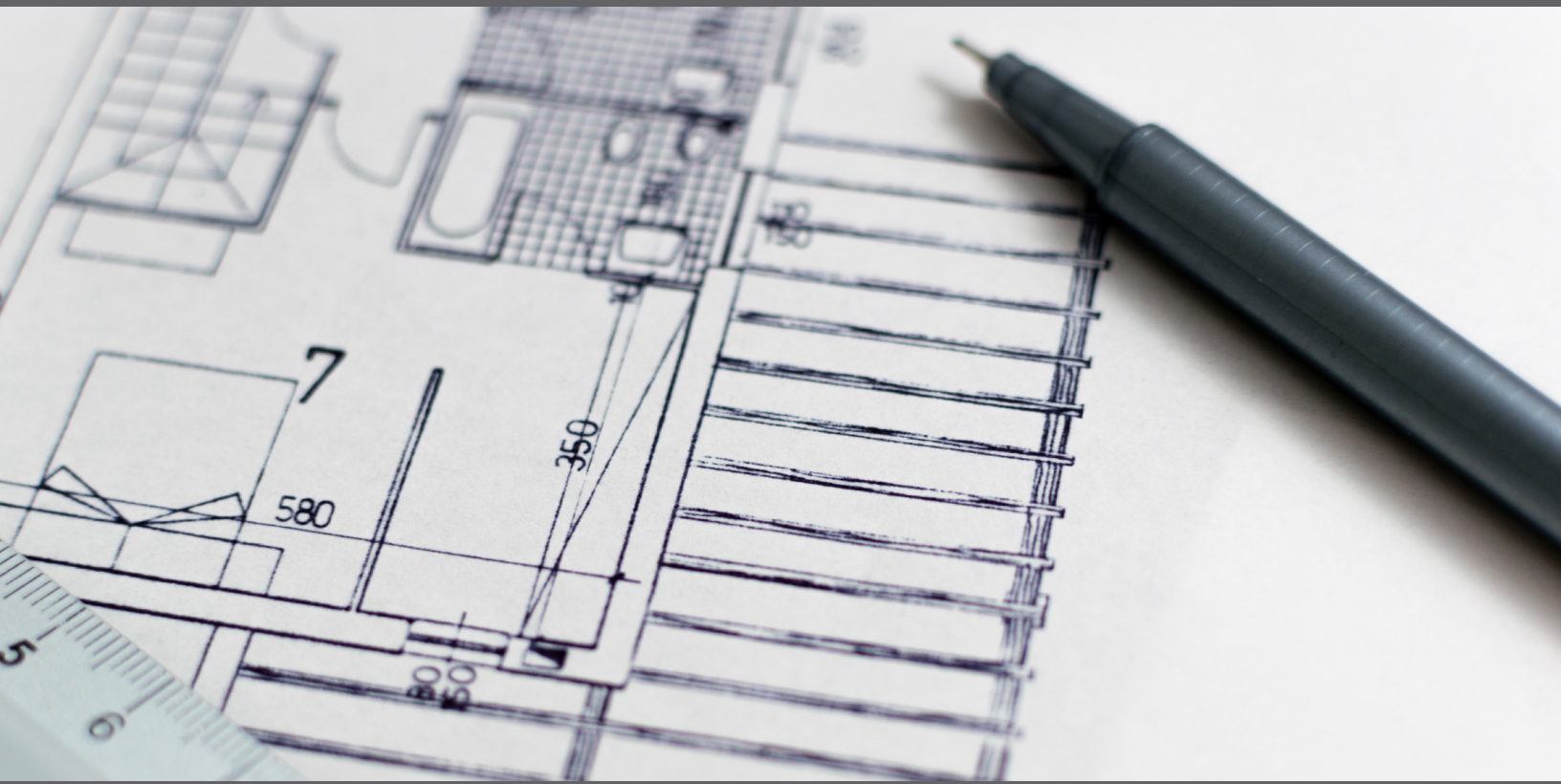




LAKE REGION ELECTRIC COOPERATIVE Energy Wise® PROGRAM & RESOURCE GUIDE

PROGRAM & RESOURCE GUIDE TOPICS

- » Energy Wise® Programs
- » Service Procedures
- » Service Revision Procedures
- » Technical Resources



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LREC PROGRAM AND RESOURCE GUIDE

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LREC CONTACTS

Pelican Rapids Headquarters or Ottertail Operations Center

Local calls	(218) 863-1171
Long distance calls	(800) 552-7658
LREC Website	www.lrec.coop (<i>Information and forms available</i>)

Office Hours

Monday-Friday: 7:30am to 4:00pm

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Energy Wise[®]

RESIDENTIAL PROGRAM

OVERVIEW

Lake Region Electric Cooperative's (LREC) Energy Wise programs give members an option to lower their costs by allowing the utility to manage certain electrical loads. They are available to any member who meets requirements described in this booklet. There are three types of controlled loads:

Water Heating

- » 8-hour peak shave minimum 80 gallon storage
- » ETS minimum 100 gallon storage
 - » Mixing valve required
- » See page 6 for details

Space Heating

- » Dual fuel
- » Storage space heating
 - » Short-term storage
 - » ETS Long-term storage

Cycled Air Conditioning

(no new sign ups after 7/1/2018)

Program discontinued 8/31/2018.

GENERAL REQUIREMENTS & CONDITIONS

Circuits originating from the main load center are metered at the retail rate. Circuits originating from the load management load center are submetered at the off-peak rate.

LCTs require a 240-volt source on the red and black leads. If the LCT is powered by a breaker, the breaker must be rated at 20 amps or less and be wired so that the entire electric heat load is turned off when power to the LCT is interrupted. (See wiring diagram LM011-LCT.)

If the LCT is powered by a circuit with inline fuses, the minimum is a 15 amp slow blow type fuse.

Dual Fuel Systems

To qualify for dual fuel programs, the customer must have both an electric heating system and an alternate fossil fuel heating system. No exceptions.

The alternate propane, natural gas or fuel oil system must be capable of heating a home and/or garage with average insulation based on 3.5 BTUs per cubic foot or the home's heat loss. It also must be hard wired and be capable of starting and operating automatically during control periods. The alternate heating system must be located on each level or be capable of heating each level of a multi-level home. Wood, corn or pellet systems do not qualify as alternate heating systems. Up to 1500 watts of auxiliary uncontrolled electric heat is allowed in specified areas and must be metered at the retail rate.

* Minimum load of 5 Kw for Dual Fuel.

Heat Pumps

Installation of a heat pump is encouraged. The compressor may be cycled 30 minutes out of every hour for up to six hours daily during the cooling season (Heat pumps that are separately metered under the dual fuel program are not eligible for an additional cycled A/C credit because they already receive a reduced rate).

If a ground source heat pump uses domestic well water, the well pump must be wired through the main panel and will be metered at the regular retail rate. EXCEPTION: A separate, dedicated well for the heat pump only is part of the submetered load.

Water Heating Programs

Off-peak water heating program requirements vary. Instant on water heaters do not qualify. Please refer to program descriptions for specifics.

ALL PROGRAM REBATE REQUIREMENTS

Customer is required to remain on program for 36 months. Rebates are subject to prorated repayment for early termination. Rebates are subject to change. Please contact LREC to check current rebate status as funds are limited.

INSTALLATION REQUIREMENTS

Water Heaters

Unmetered (Peak Shave) and separately single metered water heater controllers may be installed by LREC when installed on a single circuit. If adding a second controlled load to a single existing water heating controlled load, the member is responsible for conversion costs associated with bringing the system into compliance with current LREC requirements.

Submetered Loads

Most load management programs require a submeter (subtractive metering). A double 200-amp pedestal holding the main service meter and the submeter in one unit is also available. Pedestal cost is billed to the member. *If member is interested in LREC generator program, it may be advantageous to install separate pedestal for direct metering.*

One submeter per rate is allowed. Additional submeters must be approved by LREC and are billed to the customer or contractor per their request. One submeter per structure is recommended since ETS and dual fuel rates as well as domestic and nondomestic rates are different. However, if all loads originate from one submeter, the higher off-peak rate will apply to all loads.

Construction Sub Meter

When the electric heat portion of a dual fuel off-peak system is used for construction heat, and the backup fossil fuel system is non-operational, LREC may allow a construction phase sub meter installation in a sub panel meter socket between October 1 and May 1 under these conditions:

1. No water service is installed.
2. Some off-peak circuits are operational and controlled by an LREC control box.
3. Owner agrees *in writing* to the following:
 - a. The totally functional back-up system will be completed within six months or by May 1,

whichever comes first.

- b. To notify LREC to perform the final inspection of a dual fuel system.

An adjustment for accumulated kWh on a sub meter will be applied to the bill after inspection and approval when completed by May 1.

Metered Off-peak Loads

The customer is required to provide a submeter socket and distribution panel from which all electric heat and combination water heater circuits will originate. The cost of any modifications required to meet LREC requirements is paid by the customer. The use of current transformer metering for submetered loads requires prior approval. Current transformers for submetered loads are supplied by LREC and billed to the owner. All current transformer meter sockets must have a lever bypass.

Heating Circuits and Wiring

After a completed application has been received, LREC will provide one LCT at no charge to either the customer or the electrician on request.

The LCT has two relays:

1. 30 amp single pole, normally-closed relay.
2. 24 volt, 3 amp normally-closed relay.

See diagram inside LCT cover for specific application requirements, LM011-LCT wiring diagram also on page 17 of this book.

All installations must be wired as required by LREC and the National Electric Code (NEC).

Off Peak System Maintenance

When maintaining or troubleshooting off peak systems, please notify LREC to re-inspect and reseal panels.

Energy Wise® PROGRAM APPLICATION PROCEDURE

Homeowner Contacts LREC

- » Energy Wise program material is sent to members on request, or can be found on LREC's website, www.lrec.coop. LREC makes initial on site visit, if necessary.

LREC Initial On-site Visit

- » Required when adding fossil fuel to existing electric system or when installing short- or long-term storage

and heating systems.

- » Not required for water heater installation or when adding electric heat to existing fossil fuel heating source (minimum 5kW).

Homeowner Responsibilities

- » Complete load management application and return to LREC and select contractor.

Contractor Responsibilities

- » Request load control transponder (LCT)
- » Supply and install submeter socket, sub panel and relays according to LREC wiring diagram LM011-LCT and NEC requirements.
- » Notify LREC when installation is completed. Leave wiring certificate in meter socket, or mail the utility copy of wiring certificate to LREC, P.O. Box 643, Pelican Rapids, MN 56572.
- » Submeter will not be installed without wiring certificate.

LREC On-site Inspection

- » LREC technician inspects completed installation and installs submeter.

EXPECTED LOAD CONTROL

Control times are specified for each Energy Wise program. Because of increased demand and higher wholesale costs, control times may approach the maximums.

However, in spite of increased control times, load management programs still make economic sense because the rate is about half of the regular rate for the controlled load.

On a broader scale, load control lowers the demand portion of LREC’s energy bill, which will play an increasingly important role in keeping rates lower.

Daily load control information is available on our website at www.lrec.coop. Click *Load Control Button*.

ENERGY GRANTS

Commercial & Industrial (C&I); Agricultural

C&I and agricultural energy grants are available to qualifying members who make necessary conservation and efficiency improvements.

Grant awards are predetermined for each improvement or installation. Grants for large projects will be calculated on energy savings (and demand savings, if applicable.)

Eligible grant programs include:

- » Retrofit lighting (see page 28)
- » C&I cooling
- » New and retrofit premium efficiency motors
- » Variable speed drives
- » Beverage machine controllers
- » Custom energy saving projects

Funds are limited and awarded on a first-come, first-served basis.

HIGH-EFFICIENCY, INSTALLATION-BASED REBATES

Central A/C and Air Source Heat pumps

This HVAC program is designed to encourage residential installations of high-efficient central air conditioners and air source heat pumps and promote properly installed systems. In order to generate maximum electric energy savings, it is essential that the equipment is installed according to manufacturer’s specifications. This program seeks to validate four components of the installation: proper sizing, air flow, refrigerant charge and duct sealing.

Ductless-mini-split units are not eligible for this rebate, but may be eligible for participation in the EnergyStar appliance equipment program.

REBATE QUALIFICATION

To qualify for rebates, contractors must be registered through HVACReduction.net. Go to www.lrec.coop for information and registration instructions. Rebate forms for customers are only available through the Registered Contractor; LREC does not have rebate forms.

SEER	Rebate
14.5	\$50
15	\$50
16+	\$50

Central Air Conditioning

SEER	Rebate
14.5	\$480
15	\$580
16+	\$630

Air Source Heat Pump

NOTE: A Load Management Application is required for all programs.

Energy Wise® RESIDENTIAL PROGRAM GUIDES

ELECTRIC THERMAL STORAGE (ETS) WATER HEATING

An ETS water heating system uses inexpensive off-peak electricity to “charge” a water heater with sufficient hot water to supply your needs while the electric supply is interrupted during the on-peak hours the following day.

ETS Control – Separately metered

- » Minimum 100 gallon electric water heater
- » \$400 rebate
- » Mixing valve required (contractor provided)
- » 4.8¢ per kWh year-round

ETS Control – Unmetered

- » Minimum 100 gallon electric water heater
- » \$400 rebate
- » \$12 monthly bill credit
- » Mixing valve required (contractor provided)
- » Home must use 300 kWh per month to qualify

ETS Control – Combination metered

- » Minimum 100 gallon electric water heater
- » \$400 rebate
- » Metered with ETS space heating system
- » Mixing valve required (contractor provided)
- » 4.8¢ per kWh year-round

ETS Charge & Control Hours

- » Charge hours (on)—weekdays 8 hours: 10pm-6am
- » Control hours (off)—weekdays 16 hours: 6am-10pm
- » Weekends and holidays are only controlled as needed

PEAK SHAVE INTERRUPTIBLE WATER HEATING

The interruptible strategy allows LREC to temporarily interrupt electricity during times of peak electric usage—usually on the hottest or coldest days of the month—while still providing hot water for all your needs.

8 Hour Peak Shave – Separately metered

- » Minimum 80 gallon electric water heater
- » \$100 rebate
- » 5.4¢ per kWh (Sept.–May)
- » 6.1¢ per kWh (June–Aug.)
- » Up to 8 hour control during peak control periods

8 Hour Peak Shave – Combination metered

- » Minimum 80 gallon electric water heater
- » \$100 rebate
- » Metered with dual fuel or short term storage heating system
- » 5.4¢ per kWh (Sept.–May)
- » 6.1¢ per kWh (June–Aug.)
- » Up to 8 hour control during peak control periods

8 Hour Peak Shave – Unmetered

- Minimum 80 gallon electric water heater
- » \$100 rebate
- » \$10 monthly bill credit
- » Home must use 300 kWh per month to qualify
- » Up to 8 hour control during peak control periods



*See wiring diagrams for correct installation.

NOTE: Please notify LREC if a previously controlled A/C unit is replaced with a heat pump.

Energy Wise® DUAL FUEL HEATING INCLUDING HEAT PUMPS

Control Strategy

- » May be controlled anytime up to 400 hours during the heating season up to 12 hours daily, but usually between 4 p.m. and 10 p.m.
- » Heat pumps including ductless mini split units may be cycled during summer peak periods for 30 minutes out of each hour, up to 6 hours daily
- » All dual fuel heating loads need a hard-wired thermostatically controlled fossil fuel back-up, sized and capable of heating all levels

Incentives

- » Reduced rate on controlled load

A wood, corn or pellet furnace does not qualify as a secondary heat source.

NOTE: Contact Energy Services for non-residential (non-domestic) programs and rates.

NOTE: To qualify for central AC and air source heat pump rebates, contractors must be registered through HVACReduction.net. Get more information and registration instructions www.lrec.coop.

NOTE: Storage heating systems require a professional (Manual J) heat loss calculation. A copy of the audit must be submitted for approval with the Load Management Application.

Energy Wise® STORAGE HEATING

Short-term storage (STS)

- » Sub meter required
- » May be controlled anytime up to 400 hrs per year. Usually 4 p.m.–10 p.m.
- » Reduced rate on controlled load
- » Btu minimum of 1.25 times the heat loss of the structure
- » 6-inch sand fill (see page 18)
- » LREC inspection required prior to concrete pour

Long-term storage (LTS)

- » Sub meter required
- » Always controlled 6 a.m.—1 p.m. | 3 p.m.—10 p.m.
- » \$50/kw rebate on ETS load
- » Reduced rate on controlled load
- » Btu minimum of 1.5 or 1.75 times the heat loss of structure
- » 12-inch sand fill (see page 19)
- » LREC inspection required prior to concrete pour

- » Additional rebate on Steffes heating equipment may be available for storage programs. See LREC for details.
- » ETS water heating and an ASHP (controlled as dual fuel) are the only loads allowed with ETS heat on the ETS rate.
- » Fossil fuel backup system is not required with storage heat.
- » Multi-level homes must have sufficient storage capacity on each level.
- » Up to 2,000 watts of uncontrolled electric heat metered at the retail rate are allowed for rooms such as bathrooms and mechanical rooms that could become uncomfortable or where there is danger of freezing during control periods.
- » Building additions with storage heat qualify for the short-term storage program. If this is the only electric heat load, the existing structure does not need to be modified.

¹ In-floor heating systems must be in a sand base, not placed directly in concrete. See diagrams on pages 18-20.

INTERRUPTIBLE SERVICE

Small interruptible

- » Controlled load 25-50 kW
- » Contact LREC for basic demand and energy charges

Long interruptible

- » Controlled load 51 kW or more
- » Contact LREC for basic demand and energy charges

Requirements

- » Both programs require the entire load to be turned off on demand or automatically transferred to a backup generator.
- » Customer pays electrician to install load control device.
- » Automatic load transfer or disconnect switches are required.
- » Contact energy services specialist for requirements for specific locations.

WARNING

WHEN POWER TO THE LOAD CONTROL DEVICE IS INTERRUPTED, THE CONTROLLED LOAD MAY NOT OPERATE FOR A PERIOD OF UP TO 45 MINUTES AFTER POWER HAS BEEN RESTORED.

WIRING CERTIFICATE

Sub meter will not be installed until the installation is complete and LREC receives a copy of the wiring certificate or is notified that the certificate is in the meter socket. Installation of the LCT should be within a reasonable time period established by LREC. **NOTE: Installations must be approved by LREC before the meter will be installed.**

NEW SERVICES & SERVICE REVISIONS

Communication

Communication between owners, contractors and LREC is essential since guidelines vary between utilities. LREC contact numbers are on page 2.

New Services

New customers must complete and return a membership application to LREC. An LREC staking technician will contact the applicant and set up an appointment to meet on site, if necessary. To obtain a membership application, call customer service or download one from LREC's website.

Service Revisions

The member or contractor should contact customer service for service revisions. A service order will be issued and a staking technician will contact either the member or the contractor.

Work Order

When all requirements are met, a work order is issued for construction. These requirements may include easements, payments, permits, deposits, and wiring certificates. Work order schedules are based on the time of year, workload, and the length of time necessary to complete all requirements. During peak construction periods (spring/fall), construction wait times may approach 4 to 6 weeks. Early planning and communication may shorten construction wait times.

Wiring Certificate

A copy of the wiring certificate must be on file at LREC headquarters before a meter will be installed. If wiring is done by the homeowner, the state electrical inspector must inspect the wiring before the meter is installed.

Meter Location

LREC meters are normally placed at a pole or meter pedestal. In platted areas, the pole or pedestal will be placed on lot lines. Final meter location will be determined by LREC (see the LREC Line Extension Policy Summary on page 10).

Meter connection

LREC connects all services and installs all meters.

UNDERGROUND SERVICES

Meter Pedestal

LREC provides a 200 amp main meter pedestal at no additional cost for new services. Service revisions may have an associated charge.

Meter Pedestal Size

LREC uses a 200 amp single or double position meter pedestal for standard installations. Double pedestals are used on lot lines to serve more than one consumer. Other meter pedestals may be purchased from LREC:

- » Single 320 amp
- » Combination 200 amp main x 200 amp off peak
- » Combination 320 amp main x 320 amp off peak
- » Combination 320 amp main x 200 amp off peak

OVERHEAD SERVICES

Pole services

LREC will provide the pole and, in most cases, the owner will provide the meter loop on the pole.

Disconnects and Bypass Requirements

Required disconnects must be provided by the owner or contractor. LREC will direct meter up to a 400-amp service with a class 320 amp meter. A lever bypass is required on 320 amp sockets. LREC no longer sells 200 amp straight or D.T. switches.

Current Transformer Metering

LREC will determine when current transformer metering will be used for the main service. Current transformer metering will not be done solely for convenience. All current transformer meter sockets must have a lever bypass.

CONNECTIONS

Routine Connections

Scheduling a non-emergency, routine connection requires a 48-hour notice. Call customer service to schedule a connection (see page 2).

Wiring to Metering Point

The owner or contractor is responsible for all wiring beyond meter point including installation of a temporary service. Owner's wires must be brought to a point no more than two (2) feet from a meter pedestal or meter pole, or the service will not be connected. For underground services, a minimum of two (2) feet of wire above the meter socket from the required wire burial depth should be left for connection purposes. Consumer will be billed for splices and wire, if the wire is not long enough.

Wiring Connection

LREC will not connect exposed wires. Wires temporarily placed on top of ground must be placed in schedule 80 conduit and the conduit route marked with stakes and caution tape strung between the stakes.

Removing Meters

LREC will remove direct-wired or current transformer meters for revision work or building maintenance at no charge during normal business hours. Contractors may remove non-current transformer meters, if the contractor enters into a hold harmless agreement with LREC. Contractors must notify LREC before a meter and seal is removed and notify LREC when the meter has been reinstalled.

AREA LIGHTING

LED lights can be purchased or leased from LREC. Contact LREC for current price.

Purchased

Purchased lights can be installed on existing secondary low voltage cooperative poles or on new wooden poles only. LREC will sell and install new poles. Lights cannot be installed on high voltage poles.

The consumer is required to provide service wires from the metered side of the service to the light. LREC will charge for maintenance or repairs.

Leased Lighting

LREC has LED area lights available through a leased lighting program.

Under the terms of the Lighting Agreement, LREC installs, owns and maintains the lighting fixtures on existing poles adjacent to roadways and driveways. Energy is billed at a fixed monthly rate. Customer will be charged for additional poles and wire needed for mounting the lights.

CABLE LOCATING

Gopher State One Call

LREC abides by the rules of Minnesota's Gopher State One Call law. An owner or contractor must notify Gopher State One Call at (800) 252-1166 at least 48 hours before excavation begins.

GENERATOR SAFETY

If you have a standby generator that's connected directly to the electrical system, a transfer switch is required to prevent back feeding.

LREC LINE EXTENSION POLICY SUMMARY

An LREC staking technician works with members to determine the best route for power based on location and load requirements. (Policy requirements are subject to change.)

New Single Phase Extensions

- » \$250 (plus applicable taxes) new service extension fee
- » Footage and transformer charges to be determined

New Three Phase Extensions

- » \$250 (plus applicable taxes) new service extension fee
- » Footage and transformer charges to be determined.

Developments

Subdivision line extensions will be measured from existing facilities to the farthest point where electric service will be built. If greater than 300 feet, single phase construction charges apply. The line extension charge will be reduced by a lot credit, which is determined by the size of each lot. The cooperative designates service locations, which are generally along roads and lot lines. Additional charges may apply if service is brought to a different location.

Short-term Service

When short term service is required, the customer pays the estimated cost of construction and retirement minus the salvage value of reusable materials. Payment is required prior to construction.

Additional Charges

Charges for special equipment such as pad mount transformers, special metering equipment, road bores and permits may be included in payments, but are in addition to line extension charges.

Financing and Payment Schedule

Line extension charges greater than \$2,000 may be financed at LREC's current blended interest rate plus one percent for up to three years. Payments are not refundable.



LAKE REGION ELECTRIC COOPERATIVE ENERGY WISE RESIDENTIAL PROGRAM GUIDE

WATER HEATING PROGRAMS

Peak Shave Interruptible (requires min. 80 gallon electric water heater)

- » Up to 8-hour control during peak periods
- » \$100 Rebate: grid enabled water heaters
 - » Unmetered: receives a \$10 bill credit when monthly usage over 300 kWh
 - » Metered: 6.1¢ Summer and 5.4¢ Other months Off Peak rate per kWh

ETS Storage (Requires min. 100 gallon electric Water Heater with mixing valve)

- » Daily load control
- » \$400 Rebate: grid enabled water heaters
 - » Unmetered: receives a \$12 bill credit when monthly usage over 300 kWh
 - » Metered: 4.8¢ per kWh

HTP stainless steel and Marathon water heaters with lifetime warranty are available at LREC.

ELECTRIC VEHICLE PROGRAM

EV TOU - Time of Use Rate

- » Rates from 7.07¢ to 47.34¢ per kWh, see hourly chart
- » Sub meter required

EV ETS - Storage Rate

- » 4.8¢ per kWh controlled 16 hours daily
- » Sub meter required

DUAL FUEL HEATING

A combination of a primary electric and a secondary propane, fuel oil, or natural gas thermostatically controlled heating systems. Either system must be able to provide 100% of home's heating needs on each level. Same requirements for home or garage.

- » 5.4¢ per kWh September-May; 6.1¢ per kWh June-August.
- » Sub meter required.
- » May be controlled any time—normally from 4 p.m. to 10 p.m.—up to 12 hours/day, 400 hours per year.
- » Heat pumps are cycled 50% of each hour during summer peak control times.

SHORT-TERM STORAGE HEATING (STS)

- » 5.4¢ per kWh September-May; 6.1¢ per kWh June-August.
- » Sub meter required.
- » 6-inch sand cover required for in-floor heat.
- » May be controlled any time—normally from 4 p.m. to 10 p.m.—up to 12 hours/ day, 400 hours per year.
- » Installed load must be at least 125% of the heat loss audit.
- » **Steffes storage heaters are available at LREC and qualify for \$25/kW equipment rebate on short-term storage.**

LONG-TERM STORAGE HEATING (LTS)

- » 4.8¢ per kWh used for electric heating.
- » Sub meter required.
- » \$50/kW rebate.
- » 12-inch sand cover required for in-floor heat.
- » Size heat load for 16 hours control, must be at least 175% of heat loss audit.
- » Daily controlled from 14 to 16 hours.
- » **Steffes storage heaters are available at LREC and qualify for \$50/kW rebate on long-term thermal storage.**

All storage heating systems require a professional heat loss audit. A copy of the audit must be submitted for approval with the Load Management Application. LREC inspection required prior to concrete pour on in-floor systems. Non-residential buildings (detached garages, shops, etc.) Dual Fuel, short term storage and combination 8-hour programs are at 6.1¢ per kWh off-peak rate.

CONNECT WITH US TO LEARN MORE!

(800) 552-7658 | www.lrec.coop |   

DOMESTIC FUEL COMPARISON (HOME)

Effective 1/1/2019							
ELECTRIC HEAT		100% Efficient		200% Efficient		330% Efficient	
COST PER KWH	(Residential)	\$0.054	\$0.109	\$0.054	\$0.109	\$0.054	\$0.109
	Efficiency						
NATURAL GAS	80%	\$1.27	\$2.55	\$0.63	\$1.28	\$0.38	\$0.85
	90%	\$1.42	\$2.87	\$0.71	\$1.44	\$0.43	\$0.96

NON-DOMESTIC FUEL COST COMPARISON (GARAGE, SHOP, ETC.)

Effective 1/1/2019							
ELECTRIC HEAT		100% Efficient		200% Efficient		330% Efficient	
COST PER KWH	(Residential)	\$0.061	\$0.109	\$0.061	\$0.109	\$0.061	\$0.109
	Efficiency						
NATURAL GAS	80%	\$1.43	\$2.55	\$0.71	\$1.20	\$0.43	\$0.85
	90%	\$1.61	\$2.87	\$0.80	\$1.35	\$0.49	\$0.96

FORMULA

(Cost per kWh X efficiency of fossil fuel X BTU of fossil fuel) / (3413 X efficiency of electric)

KEY

1 kWh	3,413 BTU
1 gal #2 fuel oil	138,700 BTU
1 gal LP gas	91,500 BTU
1 CCF natural gas	100,000 BTU

ELECTRIC HEAT EFFICIENCIES

Resistance heat	100%
Air-to-air heat pump	200%
Geothermal heat pump	330%

LOAD MANAGEMENT HEATING RATES

Domestic dual fuel	\$0.054
Domestic short-term storage	\$0.054
Domestic Long-term storage	\$0.048
Non-domestic dual fuel	\$0.061
Non-domestic short term storage	\$0.061
Non-domestic long-term storage	\$0.048

HOME EXAMPLE

An 80% efficient furnace burns LP gas. The price of LP would have to be \$1.16 per gallon to make it as economical as 100% efficient electric resistance heat at the load management rate of \$0.054 per kWh. At the regular rate of \$0.109 per kWh, LP would have to cost \$2.39 per gallon. Using the same example, the price of LP gas would have to be \$0.35 per gallon to compare to a 330% efficient geothermal heat pump at the load management rate of \$0.054 per kWh.

Service charges and tank rental fees are not included in heating costs on the charts. When comparing monthly heating costs, these applicable costs should be included.



2022 Residential Energy Efficiency Rebates

Heating & Cooling

Heat Pump Systems	Ductless air source heat pump - ENERGY STAR/SEER 16+	\$300
	Air source heat pump, SEER 14.5 - 16+	Up to \$630*
	Geothermal heat pump, closed loop	Up to \$400/ton
ASHP Promo Rebates April 1 st – June 31 st	Minimum of 8.2 HSPF	\$700
	Minimum of 9.0 HSPF	\$1400
Central Air Conditioners	Central air conditioner, SEER 14.5-16+	\$50/unit*
Electric Thermal Storage (ETS) Heating Systems	Steffes ETS systems on Short Term Storage	\$25/kW
	All ETS systems on Long Term Storage	\$50/kW
ECM Motor (Replacement Only)	Electronically Commutated Motor	\$50

*Rebates for high efficiency air source heat pumps and air conditioners are available only through qualified contractors registered at HVACRedu.net. Go to www.lrec.coop and click on "Quick Links" and then "QI A/C & ASHP Contractors" to find qualified contractors in your area.

Water Heating

Heat Pump Water Heater	Must be ENERGY STAR	\$500
ETS Water Heater (\$0.048 rate)	Must be at least 100 gallons, grid enabled, with mixing valve	\$400
Peak Shave Water Heater	Must be at least 80 gallons, grid enabled	\$100

Electric Vehicle

Electric Vehicle Charger Installation	Must be a level 1 charger	Up to \$500
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All Rebates are subject to change, please contact LREC to verify availability



Ground Source Heat Pump Rebate Application



Member Information

GSHP must be installed within Lake Region Electric Cooperative service territory by an IGSHPA accredited installer.

Name _____ Account # _____

Address where GSHP is installed _____

City _____ State _____ ZIP _____ Phone _____

HVAC contractor _____

I certify that the GSHP for which I am claiming a rebate is installed and operating at the address listed above, and that this address represents a valid cooperative account.

Signature _____ Today's date _____

Equipment Information

Lake Region Electric Cooperative is not responsible for inaccurate information supplied by dealers.

Attach invoice with Model No. of equipment installed.

Closed loop system

Equipment manufacturer _____ Model No. _____ Tons _____

\$400/ton rebate

\$5,000 max rebate

- Manual J load calculation required
- Geo system size to provide at least 90% of total block heating requirement*

**With LREC approval, fossil fuel and/or off-peak electric may be used as supplemental heat to meet 90% requirement and qualify for rebate.*

Other closed loop systems

Equipment manufacturer _____ Model No. _____ Tons _____

\$200/ton rebate

- Geo system provides at less than 90% of block heating requirement

Electronically Commutated Motor

New

Replacement

Important:

- Fill out form completely. Incomplete forms will not be processed.
- Call LREC at 218.863.1171 or 800.552.7658 to verify rebate program status. **REBATES ARE SUBJECT TO CHANGE.**
- Rebate form and all required information and copies must be received by December 15th.
- **Submit 1) completed form, 2) a copy of the original invoice, and 3) a copy of the Manual J load calculation to:**

Mail to: GSHP Rebate
 Lake Region Electric Cooperative
 PO Box 643
 Pelican Rapids, MN 56572

E-mail: lrec@lrec.coop
 FAX: 800.321-1053

FOR OFFICE USE ONLY: Location #: _____



Residential HVAC Rebate Application

Member Information:

Name _____ Account No. (where installed) _____
 Address _____ Location No. (where installed) _____
 City _____ State _____ Zip _____ Phone _____

I certify that the ECM for which I am claiming a rebate is a qualifying motor, it has been or will be installed at the address listed above, and this address represents a valid cooperative account.

Member Signature: _____ Date: _____

Primary Heating Fuel: Electric L/P or Natural Gas Other _____

Equipment Information:

New Furnace with ECM (Electronically Commutated Motor)

Model Number _____ AHRI Number _____
 Manufacturer _____

New ECM only (installed in existing furnace) – Check box below that applies:

Replaces standard motor Replaces defective ECM

Manufacturer _____ Model Number _____

Ductless Air Source Heat Pump (must be Energy Star rated, or 16+ SEER)

Manufacturer _____ Model Number _____

Heat Pump Water Heater

Manufacturer _____ Model Number _____

Retailer Information:

Company Name _____

Rebates are available for the purchase of new furnaces with an ECM or for a replacement ECM. Rebate submittal must follow the guidelines as outlined by the cooperative. The cooperative is not responsible for inaccurate information supplied by HVAC contractor or installer. Call the cooperative to verify rebate program status.

Important:

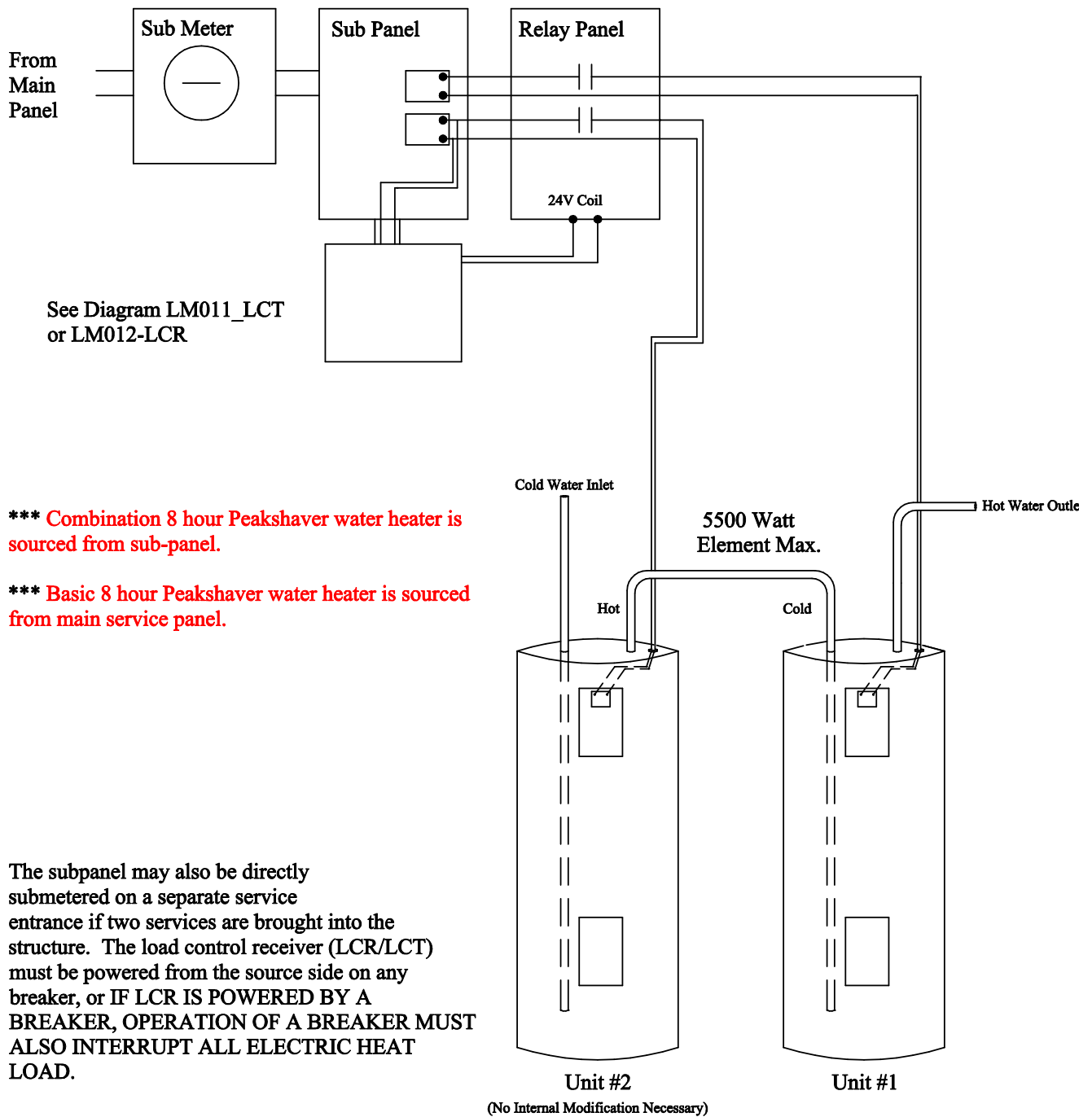
- Check with cooperative for qualifying rebate amount.
- Equipment must be installed within Cooperative service territory.
- Fill out this form completely. Incomplete forms will not be processed.
- Include your account number and sign the form.
- Submit completed rebate form and a copy of the original sales receipt by December 15th to:

Energy Management: Lake Region Electric Cooperative, PO Box 643, Pelican Rapids, 56572

Rebate program is subject to change or cancellation without notice.



TWO CIRCUIT CONNECTION FOR MULTIPLE TANKS

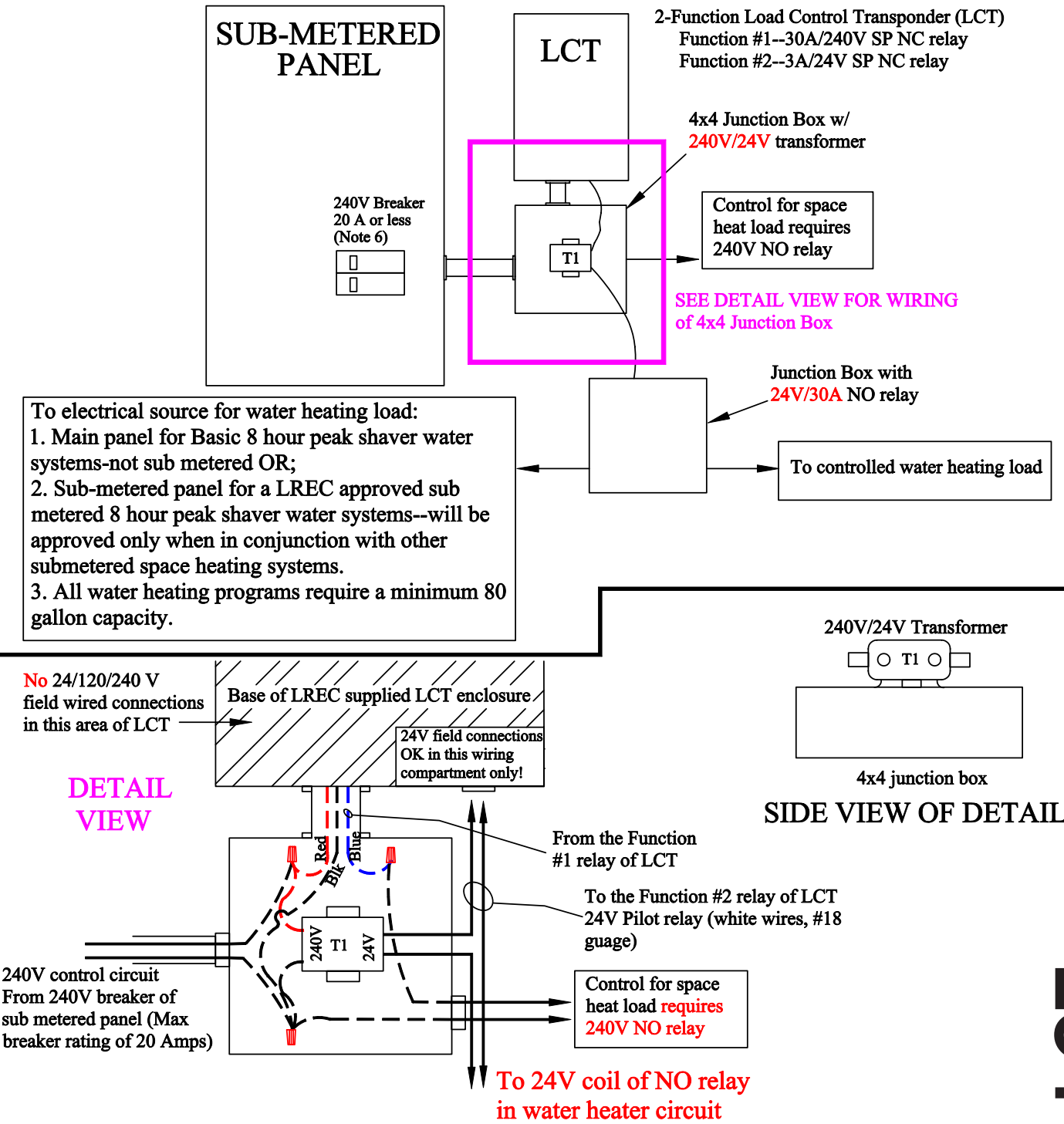


The subpanel may also be directly submetered on a separate service entrance if two services are brought into the structure. The load control receiver (LCR/LCT) must be powered from the source side on any breaker, or IF LCR IS POWERED BY A BREAKER, OPERATION OF A BREAKER MUST ALSO INTERRUPT ALL ELECTRIC HEAT LOAD.

ALL EQUIPMENT TO BE PROVIDED BY CONSUMER EXCEPT FOR LCR/LCT AND METER.

LM010

SINGLE LCT CONTROL



To electrical source for water heating load:
 1. Main panel for Basic 8 hour peak shaver water systems-not sub metered OR;
 2. Sub-metered panel for a LREC approved sub metered 8 hour peak shaver water systems--will be approved only when in conjunction with other submetered space heating systems.
 3. All water heating programs require a minimum 80 gallon capacity.

No 24/120/240 V field wired connections in this area of LCT

Base of LREC supplied LCT enclosure
 24V field connections OK in this wiring compartment only!

DETAIL VIEW

240V/24V Transformer
 T1
 4x4 junction box
 SIDE VIEW OF DETAIL

NOTES:

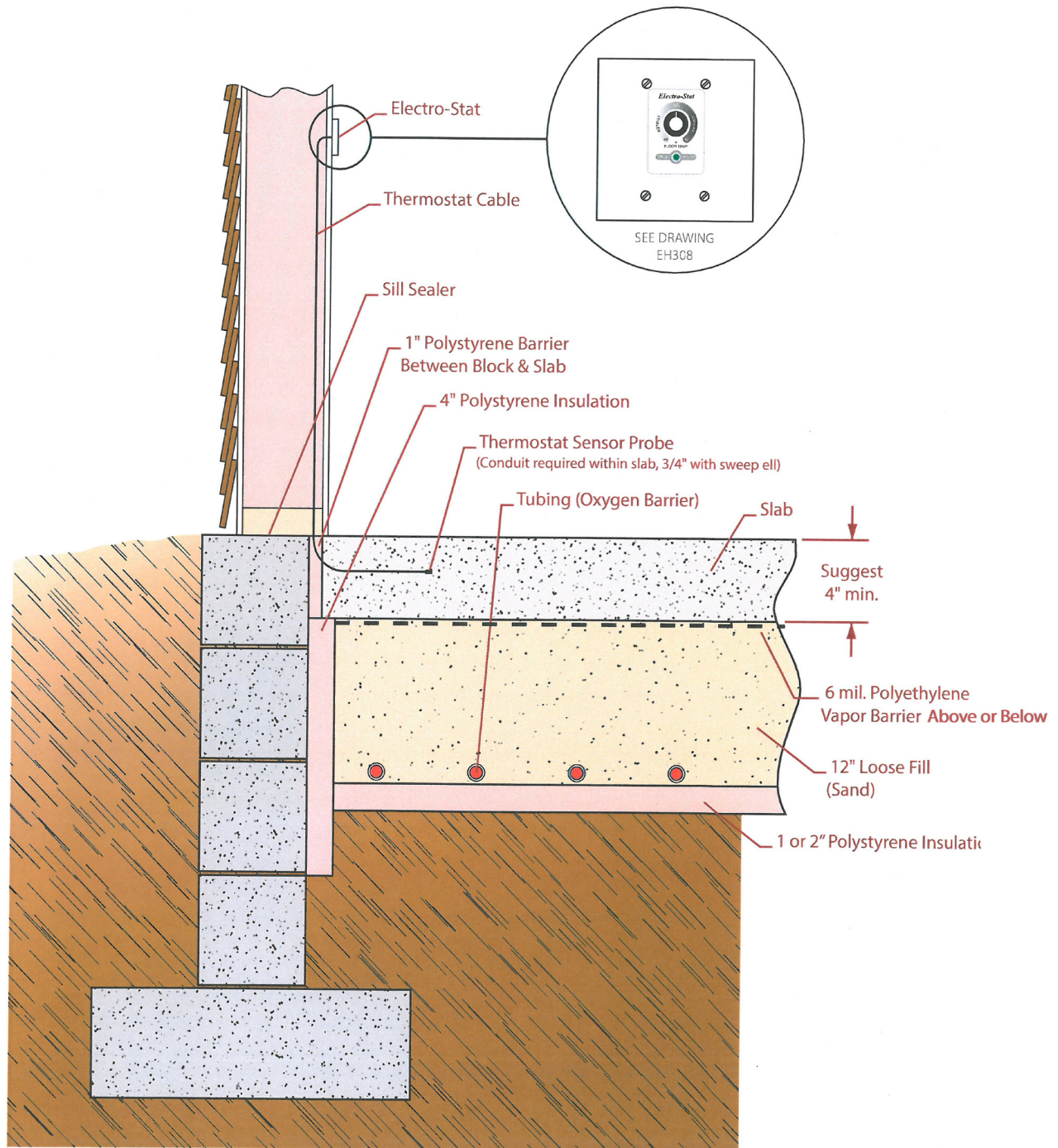
- IMPORTANT:** circuits **MUST** be wired so that by turning off power to the LCT all controlled loads will be in a controlled (off) state.
- LCT can be tapped onto 240V circuit controlling off peak space heat loads as long as breaker rating is 20 amps or less. If this cannot be done the LCT must be fed from a dedicated 240V circuit of 20 amps or less.
- All LREC load control equipment must be located adjacent to the service panel.
- LREC supplies the LCT. The customer is responsible for all wiring & associated costs to complete installation to conform with LREC specifications.
- Normally open/normally closed refers to the relay in it's de-energized state. An energized LCT in its uncontrolled state will energize any space heat or water heater relays.
- NEC 725.51

NC=Normally Closed; NO=Normally Open; SP=Single Pole

LM011-LCT

BASIC HYDRONIC UNDERFLOOR

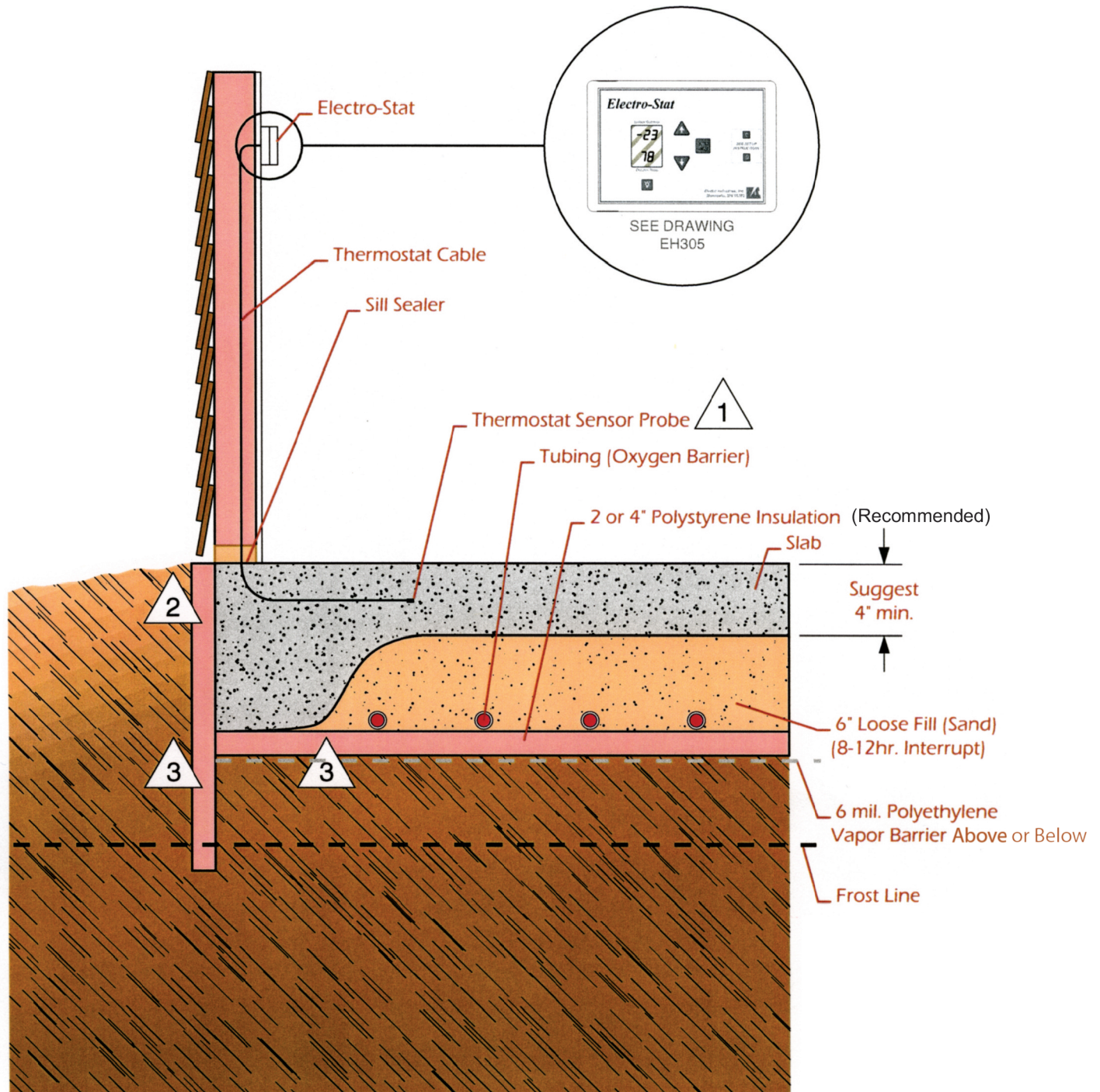
LTS Storage – 14 to 20 hour



Typical installation — sand base required for storage, check with contractor if recommending horizontal insulation below sand.

BASIC HYDRONIC UNDERFLOOR

Floating Slab - STS



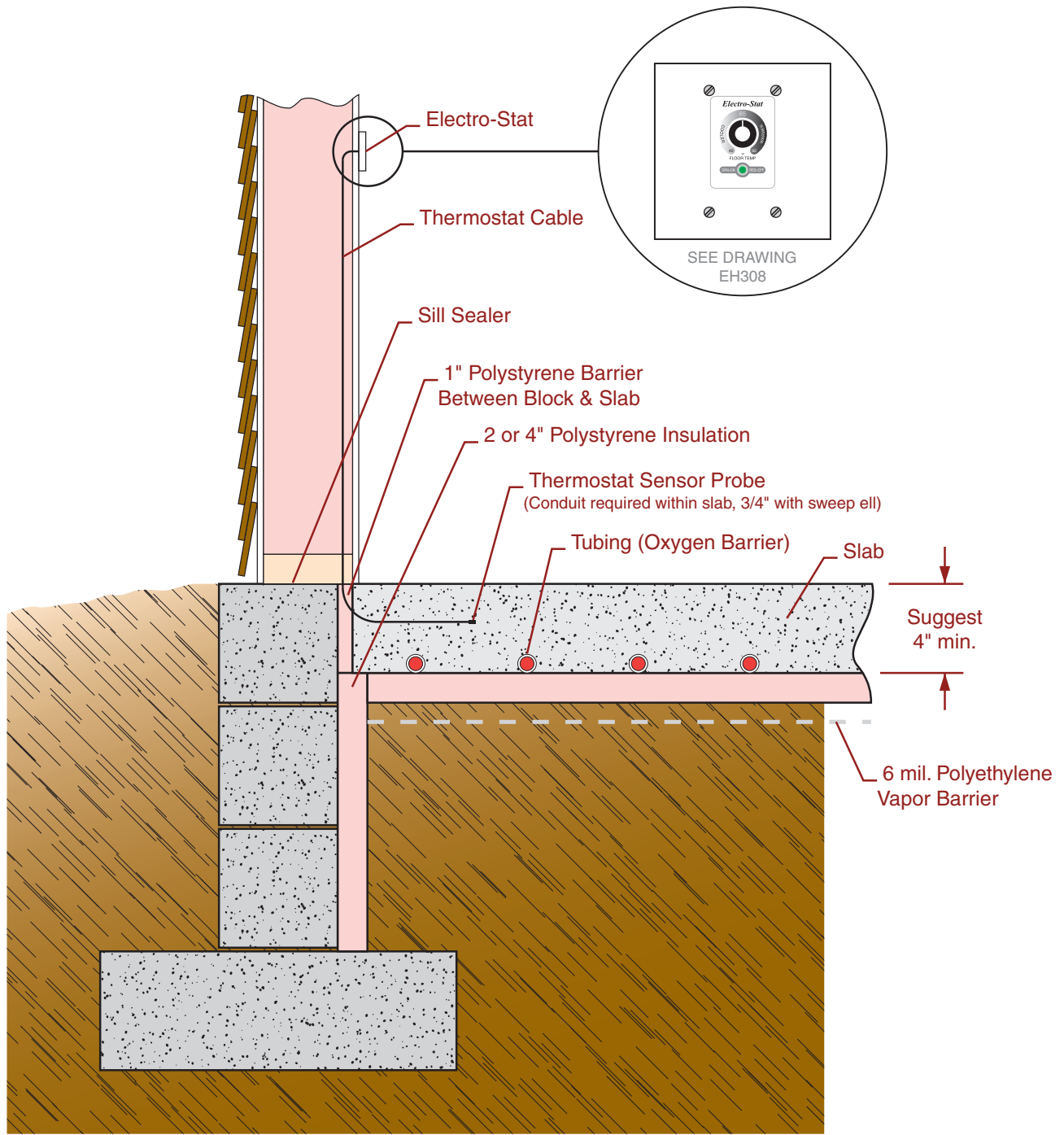
Notes:

1. Conduit required within slab, 3/4" with sweep ell.
2. If "floating slab", need screen to prevent rodent entry.
3. bottom or flat insulation board can also be extended 2'-3' outside of the slab. rodent screen becomes more difficult with this concept.

Typical installation — sand base required for storage, check with contractor if recommending horizontal insulation below sand.

BASIC HYDRONIC UNDERFLOOR

Standard Installation, back up needed for Dual Fuel Program



Typical installation — sand base required for storage, check with contractor if recommending horizontal insulation below sand.

ELECTRIC THERMAL STORAGE WATER HEATING: 100 GALLON TANK MINIMUM



Energy Conservation Tips and Recommendations

- » Set lower thermostat to 150 degrees; top thermostat to 140 degrees.
- » Install mixing valve and set so hot water temperature at faucet is 115 degrees.
- » Install low-flow shower heads and faucet aerators.
- » Insulate a minimum of the first 10 feet of pipe from water heater.
- » Wash clothes in cold water except for very dirty loads.
- » Always use cold water rinse for laundry.
- » Do not use circulation pumps on hot water line.
- » Try to limit using large volumes of hot water during control times.

ETS Charge & Control Hour

- » Controlled: 14-16 hours a day
- » Charge time: 8-10 hours a day

More information

Contact customer service at (880) 552-7658 or visit www.lrec.coop.



LAKE REGION ELECTRIC COOPERATIVE WATER HEATER PACKAGES + REBATES

WATER HEATER OPTIONS

Lake Region Electric Cooperative (LREC) offers three different water heater options ranging from 80–100 gallons. Both the HTP and Marathon water heaters offer lifetime warranties. Additionally, all three water heaters qualify for **EASY-PAY** which is no interest, on-bill financing through LREC.

**Rebates and incentives are available for grid enabled water heaters installed on one of LREC's load control programs.*

**Taxes are included in the pricing provided.*

**Please call for updated pricing or visit www.lrec.coop*



HTP EVERLAST GRID ENABLED WATER HEATER

Direct & EASY-PAY pricing:

- » 80 gallon:
 - » Direct purchase \$1,835.98
 - » **EASY-PAY** \$51.00/month
- » 100 gallon:
 - » Direct purchase \$2,141.76
 - » **EASY-PAY** \$59.49/month

Rebate & rate information:

- » \$100 rebate
- » \$400 rebate (ETS 100 gal)
- » 100 ETS or peakshave rate
- » 80 gal peakshave rate

Water heater specs:

- » Energy rating up to 0.93 EF
- » 80 gallon (EVG080C2X045):
 - » Stainless steel and 151lbs
 - » 69" tall and 23.25" wide
- » 100 gallon (EVG100C2X045):
 - » Stainless steel and 206lbs
 - » 61" tall and 27" wide

MARATHON GRID ENABLED WATER HEATER

Direct & EASY-PAY pricing:

- » 85 gallon:
 - » Direct purchase \$1,372.32
 - » **EASY-PAY** \$38.12/month
- » 100 gallon:
 - » Direct purchase \$1,539.13
 - » **EASY-PAY** \$42.75/month

Rebate & rate information:

- » \$100 rebate
- » \$400 rebate (ETS min 100 gal)
- » 100 ETS or peakshave rate
- » 80 gal peakshave rate

Water heater specs:

- » Energy rating up to 0.92 EF
- » 85 gallon (MRG85245):
 - » Poly material and 134lbs
 - » 66.25" tall and 28.25" wide
- » 100 gallon (MRG105245):
 - » Poly material and 152lbs
 - » 66.75" tall and 30.25" wide



RHEEM HEAT PUMP WATER HEATER

Direct & EASY-PAY pricing:

- » 50 gallon:
 - » Direct purchase \$1,425
 - » **EASY-PAY** \$42.50/month
- » 80 gallon:
 - » Direct purchase \$2,551.11
 - » **EASY-PAY** \$70.86/month

Rebate & rate information:

- » \$500 rebate
- » Peakshave rate

Water heater specs:

- » Energy rating up to 3.70 EF
- » 50 gallon (PROPH50 T2 RH 350D):
 - » Stainless steel and 178lbs
 - » 61" tall and 22.25" wide
- » 80 gallon (PROPH80 T2 RH 350D):
 - » Stainless steel and 244lbs
 - » 74" tall and 24.25" wide



CONNECT WITH US TO LEARN MORE!

(800) 552-7658 | www.lrec.coop |   



LAKE REGION ELECTRIC COOPERATIVE SPACE HEATING PACKAGES + REBATES

ELECTRIC THERMAL STORAGE (ETS) SPACE HEATING

Take advantage of low-cost off-peak rates with a Steffes room unit. During off-peak hours, the Steffes ETS space heater converts this low-cost electricity into heat and stores that heat in specifically designed bricks located inside the unit. The heater's built-in room thermostat initiates the fan to deliver this stored heat within the area as needed, maintaining constant comfort.

Steffes room unit overview

- » Safe, clean, comfortable heat
- » Replaces wood stoves, wall furnaces or electric baseboards and is easy to operate
- » No routine maintenance
- » Comfortable radiant heat with quiet variable speed fan
- » Manufactured in the United States
- » Perfect for a variety of buildings and residences

Unique features

- » Microprocessor technology and variable speed blower
- » Low cost automatic charge control
- » Heater operation display lights
- » Built-in digital room temperature thermostat
- » Brick core and air discharge temperature safety controls
- » Built-in controls to reduce installation time and costs

Product details

- » ETS heater stores off-peak energy (*no back-up system required*)
- » Qualifies for 4.8¢ ETS rate and 5.4¢ dual fuel rate
- » Expanded charge hours now available for 4.8¢ ETS rate
- » Up to \$50 per kW rebate available
- » **EASY-PAY** available with 48 month financing
- » 100% efficient and great for a single room or entire home
- » 5-year limited manufacturer's warranty

Components

- » Heat storage bricks
- » Insulation
- » Heating element
- » Temperature control and display panel
- » Warm discharge air and blower
- » Brick core temperature sensor

STEFFES ROOM UNITS SPECIFICATIONS

Standard voltage on all systems is 240VAC. Charging input voltage of 208 and 277 are also available.

MODEL	KW INPUT	WEIGHT LBS (APPROXIMATELY)	DIMENSIONS (INCHES)			MINIMUM CLEARANCE REQUIREMENTS (INCHES)	
			LENGTH	HEIGHT	DEPTH		
2102	3.0	267	30	24.5	10.5	TOP	4
2103	4.5	376	37	24.5	10.5	FRONT	15
2104	6.0	478	55	24.5	10.5	SIDES	2
2105	7.5	585	51	24.5	10.5	BACK	1.5
2106	9.0	692	58	24.5	10.5		

LREC will size and price a steffes system for your needs

ETS SPACE HEATING CHARGE + CONTROL HOURS

- » Charge hours (on)—daily 10 hours: 10pm–6am and 2pm–4pm
- » Control hours (off)—daily 14 hours: 6am–2pm and 4pm–10pm



CONNECT WITH US TO LEARN MORE!

(800) 552-7658 | www.lrec.coop |   



LAKE REGION ELECTRIC COOPERATIVE STANDBY GENERATOR SYSTEMS

BENEFITS OF OWNING A GENERATOR SYSTEM

Our standby power systems are designed to provide peace of mind and keep your life uninterrupted. The lights stay on, the sump pump keeps running, and your furnace or AC keeps your family comfortable. Our standby generator system intelligently powers your whole house, automatically powering what you need when you need it most.

Benefits of an LREC generator:

- » Generator automatically starts when the power goes out
- » Sold and installed by LREC*
- » Eligible for a 48-month **EASY-PAY** plan
- » From Briggs & Stratton—The Power Experts!
- » Runs on natural gas or LP (provided by others)



GENERATOR OPTIONS



12KW POWER PROTECT

Pricing starts at \$7,970.16



20KW POWER PROTECT

Pricing starts at \$9,954.80



26KW POWER PROTECT

Pricing starts at \$10,903.55

Our energy management team will help you choose the appropriate generator size and transfer switch for your home.

GENERATOR PACKAGES

Each generator installation includes the following:

- » Generator Power Protect Series with a 6 year warranty
- » LREC professional installation*
- » Cold weather kit and battery
- » Concrete pad
- » Exterior indicator light
- » First annual maintenance

AUTOMATIC TRANSFER SWITCHES

LREC has three automatic transfer switches available: DirectPower, Symphony II, and the Amplify. These transfer switches automatically connect to the standby generator, diverting the power source of the home when experiencing an outage. This allows for seamless connectivity from home utility power to the standby generator, erasing homeowner worry.

**Some installations will require a homeowner's electrical contractor.*

CONNECT WITH US TO LEARN MORE!

(800) 552-7658 | www.lrec.coop |   

Symphony II Power Management

Included with DirectPower™

Our patented *Symphony II Power Management System* intelligently powers your high wattage items (AC, electric oven, and dryer).

By using the customized priority you set, your power is intelligently routed to priority one, then two, then three, and so on. System automatically powers what you need when you need it most.

Our state of the art system allows you to purchase a smaller generator without giving up the conveniences of whole house power.

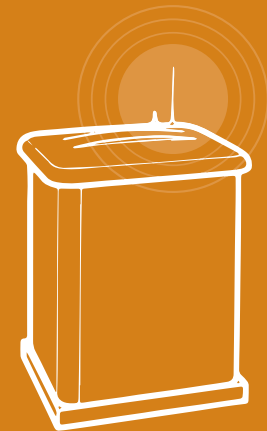


InfoHub Wireless Monitor

ADD-ON OPTION

Monitor Your Generator Wherever You Go

Infohub wireless monitoring tells you what you want to know about your generator – when you want to know it. Using your computer, tablet, or smart phone, standby generator owners can instantly check their generator's system status from home or away.



InfoHub Features

- ⦿ Confirm generator status
- ⦿ Check generator battery voltage and engine hours
- ⦿ Set-up and adjust generator fault, status, and maintenance reminder notifications
- ⦿ Track generator utilization and service history
- ⦿ View status and locations of multiple generators
- ⦿ Handle all account administration details including adding users for event notification, setting up the dealer as a fault contact, and renewing the subscription



CALL OUR ENERGY MANAGEMENT SPECIALISTS AT (800) 552-7658!



Lake Region Electric Cooperative
 PO Box 643
 1401 South Broadway
 Pelican Rapids, MN 56572

Electric Vehicle (EV) Charger Installation Residential Rebate Application



Member Information

Name _____ Account # _____
 Address where EV is installed _____
 City _____ State _____ ZIP _____ Phone _____
 EV Make/Model/Year _____

Electric Vehicle Service Equipment (EVSE) Information

Manufacturer _____ kW _____
 Charger Type: Level 2 _____ Charger is on rate: EVTOU _____ ETS (storage) _____

Contractor Information

Name _____ City _____ State _____

Rebate is available for an EV charger (Level 2) purchased on or after January 1, 2022. The charger must be installed where electricity is supplied by Lake Region Electric Cooperative (LREC). Rebate submittal must follow the guidelines as outlined by the cooperative. LREC is not responsible for inaccurate information supplied by vendors.

I certify that the EV charger for which I am claiming a rebate is a qualifying appliance, that it has been installed at the address listed above and that this address represents a valid cooperative account.

Signature _____ Today's date _____

Important:

SUBMIT

- Call LREC at 218.863.1171 or toll free at 800.552.7658 to verify program status, prior to purchase.
- Rebate amount is up to \$500 for qualifying EV charger.
- EV charger must be installed within LREC's service territory.
- Fill out this form completely. Incomplete forms will not be processed.
- Include your account number and sign the form.
- Submit completed rebate form and a copy of the original sales receipt within 60 days of purchase date to:
EV Rebate, LREC, PO Box 643, Pelican Rapids, MN 56572
- For questions, call LREC at 218.863.1171 or toll free at 800.552.7658.
 Fax: 800.321.1053
- Rebate program is subject to change or cancellation without notice.

Plug in with ChargeWise



ChargeWise—LREC’s Electric Vehicle Rate

Charge EV batteries with off-peak electricity

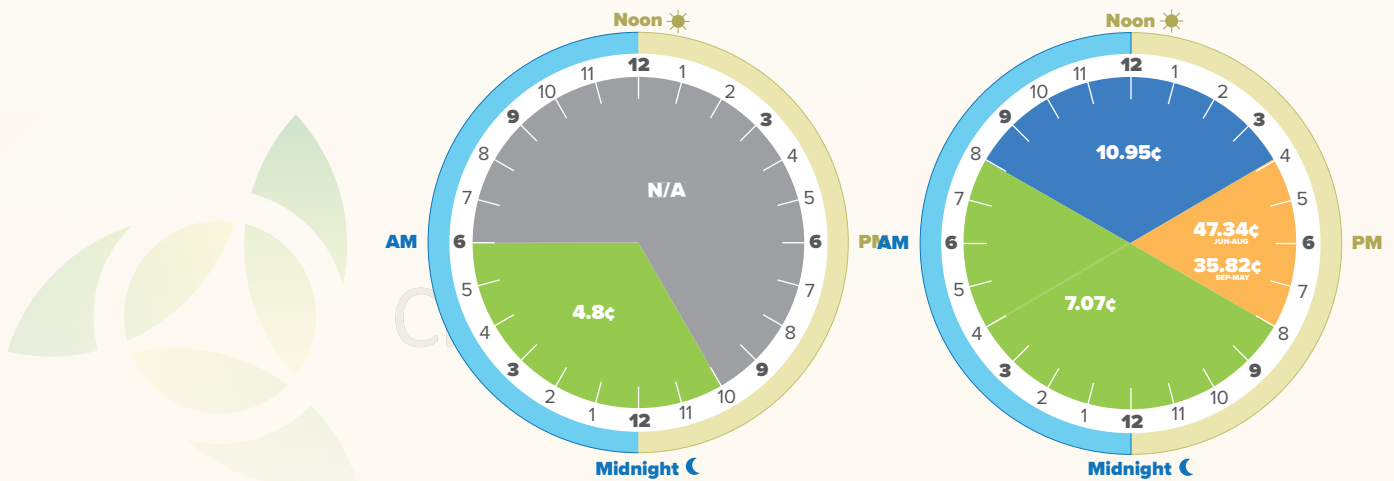
They may be few in number now, but electric vehicles (EVs) have arrived in the lakes area. Electric vehicle owners can save money every time they charge their car with LREC’s ChargeWise EV rates. There are two rate options in ChargeWise: a **time-of-use rate**, which allows you to choose what time to charge your car and how much you pay; the other is our **storage rate**, which is the lowest cost option, but only allows charging during certain hours.

Great River Energy is offering free wind energy upgrades for electric vehicles! Power your EV with 100% wind generated power. Learn more and sign up here: MNRevolt.com

Electric Vehicle Rates

Energy Storage Rate

Time of Use Rate



10PM-6AM: 4.8¢/kWh
Charging Not Available

8PM-3AM: 7.07¢/kWh
3AM-4PM: 10.95¢/kWh
4PM-8PM
- JUN-AUG: 47.34¢/kWh
- SEP-MAY: 35.82¢/kWh

Electric Vehicle Charging Station

The program requires that a separate sub-metered circuit be installed to accommodate an Electric Vehicle Supply Equipment (EVSE) charging station. A rebate of up to \$500 is available through ChargeWise for the installation of a Level 2 EVSE charging station. Call Energy Services at (800) 552-7658 for more information or visit www.lrec.coop/chargewise for a program sign-up and rebate application form.



LIGHTING

Equipment & Rebate Information

LED Retrofit Lighting

LAMPS – Screw & Pin – Min. 2x wattage reduction required

Wattage	< 20w – 60w	61-100w	101-140w	141 – 160w
Rebate	\$2	\$5	\$10	\$15
Quantity				
Total	\$0	\$0	\$0	\$0

LED Tubes

Lamp Size	4' LED Lamp - < 18w Replaces T12 or T8 lamps	5' – 6' Case Lamp Refrigerator/Freezer
Rebate	\$5	\$20
Quantity		
Total		\$0

LED Fixtures – Troffers, Downlights, Recessed Cans, Pendants & Surface Mounted – 2x Watt Reduction

Wattage	< 25w	26w-50w	51-75w
Rebate	\$10	\$15	\$20
Quantity			
Total	\$0	\$0	\$0

LED Fixtures – Wallpacks, Soffits, Canopy, Hi-Bay/Lo-Bay, Pole Mounted & Roadway Lighting – Replaces HID or T12

Wattage	< 40w	41-80w	81-120w	121-200w	201-250w	251-300w	301-400w
Rebate	\$25	\$35	\$50	\$65	\$80	\$100	\$120
Quantity							
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0

LED Exit Signs – Replaces incandescent only

Wattage	< 8w
Rebate	\$2
Quantity	
Total	\$0

Automated Controls: New construction and retrofit applications

Mount Type	Fixture Mount Occ Sensor	Photocell	Wall Mount Occ Sensor	Ceiling Mount Occ Sensor
Rebate	\$5	\$7	\$10	\$20
Quantity				
Total connected kW per sensor				
Hr/year without controls				
% Reduction				
Total	\$0	\$0	\$0	\$0

Example: 1 Fixture mount sensor on a light that runs 4,380 hrs/yr, can expect a 25% reduction and total connected kW of lighting to be .67/sensor.

Prescriptive Rebate