under load management make heating with electricity competitive with other fossil fuels. PPCS has two programs available – off-peak storage heating and off-peak dual fuel heating.

Load Management Program

Load management is an energy conservation technique used by our wholesale power supplier, Dairyland Power Cooperative, to balance the demand for electricity with the ability to generate or economically purchase electricity.

When demand for electricity exceeds the seasonal load and capacity limits, or if the cost to purchase energy is too high, equipment such as electric heating systems, water heaters and central air conditioners are switched off by Dairyland through a radio signal-based system.

Load management programs help PPCS manage electric load during peak periods of demand and reduce wholesale energy costs paid to Dairyland. Although extreme cold or hot weather conditions may affect peak demand, load management programs are structured with enough flexibility so that load reduction can be justified at any time, day or night, to save you and your cooperative money.

Dairyland is a member of the Midwest Independent Transmission System Operator (MISO) which ensures safe, cost effective, reliable power and equal access to electric generation and transmission across 15 U.S. states and in Manitoba, Canada. Consequently, Dairyland's use of load management may also be affected by the energy demands and weather patterns of the larger MISO region.

Load management receivers and related equipment are provided and installed by PPCS at no cost to the member.

Off-peak storage heating

Storage rate (winter): 5.5¢/kWh

Storage rate (summer): 8.0¢/kWh

Off-peak electric storage heating systems convert electricity into heat during off-peak hours when the demand for electricity is low. The stored heat is distributed later, as needed, to heat your home 24 hours a day.

There are two basic types of off-peak electric storage heating systems:

- Electric radiant floor heat – electric cable, electric mats and tubing
- Electric thermal storage (ETS) room units/central heating systems

Electric Radiant Floor Heat

Radiant floor heating works from the ground up. Heating components are installed below your concrete slab. Heat radiates from the floor, providing even heat when you need it. Options include:

- **Electric cable or mats:** Installed in sand under a concrete slab, this system uses a building's foundation and the ground below it to store heat. This thermal energy is only released when the area above it becomes cool, so there is no wasted energy. This heating system charges for 10 hours each day during off-peak periods.



Photo courtesy of Steffes Corporation

If the area using radiant floor heating does not allow for heat storage, an automatic backup heat source is necessary to qualify for off-peak electric rates.

Electric Thermal Storage (ETS) Room Units/Central Heating Systems

ETS technology is 100 percent efficient and converts electricity to heat during low cost off-peak hours, storing the heat in specially designed, high density bricks that is released during the day. ETS heat storage systems charge for 10 hours each day during the off-peak period and provide enough heat from storage to keep your room or entire house comfortable all day.

ETS options include:

- **ETS room units:** These units offer individual room control. When the thermostat calls for heat, a fan blows air across heat-storing bricks contained in a cabinet to distribute heat throughout the room. Room storage heaters are easily installed during new construction or remodeling and require no ductwork.
- **ETS central heating systems:** A centrally ducted system is available for whole house heating. It operates under the same concept of storage as the individual units, only it provides heat throughout the home utilizing ductwork similar to forced air systems. In addition, it's safe and clean—no chimneys, no flues and no carbon monoxide.

ETS room storage units and central heating systems do not require a backup heat source. Centrally ducted systems allow for the addition of central air conditioning and radiant floor heating applications.

