

# Dual Fuel Requirements

Jackson Electric Cooperative offers a special off-peak electric rate for electric heating and cooling systems that are wired for peak load control. Under this program, the electric heating and cooling system is metered separately (dual meters) and is switched off during peak demand periods via a load management receiver installed by Jackson Electric. **The dual fuel (second) meter will be billed at Rate Schedule A9-T until all load control wiring is complete.**

## What is a Dual Fuel System?

A dual fuel system is any configuration of at least four (4) kW of electric heat that is installed in combination with an automatic, non-electric backup source of heat. When a peak control period occurs during the winter, the electric heat is switched off and the non-electric back-up heating system is activated to provide heat during the control period. During the summer months, the cooling system is cycled on and off every 15 minutes during a peak control period.

**The installation or use of any uncontrolled electric heat, such as a portable electric space heater that may operate during peak control periods, is not permitted on either meter under this program.**

## What is an Electric Thermal Storage Heating System?

An electric thermal storage system (ETS) is an electric heating system that uses high density brick within a room heater or central heating system to store heat for use during a peak control period. Because an ETS system recharges itself with heat during off-peak hours, usually at night for use during the following day, no back-up heat source is needed. ETS systems are designed to be switched off on a daily basis.

## Metering Requirements

Controlled heating and cooling systems require two meters, one for the main service and one for the controlled loads. In most cases, that means the installation of a dual meter socket and two parallel services. The dual fuel meter will be installed on the right side of the meter socket. Please contact the cooperative to obtain dual metering specifications.

## What is Permissible on the Dual Fuel Meter?

Some electric heating (at least 4 kW) and cooling systems and domestic hot water systems are permitted on the dual fuel meter provided they are hard wired; no plug-in outlets. Loads such as dryers, stoves, hot tubs, plug-in air conditioners, and other non-controlled loads are not allowed on the dual fuel meter. Beginning in 2018, newly installed geothermal heat pumps are not allowed on the dual fuel meter. Well pumps used for open-loop geothermal heat pumps are generally permitted on the dual fuel meter. We reserve the right to restrict wells on the dual fuel meter if heavy water use during control periods is likely.

## When Are the Control Periods and How Long Are They?

Dual fuel control periods usually occur on the 5-15 coldest and 9-15 hottest days of the year. Winter full load control periods usually start near 5 p.m. and end about 11 p.m. If the following mornings are severely cold, load control may occur then as well. Summer full load control usually starts near 1:00 p.m. and ends about 5:00 p.m. Cooling loads are cycled on and off every 15 minutes during summer load control.

ETS (Electric Thermal Storage) heating and dual fuel water heater control periods occur daily.

Generally speaking, the winter control periods (November-April) start about 5-6 a.m. and last early afternoon. Then, heating systems and dual fuel water heaters get 2.5 hours to recharge and are switched off again until 10-11 p.m. Summer control periods (May-October) start at 11:35 a.m. and last until 8:25 p.m. ETS and dual fuel water heater load control does not occur on weekends or cooperative-recognized holidays unless it is a full load control (high peak) day.

Economic control can occur depending on energy market prices. Starting May 1 through October 31, this may occur near 6 p.m. and last until midnight. During the months of November 1 through April 30, this may occur starting at 4 p.m. until 10 p.m.

### **When Are Dual Fuel Water Heaters Switched Off?**

Water heaters wired through the dual fuel meter are wired for daily load control. We encourage the use of a 105 gallon water heater so there is adequate hot water for use during these daily control periods. See the ETS heating control periods above for the daily control times.

Older installations not originally wired for daily load control are being converted to daily load control of water heaters. If replacing, we recommend a 105 gallon water heater. If your water heater is too small for daily load control, you will be required to remove your water heater from the dual fuel meter and wire it through the main meter. Your load management receiver will be reconfigured so your water heater is switched off less frequently and for shorter durations.

### **What Are the Control Wiring Requirements?**

The installation of a load management receiver to switch off heating and cooling loads is required to receive the off-peak electric rate. In most cases, the receiver will be attached to the dual meter socket located on the house. Please refer to the attached DUAL METERING WIRING SPECIFICATIONS.

Please provide two (2) #10 wires for each water heater plus three (3) #12 wires (one white) from the meter socket to the lower portion of the load center. In most cases, low voltage wiring, as shown in the DUAL METERING WIRING SPECIFICATIONS, is also required, and must be in place before the load management receiver is installed.

Please call about control wiring options if the meter socket is not attached to the house.