

# ENERGY MANAGEMENT

## Frequently Asked Questions

### What is energy management?

The program and process of working together as electric cooperative members to reduce the amount of electricity needed during times of high electricity demand. By changing when and how electricity is used, we can shift electricity use to times when demand is lower and electricity is less expensive, which help maintain stable electricity rates.

- Existing energy management strategies are Full Load Control, Daily Energy Storage, Economic Control or Emergency Control
- A Peak Alert is issued prior to a Full Load Control event beginning; FLC occurs a handful of days each year: Summer - 2 p.m. to 6 p.m. | Winter - 5 p.m. to 8 p.m.
- The Summer Shift program encourages members to use energy wisely and shift unnecessary summer electricity use, every day, before 11 a.m. and after 7 p.m.
- When an event ends, devices are gradually brought back online. If all devices were turned on at once, it could overwhelm the grid. A gradual restoration helps power generators safely meet electricity needs.

### Why is there an energy management program?

Energy management programs allow us to work together to help keep electricity rates stable. Although most cooperative members pay the same for every kilowatt-hour (kWh) they use, regardless of the time of day, the actual cost to produce and deliver electricity varies. Through devices such as an electric water heater, EV charger or thermal heat storage, energy management programs focus on reducing the amount of electricity we use during times of the day when the price for electricity is most expensive. Participation in an energy management program or voluntarily shifting unnecessary electricity use away from our on-peak hours helps reduce the amount of electricity that needs to be available when prices are at their peak.

As the amount of renewable energy generation increases, Dairyland Power (our wholesale power provider) uses energy management programs to take advantage of these intermittent renewable resources. Many times, opportunities for wind energy production is at night when electricity consumption is low. By utilizing the Daily Energy Storage strategy, members are charging their EVs and heating their water overnight to take advantage of available renewable energy.

### How does the program work?

A receiver is installed by your local electric cooperative.

When an energy management event begins, a signal is sent to the receiver to pause power to the device(s) enrolled in the active program. When the event is over, a signal is sent to the receiver to switch the device(s) on to resume normal operation.

Our cooperative will work with a member to determine which program best fits their personal energy goals.



Receiver

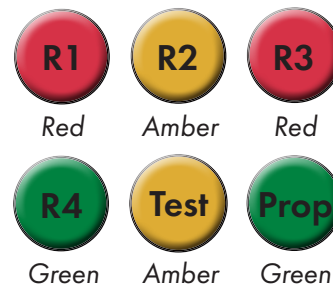
### How do I know if an event is underway?

The event status can be monitored online at [http://xso.dairylandpower.coop/lm/LCstatus\\_xres.html](http://xso.dairylandpower.coop/lm/LCstatus_xres.html).

You can also view the LED lights on the receiver (see diagram below). The receiver will illuminate a single green LED (Prop) light when there are no events initiated. During an event, the receiver will have a single green LED illuminated in combination with either an amber or a red LED light. At the completion of the event, the amber or red light will shut off, indicating restoration of your device(s). In most cases, a home will not notice when an event is occurring.

### Receiver Model 305/306

Your receiver may be different



**R1 Red:** Water heater paused

**R2 Amber:** Dual Fuel - Electric Heat paused

**R3 Red:** Electric Storage Heating paused

**R4 Green:** Event Alert

**Prop Green:** Receiver is operating properly

- Prop light is on 5:30 a.m. to 11 p.m.

*If you are out of hot water, check your circuit breaker, fuse or reset button on the water heater before calling your cooperative*

### Who should participate?

Any member who wants to play a role in keeping our electricity rates stable and affordable. Every member can make a difference by shifting their electricity use to times of the day when there isn't as high of a need for electricity and, therefore, when electricity is less expensive. On-peak hours in the winter are 5 p.m. to 8 p.m., and 11 a.m. to 7 p.m. in the summer. If members spread out their electricity use and minimize the number of devices using electricity at the same time, it makes a positive difference toward our energy management efforts.

When high-energy appliances (vacuum, dishwasher, clothes dryer, hot tub) are used at the same time, it creates a higher demand for electricity. It's like turning your kitchen faucet on the largest stream to fill up a pitcher fast vs. a low stream of water, which takes more time to fill the pitcher. You still use the same amount of water, but not all at once.

### It wasn't very hot/cold out today. Why was there a Full Load Control event?

Our local power lines are part of a larger, regional grid operated by the Midcontinent Independent System Operator (MISO). Being part of MISO means Dairyland Power Cooperative (our wholesale power provider) has access to additional power generation resources throughout MISO's territory, which extends from Manitoba, Canada, south through 15 U.S. states to Louisiana. MISO allows Dairyland options to purchase the most cost-effective power throughout the day (Dairyland also sells the power it

generates into the MISO market). It also means events that might cause a high demand for electricity in other parts of MISO's territory can affect electricity prices in our region. Examples include extreme weather, power line congestion (more electricity is being generated than a power line can handle) or unexpected power plant outage. Even if it's not very hot or cold outside, all of us can conserve energy during these peak times to help keep our electricity rates stable and affordable.

### Can a device be enrolled in two programs?

No. Daily Storage Control operates independent of Full Load Control and Economic Control, but the active periods for each program can overlap. A device will only follow the schedule of the program it is enrolled. For example, a member may have an EV charger enrolled in Daily Storage Control and an air conditioner that participates in Full Load Control or Economic Control events when needed.



Daily Storage Control occurs daily throughout the year (weekends are omitted from some of the storage programs, but not all). Items eligible for Storage Control include electric water heaters, thermal mass heating systems and EV chargers. This program shifts electricity use away from electricity 'rush hour' (high electricity demand) to off-peak times during the day.

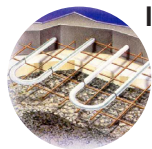
## Energy Management Schedule

### Full Load Control (Peak Alert)



#### Electric Water Heaters (Class: 1A, 1B or 4A)

Winter Start: 5 p.m. | Gradual Restoral: 8 - 11 p.m.  
Summer Start: 2 p.m. | Gradual Restoral: 6 - 8 p.m.



#### Interruptible Heat (Class: 2, 2W or 4B)

Winter Start: 5 p.m. | Gradual Restoral: 8 - 10 p.m.



#### Grain Drying (Class 24)

Winter Start: 4:50 p.m. to 8:50 p.m.  
Summer Start: 1:55 p.m. to 6:05 p.m.



#### Air Conditioners (Class: 2, 2S or 4B)

Summer Start: 1:45 p.m.  
Gradual Restoral: 6:15 to 6:30 p.m.  
Air conditioners cycle on-and-off every 15 minutes, running the fan in-between cooling cycles



#### Irrigation (Class 8)

Summer Start: 1:55 p.m. to 6:05 p.m.

### Daily Energy Storage

#### Off-Peak Storage - Weekdays (Class 3-MF)

#### Off-Peak Storage - All Days (Class 3-DLY)

Both strategies can include Electric Water Heaters\*, Interruptible Heat

#### Winter

1. Start: 5:30 a.m. | Gradual Restoral: 1 - 1:30 p.m.  
2. Start: 3:30 p.m. | Gradual Restoral: 10 - 10:30 p.m.

#### Summer

Start: 11:30 a.m. | Gradual Restoral: 8-8:30 p.m.



\*New electric water heaters enrolled in our energy management program are also enrolled in Evergreen Everyday, which gives the member four Evergreen blocks at no charge (400 kilowatt-hours) so they are able to heat their water with clean energy.

#### Off-Peak EV Chargers - Weekdays (Class 3-EV)



Start: 1:30 p.m. | Gradual Restoral: 9 - 9:30 p.m.

Eligible to enroll in Evergreen Everywhere. Evergreen allows members to offset 400 kWh of their EV charging with clean, renewable energy.

