



# NORTH ITASCA ELECTRIC



OWNED BY THOSE WE SERVE

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Bigfork, MN 56628

218-743-3131

[www.northitascaelectric.com](http://www.northitascaelectric.com)

## **North Itasca Electric Cooperative's Informational Guide Booklet 2022**



### **Vision**

To be a progressive safe and reliable cooperative trusted by our members.

### **Mission**

Delivering value to our member-owners and communities by providing  
safe reliable energy and other services.

### **Values Statement**

North Itasca Electric Cooperative values honesty, integrity and high ethical  
standards. We are accountable to our members and committed to our  
communities.

## Introduction

The purpose of this guidebook is to help North Itasca Electric Cooperative Member-Owners understand all the programs and services available to them.

The programs outlined in this booklet are designed to provide energy safely while keeping it reliable at the lowest cost possible.

State and Federal mandates require that all electric suppliers (including Electric Cooperatives) with more than 5,000 members offer and promote energy efficiency programs. North Itasca Electric Cooperative has less than 5,000 members but still provides these programs for the good of our members. Through North Itasca Electric's load management programs, demand costs are reduced each month. Energy star appliances reduce members consumption, lowering their bills. Rebates and incentives are given out helping members in purchasing electrical devices to reduce their consumptions. Our Load Management programs reduce the need for producing or purchasing additional power at higher rates keeping the costs as low as possible. This reduction in energy also reduces the amount of fossil fuels used which reduces the number of harmful emissions from entering the atmosphere protecting our environment.

State and Federal mandates are requiring that more energy come from wind, solar, biomass, or any renewable source other than fossil fuels. These renewable energy sources presently are more expensive in the production of energy and North Itasca Electric is working with National Rural Electric Cooperative Association (NRECA) which works with legislation on our behalf.

At your meter, electricity is 100% efficient, but before it arrives at your home there are costs with both fossil fuels and renewables. With fossil fuels, it is hauling, conveying, burning and so on. With renewables it is manufacturing, installation, and the equipment itself. Wind turbine blades need changing, solar panel life reduces in time and get covered in snow. Along with these inefficiencies, the sun does not always shine and the wind does not always blow.

Design information and calculations in this booklet only provide rough estimates of heat loss calculations for buildings. Every structure has its own characteristics varying from the number and types of doors and windows to the types and amount of insulation installed. Even the direction in which the structure faces affects heat loss and gain. It is best to consult an expert when designing a home's heating and cooling requirements. Many contractors along with North Itasca Electric can do this for you.

North Itasca Electric Cooperative works hard for you the member-owner. Looking at every area where we can keep energy costs low and at the same time, reliable and safe.

## Applying for a Load Management Program

You can download an application from our website [www.northitascaelectric.com](http://www.northitascaelectric.com), email [support@nieci.com](mailto:support@nieci.com), call us or stop in to get one.

Many times, the contractor will work with the member, sizing and supplying the homes heating and cooling equipment needs, sometimes the homeowner will do the work and North Itasca Electric can help aid in design and purchasing the equipment needed. In either case a Load Management application form needs to be filled out to receive the equipment necessary for the sub meter needed.

## Call - Gopher State One

Before you dig, call Gopher State at 1-800-252-1166. They will contact all area utilities to determine the locations of utility owned underground cables, lines and pipes. **Keep in mind, only utility owned lines will be marked**, Members need to be cautious of their own electric, gas or what every line they may have underground. Any line between the main meter and structure being supplied with power is the member's responsibility.

## Electrical inspections required

**State law requires that all electrical work must be inspected. Electrical Contractors will submit an electrical application for your job, but if you're doing the work yourself, you must submit a request for inspection to:**

Minnesota Department of Labor and Industry, 443 Lafayette Road N., St. Paul, MN 55155  
Phone: (651) 284-5005 or 1-800-DIAL-DLI (1-800-342-5354); TTY: (651) 297-4198 **or online at: <http://www.dli.mn.gov/CCLD/ElectricalHomeownerForms.asp>**

### Electrical inspectors:

<u>County</u>	<u>Inspector</u>	<u>Telephone Number</u>
Itasca County	Steve Bartlett 7:00am – 8:30am	218-591-1616
Koochiching county	Curt Collier 7:00am – 8:30am	218-966-5070
Beltrami County	Mark Smythe 7:00am – 8:30am	218-751-0487

## **Energy saving tips for new and existing structures.**

Whether you are building new or remodeling, you should not only consider the materials inside the structure to save energy, but also how the outdoor environment plays a role in energy efficiency.

Windows facing south will save on heating costs by taking advantage of the sun in the winter months, but keep in mind that the same sunlight will cause additional heat gain during the summer. Much of a structure's heat loss and solar gain comes through the windows and glass doors.

Planting evergreen trees on the north side of a structure decreases winter wind exposure while deciduous trees on the west side maximizes summer shading. Trees planted near east windows will also have some beneficial effects but not as much as the south and west sides.

Building codes do not only look at structural aspects but also energy efficiencies. In older structures it is a good idea to have an energy evaluation done. Older structures are not as airtight and R value requirements were not as necessary as they are today. There are things that can be done to increase older home efficiencies. The list below shows a few of them.

- Insulate the basement walls 4-5 feet down the wall, especially the rim joists.
- Proper vapor barrier between interior surface and insulation is very important to stop air leakage and moisture problems.
- New homes require walls to have an R-19 value and ceilings R-38 minimums. New technologies enable older homes to add R values to walls without removing sheetrock and attic's can be filled with blown insulation increasing R values as well.
- Make sure all your windows and doors are sealed tight. Clear caulking around the trim works well in stopping air leaks.
- Electrical outlets on exterior walls can be sealed with outlet gaskets and or caulked.
- Are your windows single pane? You may want to replace them with double pane, if that's not possible, installing plastic over them helps prevent drafts.

For more information on energy tips, see websites like: [www.energystar.gov](http://www.energystar.gov), [www.touchstoneenergy.com](http://www.touchstoneenergy.com) or contact North Itasca Electric for help.

## **Load Management Programs available:**

### **Storage Water Heating:** 5.5 cents per kWh.

This program requires a minimum of a 100-gallon capacity water heater with an efficiency rating of 90%. Water is heated for 8 hours per day during the nighttime hours of 10:00 pm to 6:00 am +/- 1 hour. Weekends and holidays, power is provided from 10:00 pm until 3:00 pm the next day +/- 1 hour.

### **Space Heating:** 5.5 cents per kWh.

Program requires pex tuing, electric mats or cables to be a minimum of 12" below the top of concrete slab to be heated for 8 hours at night from 10:00 pm to 6:00 am +/- 1 hour.

### **Storage Space Heating with Individual Steffes Room Units:** 5.5 cents per kWh.

Bricks are heated for 8 hours at night from 10:00 pm to 6:00 am +/- 1 hour.

### **Storage Space Heating with Steffes Whole House Brick Furnace:** 5.5 cents per kWh.

Bricks are heated 8 hours at night from 10:00 pm to 6:00 am +/- 1 hour.

### **Dual Fuel Space Heating:** 6.3 cents per kWh

The electric portion of the heating system serves as the primary heat source with propane or fuel oil as a back-up system. Back-up heat sources must be capable of providing 100% of the home's heating requirements.

### **Controlled Air Source Heat Pump (heating):** .6.3 cents per kWh.

Propane or fuel oil backup is required and can provide 100% of the home's heating requirements. (Ductless systems do not qualify for reduced rates)

### **Controlled Air Source Heat Pump (Cooling):** 6.3 cents per kWh.

Program cycles system on 15 Min. off 15 Min. Maximum control periods of 6 hours per occurrence. (Members on Northome substation will not be controlled). (Ductless systems do not qualify for reduced rates)

**Ground Source Heat Pump (Heating):** Eligible for General Service or Dual Fuel rates. With a qualifying backup system of propane or fuel oil, the dual fuel rate of 6.3 cents per kWh is available.

### **Ground Source Heat Pump (Cooling):**

Controlled every 15 minutes during the control periods; 15 Minutes, ON, 15 Minutes OFF with a Maximum control period of 6 hours per occurrence. Load control applies only if heating is also controlled. (Members on Northome substation will not be controlled).

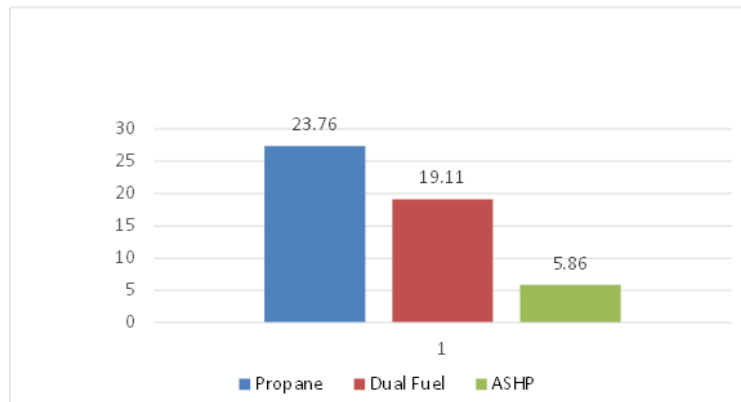
## Propane vs. Electric off-peak

Find the price you paid for energy and then follow the column down to the efficiencies of your heating equipment. Note the savings when you add an Air Source Heat Pump to your system.

Propane 91,500 Btu's / Gallon		\$2.00 Price per gallon at 92% Efficiency											
\$/Gal	Eff.	\$1.25	\$1.35	\$1.45	\$1.55	\$1.60	\$1.70	\$1.80	\$1.90	\$2.00	\$2.10	\$2.30	\$2.50
System Efficiency AFUE or EF	55%	24.84	26.83	28.81	30.8	31.79	33.78	35.77	37.75	39.74	41.73	45.7	49.68
	65%	21.02	22.7	24.38	26.06	26.9	28.58	30.26	31.95	33.63	35.31	38.67	42.03
	75%	18.21	19.67	21.13	22.59	23.32	24.77	26.23	27.69	29.14	30.6	33.52	36.43
	80%	17.08	18.44	19.81	21.17	21.86	23.22	24.59	25.96	27.32	28.69	31.42	34.15
	85%	16.07	17.36	18.64	19.93	20.57	21.86	23.14	24.43	25.72	27	29.57	32.14
	92%	14.85	\$16.04	17.22	18.41	19.01	20.19	21.38	22.57	23.76	24.95	27.32	29.7

Electricity 3413 Btu's / kWh		\$.06 off-peak rates at 92% Efficiency											
\$/kWh	Eff.	0.035	0.04	0.045	0.05	0.06	0.065	0.07	0.075	0.08	0.085	0.09	0.1
System Efficiency	82%	12.51	14.29	16.08	17.87	21.44	23.23	25.01	26.8	28.59	30.37	32.16	35.73
	85%	12.06	13.79	15.51	17.24	20.68	22.41	24.13	25.85	27.58	29.3	31.02	34.47
	86%	11.92	13.63	15.33	17.03	20.44	22.15	23.85	25.55	27.26	28.96	30.66	34.07
	92%	11.15	12.74	14.33	\$15.92	19.11	20.7	22.29	23.89	25.48	27.07	28.66	31.85
	99%	10.36	11.84	13.32	14.8	17.76	19.24	20.72	22.2	23.68	25.16	26.64	29.6

Electricity 3413 Btu's / kWh		\$.06 Dual Fuel Rates using an Air Source Heat Pump											
\$/kWh	Eff.	0.035	0.04	0.045	0.05	0.06	0.065	0.07	0.075	0.08	0.085	0.09	0.1
Air Source Heat Pump Efficiencies	150%	6.84	7.81	8.79	9.77	11.72	12.7	13.67	14.65	15.63	16.6	17.58	19.53
	200%	5.13	5.86	6.59	7.32	8.79	9.52	10.25	10.99	11.72	12.45	13.18	14.65
	250%	4.1	4.69	5.27	5.86	7.03	7.62	8.2	8.79	9.38	9.96	10.55	11.72
	275%	3.73	4.26	4.79	5.33	6.39	6.93	7.46	7.99	8.52	9.06	9.59	10.65
	300%	3.42	3.91	4.39	\$4.88	5.86	6.35	6.84	7.32	7.81	8.3	8.79	9.77



## Residential Water Heating Program

### Storage Water Heating:

- Electricity is sold for 5.5 cents per kWh.
- Electricity is supplied to the water heater for 8 hours each night, typically from 10:00 PM to 6:00 AM +/- 1 hour. Weekends and Holidays 10:00 PM until 3:00 PM +/- 1 hour the following day.
- \$400 rebate for off peak storage water in new construction.
- \$400 rebate for converting from General service to Storage.

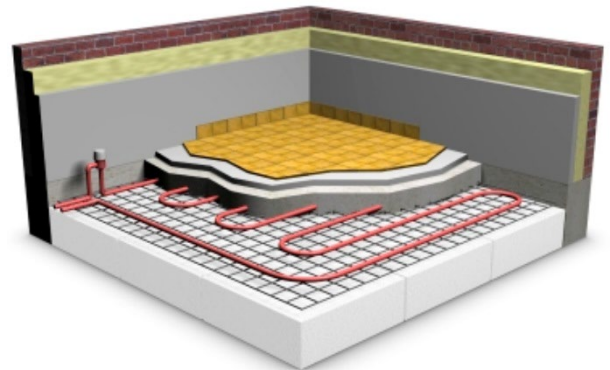
Program requires water heater to have a storage capacity of 100 gallons or more and an energy rating of 90%.



## Residential Space Heating Program

### Storage Heating with Floor Slab:

- Electricity is sold for 5.5 cents per kWh.
- Electricity is supplied to a boiler or electric mats for 8 hours each night. Power is typically on from 10:00 PM to 6:00 AM +/- 1 hour.
- Storage capacity of the slab must be equivalent to the heating requirements of the room unless a secondary non-electric heat source is used.
  - An exception is radiant floor warming that is not intended to heat the entire room.
- The stored heat radiates from the slab throughout the day until recharged the next night.
- To have enough stored heat, a typical slab heating system will need to have the tubing or electric mats placed in a minimum of 8" of sand or 12 inches below the top of the concrete slab. The boiler or electric mats will need to be sized slightly more than twice the calculated heat loss of the building in order to saturate the slab with enough energy to last 16 hours when the sand and slab will be recharged again for the following day.





## Storage Heating with Steffes room units and furnaces

- Electricity is sold for 5.5 cents per kWh.
- Electricity is supplied to the Steffes units for 8 hours each night. Power is typically on from 10:00 PM to 6:00 AM +/- 1 hour.
- Storage capacity of the room units must be equivalent to the heating requirements of the space being heated unless a secondary non-electric heat source is used.
- Stored heat from the bricks within the units is delivered to the space as needed throughout the day and recharged again each night.
- In order to have enough heat stored for 16 hours of OFF time, a typical room unit will need to be sized slightly more than twice the calculated heat loss of the room.
- Room storage units are filled with bricks that can be heated from 500 to 1300 degrees each night.
- Forced-air furnaces can be used in conjunction with an air-source heat pump to obtain even lower operating costs.



Charging temperatures vary with outside weather conditions to provide comfortable heat without wasting energy.



**Rebates:** \$50.00 per KW of connected loads up to \$1,000.

Great River Energy Control: [www.greatriverenergy.com](http://www.greatriverenergy.com)  
10:00 PM to 6:00 AM +/- 1 hour.

Minnkota's control: [www.beltramielectric.com](http://www.beltramielectric.com) and PBTv channel 301

Most likely from 7:00AM – 12:00 (5hrs) and 5:00PM to 11:00PM (6hrs).

For more information on Steffes furnaces or Room units, See [www.steffes.com](http://www.steffes.com) or [www.heatforlessnow.com](http://www.heatforlessnow.com)

## Dual Fuel Space Heating:

### Dual Fuel Space Heating:

- Electricity is sold for 6.3 cents per kWh
- Electric heat and a thermostatically controlled fossil fuel heat source is required to qualify for this program. The electric heat must be wired as the primary heating source and be able to supply over 50% of the heating for the entire home.
- The non-electric heating source must be able to provide 100% of the home's heating requirements.
- Wood does NOT qualify as a backup heat source! Gas fireplaces may qualify if they are thermostatically controlled and are able to provide 100% of the heating load.



- Load control can occur during no specific time periods and can last for a few hours up to 12 hours max. There is a good possibility of power being shut off when the temperature drops rapidly or in the negative numbers.
- A fully automated thermostatically controlled backup system is essential to maintain comfort.
- Electric baseboard, plenum heaters, electric furnaces and boilers, are all good choices for the program.

## Air Source Heat Pump

Air-Source Heat Pumps are basically air-conditioning units with a couple extra components that allow it to run in reverse to heat the home in addition to cooling it.

In conjunction with Dual Fuel, they can be part of other dual fuel heating equipment standalone units without other equipment used to heat the home.

Electricity is sold for 6.3 cents per kWh.



These units' work well during the shoulder months: October, November, March and April, but lose efficiencies with temperatures dropping below 20 degrees. Being that load control is unlikely because they only run in warmer temperatures above 20 degrees', they still may be controlled when system peak periods occur. During these peak periods, the power to the heat pump is turned off and a backup heat source is required.

There are no specific times load control may occur but it can be up to 12 hours during the winter months; during the summer, up to 6 hours at a time. North Itasca Electric does not know when the control periods will occur, but they are listed on the Great River Energy's website each day.

Heat pump (with or without plenum heaters) requires a thermostatically controlled fossil fuel heat source to qualify for the program. The electric heat must be wired as the primary heat source and can supply over 50% of the homes heating requirements to qualify for the Dual Fuel program. The non-electric heat source must also be able to provide 100% of the homes heating requirements.

Wood heat does **NOT** qualify as a backup heat source. Gas fireplaces may qualify if it is thermostatically controlled and able to provide 100% of the homes heating requirements. It is recommended that a propane furnace with a plenum heater be installed which would function as an air handler as well, to circulate the air.

Storage furnaces and properly sized storage slab heating systems are the only electric heating options that can be used as a backup system with the Dual Fuel rate without having a fossil fuel back-up system.

### **Rebates:**

#### **Ducted Air source heat pumps**

(Heat Pumps must be on the Dual Fuel load control program)

- \$1,000.00 for Central Air Source Heat Pump.

#### **Ductless Air Source Heat Pumps**

- \$750.00 for any SEER unit.

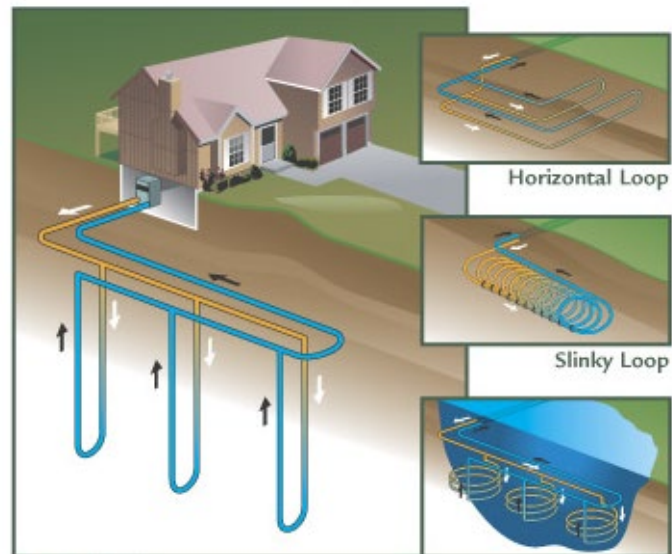
# Ground Source Heat Pump Heating and Cooling

## Heating

Ground source heat pumps are the most energy efficient means of heating and cooling.

They only need 25% to 30% of the energy that a standard heating or cooling system needs to receive the same effect.

With a qualifying propane or fuel oil backup system, your Heat Pump can be placed on the Dual Fuel rate of 6.3 cents. At 300% to 400% efficient, this equates to paying 2.1 to 1.6 cents per kWh depending on equipment installed.



## How does it save energy?

Ground temperatures maintain a constant 45 to 50 degrees year around below the frost line. Instead of raising temperature from -30 degree to +70, (a 100-degree temperature difference), you only need to raise temperatures from +50 to +70 degrees a (20 degree) difference.

## Cooling:

If heat pump is placed on the dual fuel program, air conditioning would also be controlled at the rate of 6.3 cents per kWh. Minnkota Power does not control air conditioning in the summer month, so those on the Northome substation will not be controlled.

## Cycled Cooling:

- Electricity is sold for 6.3 cents per kWh for ASHP only.
- Electricity is available for air conditioning except during peak periods. During peak periods, the units are cycled ON and OFF every 15 minutes. Cycling could continue up to 6 hours per occurrence or up to 200 hours per year.
- Ductless Equipment does not qualify for load control programs.
- If installing Central Air Conditioning, please consider installing an Air Source Heat Pump. They not only cool the home in the summer months but will heat it during shoulder months with high efficiencies. Some heat pumps are 300% efficient and are also allowed on the Dual Fuel program reducing heating cost 50 – 70%.



## General Service Rates:

North Itasca Electric's general service rates. During the months of June, July and August, rates are 2 cents per kWh higher. The standard monthly base charge is 46.00.

<b>2022 Rates (Mar - May / Sept-Dec.)</b>		<b>700 kWh usage</b>	<b>1500 kWh usage</b>	<b>2000 kWh usage</b>
Base Charge		46.00	\$46.00	\$46.00
Energy	0.1249	\$87.43	\$187.35	\$249.80
Sales Tax	.06875	\$9.17	\$16.04	\$20.34
Monthly Cost		\$142.60	\$249.39	\$316.14

<b>2022 Rates (Jun - Aug)</b>		<b>700 kWh usage</b>	<b>1500 kWh usage</b>	<b>2000 kWh usage</b>
Base Charge		\$46.00	\$46.00	\$46.00
Energy	0.1449	\$101.43	\$217.35	\$289.80
Sales Tax	.06875	\$10.14	\$18.11	\$23.09
Monthly Cost		\$157.67	\$281.46	\$358.89

## Load Control Rate Summary

5.5 ¢ per kWh - Storage Water Heating  
 5.5 ¢ per kWh - Storage Space Heating  
 5.5 ¢ per kWh - Pool Heating  
 5.5 ¢ per kWh - Electric Vehicles.  
 6.3 ¢ per kWh - Dual Fuel Heating  
 6.3 ¢ per kWh - All central air source heat pumps.

### For control period information:

Members on Bigfork, Wirt, Jessie Lake, and Evenson substations:  
[www.greatriverenergy.com](http://www.greatriverenergy.com)

Members on Northome substation:  
[www.beltramielectric.com](http://www.beltramielectric.com)  
 PBTv channel 301

# Load Management Installation Requirements

Complete a request for electrical inspection affidavit and mail it to Minnesota State Board of electricity. Forms are available from the Minnesota Department of Labor and Industry's website, [http://www.electricity.state.mn.us/pdf/eli\\_rei\\_homeowner\\_form.pdf](http://www.electricity.state.mn.us/pdf/eli_rei_homeowner_form.pdf).

## Great River Energy load control receiver

- The load management sub meter socket should be mounted between 24" and 60" above grade. This is necessary for maintaining meter and radio receiver. North Itasca Electric uses subtractive sub-metering. Power supplied to the radio receiver must come from the top lugs of the meter socket.
- All load management equipment must be connected to the bottom lugs of the meter socket.



## Red and Black wires

Provide power to the radio receiver by connecting 240-volt uninterruptible power from the top lugs of meter socket.

## Blue wires:

Used to control electric heat and air-conditioning equipment. They are connected to a normally closed relay with contacts that can have a maximum of 120 VAC, 5-amp resistive loads. A control signal will open the contact turning off power to the electric heating or cooling equipment. The normally closed configuration of the contacts ensures that the member has power to his/her heating or cooling equipment should the receiver fail.

## Orange wires:

Used to control electric water heaters and storage heating equipment. These wires are connected to a normally closed relay with contacts that can have a maximum of 240 VAC, 30 Amp Resistive Load. A control signal will open the contacts to turn off power to the equipment. The normally closed configuration of the contacts ensures that the member has power to the equipment should the radio receiver fail.

## Contractor/Owner responsibilities:

Contractor/owner is responsible for installing load management controls and metering equipment (except for the meter itself) according to state electrical codes.

Meters will be installed upon completion of testing and inspection by both North Itasca Electric and state electrical inspector. North Itasca Electric will install the meter once the system is fully functional, inspected and having a functioning backup system fully operational.





## Load Management Installation Requirements (continued)

### Minnkota Power load control ripple controller

Looking at the ripple controller to the right, you will see three handwritten code numbers. These codes tell the ripple controller which program you are on opening and closing the relay below them. One can see by looking at the relays if the system is being controlled by the switches on the relays if they are up or down. (UP) on, (DN) off. Between the first and second relay, you will see an indicator light which will flash green when signals are being received from Minnkota Power.

For wiring diagrams to install the ripple controller, contact North Itasca Electric.



### When do control periods take place?

Storage Heat and Storage Water control is as stated above in the program information. Dual Fuel, Air Conditioning and interruptible water heating, we do not know from day to day until control times are announced by the Great River Energy and Minnkota Power.

#### Great River Energy

For control periods: [www.greatriverenergy.com](http://www.greatriverenergy.com)

- Dual Fuel control usually happens between 4:30pm and 9:30pm  
Storage heat is from 10:00pm – 6am

#### Minnkota Power Cooperative

For control periods: [www.beltramielectric.com](http://www.beltramielectric.com) and PBTv channel 301

- Most likely from 7:00am – 12:00 noon (5 hours) and 5:00pm -11:00pm (6 hours).



## **Home Energy Evaluations and Heat Loss Calculations**

### **Energy Evaluations available**

North Itasca Electric can help you evaluate your energy usage. If you would like assistance, call Jerry Loney and ask for an energy evaluation.

### **Heat Loss Calculations**

North Itasca Electric provides heat loss calculations and design assistance to members installing electric heat. If you are undecided what to use, North Itasca can help. Provide a print or sketch of your home with information on dimensions, location in reference to North, insulation type, type of windows and doors, and we would be happy to help you in your decision.

## **Design rules of thumb:**

The design rules below are intended for informational purposes only. They are based on new home construction using the latest technologies and standards. One should have a heat loss calculation done by a professional to ensure a proper system is designed.

### **Electric boilers:**

If you are looking for just a little additional warmth, figure 6 watts per square foot.

If you are looking for 100% space heating on our Dual Fuel program, figure 9 watts per square foot.

If you are looking for 100% space heating with Storage program figure 15 to 17 watts per square foot.

### **Plenum Heaters:**

Plenum heaters can be sized using 8 to 10 watts per square foot (with 8' ceilings)

Use 15 kW models in structures 1500-2000 square feet.

Use 20 kW models in structures 2000-2500 square feet.

A minimum air flow of 1000 CFM's is needed for 15 kW plenum heaters with proper ductwork installed and about 10 registers.

A minimum air flow of 1200 CFM's is needed for 20 kW plenum heaters with proper ductwork installed and about 12 registers.

### **Steffes Furnace:**

The sizing of brick storage units receiving 8 hours of charge each day:

#### **Square foot Method:**

Basements:

Square feet x 8' ceiling x 1.5 = Btu's

First floor:

Square feet x 8' ceiling x 2.4 = Btu's

#### **Cubic foot method:**

2.4 Btu's heat loss / Cubic foot for the upper level and 1.5 Btu's heat loss / cubic foot for the basement.

#### **Home on slab or crawl space:**

2.9 Btu heat loss / cubic foot for all areas.

## **Rebates available 2022**

### **Appliances**

- Dehumidifier \$25.00

Must be Energy Star listed

- Dryer \$25.00

Must be Energy Star listed

- Refrigerator or freezer harvest \$75.00

When removing an older unwanted working refrigerator or freezer from the distribution grid.

- Refrigerator (New construction) \$0.00

No rebates for new construction. There is no energy savings when installing an additional appliance to the distribution grid.

- Refrigerator or freezer w/recycling \$75.00

When replacing an older less efficient working refrigerator and recycling it.

### **Heat Pump Water Heaters**

- 50 gallon or 80 gallon \$500.00
- ECM Motors for a hot water recycling pump \$50.00

### **HVAC**

- AC tune up \$25.00

When tuning up your existing Air Conditioning equipment.

- WIFI thermostat \$25.00

- ECM motors \$50.00

When replacing a standard motor with an energy efficient ECM motor.

- Ground Source Heat Pumps (Per Ton) \$400.00

When installing new or replacing older equipment up to 5 Tons.

- Central Air Source Heat Pumps \$1,000.00

When installing a central Air Source Heat Pump with a HSPF rating of 10 or higher.

- Mini Split ASHP \$750.00

When installing a Ductless Air Source Heat Pump of any SEER rating.

### **Lighting**

- LED Home Lighting & Holiday bulbs \$1.00 each.

With proof of purchase of LED light bulbs.

- LED Yard light \$30.00

With proof of purchase of an LED yard light fixture.

- Holiday string lighting

(See Great River Energy's online store)

### **Load Management**

- ETS Space Heating \$50.00 per KW up to \$1,000.00

When installing Storage Space heating and placing equipment on North Itasca Electric's storage heat load control program.

- ETS Water Heating \$400.00

When installing a 100-gallon capacity water heater and placing it on North Itasca Electric's storage water heating program.

**Miscellaneous**

- Engine block Heater time \$5.00

With proof of purchase.

- Faucet Aerator (See Great River Energy's online store)
- Power Strip Surge Protector (See Great River Energy's online store)
- Low Flow shower head (See Great River Energy's online store)

**Pool programs**

- Pool ASHP \$400.00

When heating pool with a heat pump pool heater.

- Pool Variable Speed Pump \$200.00

With proof of purchase.

**Income Eligible**

- Appliance and HVAC sales - (\$500 max)



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## WELLSPRING PROGRAM

### **Your Personal Opportunity to Support Wind and Solar Power!**

The Wellspring program provides co-op members with an easy, affordable and meaningful way to support sustainable energy in their communities. By empowering members to buy energy from renewable sources, this program enables them to offset conventional energy use and take pride in helping promote renewable energy development in the state of Minnesota.

Small acts can make a big impact. As more members support the program, more opportunities arise to generate power from renewable sources. Together we can power the future.

### **What does participation in Wellspring mean?**

Wellspring is a voluntary program offered to cooperative members. While the electricity delivered to all homes and businesses includes some renewable energy in the mix, including wind and solar, participating in the Wellspring program is an added bonus. Additional turbines and solar panels are built specifically for those who subscribe to Wellspring. As long as there is an increasing demand for Wellspring energy, more renewables will be added to our diverse mix of generation resources.

### **How does the program work?**

- An average home uses 800 – 1,000 kWh hours of electricity per month
- You can purchase Wellspring Energy in 100 kWh blocks
- Eight to ten blocks are equivalent to an average home's monthly electric use

Participating members pay an additional amount on their electric bills.

A 100-kWh block of Wind cost \$.20 per block

A 100-kWh block of solar cost \$2.00 per block

### **How long do I have to stay on the program?**

You must remain on the program for at least 12 months. After 12 months, you may discontinue participation at any time.

### **Where is Wellspring wind energy produced?**

Wind energy is produced from large wind turbines located mainly in southern Minnesota, while the solar energy is produced by Great River Energy solar resources throughout the state of Minnesota. In 2015, wind resources accounted for 469 mega watt (MW) of total generation capacity. Fifteen MW of wind generation are dedicated to the Wellspring, wind program. Currently, GRE solar resources account for nearly 2 MW of total generation capacity. Approximately 550 kW are dedicated to the Wellspring, solar program.

**What exactly am I buying?**

Those who participate in the Wellspring program are purchasing renewable energy credits (RECs). For every 1,000 kWh's of clean, renewable electricity generation, a REC is created. A REC embodies all of the environmental attributes of the generation and can be tracked separately from the underlying electricity. We are providing Wellspring energy to you through our investments as a generation and transmission cooperative. This means you can support renewable energy and the development of more in our portfolio's future without having to build or buy anything.

**Is the Wellspring energy supplied directly to my home or business?**

No. The electricity generated by the wind turbines and solar panels is fed into the region's electric system called the grid. It is like pouring a pitcher of water into a pond. Once it is poured into the pond, you cannot get the water from the pitcher back out again. The same holds true for recapturing wind and solar generated electricity from the grid. It is there and available to use, but to deliver the exact electrons generated by the wind turbine or the solar panel, is not possible. The wind and solar power you purchase replaces electricity that would have been generated by conventional fossil fuels.

**Will I still receive conventional power sources?**

You will receive a mix of power sources. You won't be able to distinguish whether the electrons flowing into your home are generated by wind, solar or another resource. But you can be assured the commitment to purchase Wellspring wind and solar energy help lessen our reliance on fossil fuels.

**Will power in my home or business be dependent on the wind blowing or the sun shining?**

No. Your power will continue as usual because additional generation is built to ensure power is supplied when the wind is not blowing, or the sun is not shining.

**Can we generate all our electricity from wind and solar?**

No. Wind and solar are great ways to meet some of our electricity needs. However, wind and solar could never generate all of our electricity needs because the wind doesn't blow, and the sun doesn't shine all the time. Quite often, wind doesn't blow at all during some of the hottest days of summer, when people are using the most electricity. Wind is a good option, and we need to continue to harness its power. Wind-generated electricity is an important part of the overall mix of generation options.

**Are wind and solar energy cheaper to produce than other generation options?**

Not yet. Some day they may be a cheaper alternative, however, today, they are still more expensive than traditional generation methods. By providing financial incentives, the government has helped increase the growth of wind and solar energy. As technology advances and costs come down, both wind and solar become more and more cost competitive. Another factor is that the windiest areas are often far from the areas that need the power. Therefore, transmission lines need to be built, and this adds to the overall cost of wind energy.

**Who can participate?**

To qualify for the program, you must live in your local electric cooperative's service territory.

**How can I get started?**

Contact North Itasca Electric to learn more about how to sign up for the Wellspring program. There is also a form that can be found on our website.



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# WELLSPRING APPLICATION FORM 2022



## Your personal opportunity to support wind and solar power!

The Wellspring program provides co-op members with an easy, affordable, and meaningful way to support sustainable energy in their communities. By empowering members to buy energy from renewable sources, this program enables you to offset your conventional energy use and take pride in helping promote renewable energy development in the state of Minnesota. Small acts can make a big impact. As more members support the program, more opportunities arise to generate power from renewable sources. Together, we can power the future.

### I want to participate in the wellspring Renewable energy program

Please indicate the number of 100 Kilowatt-hour wellspring blocks "wind and/or solar" you wish to purchase each month. Each block for wind energy is \$0.20 each and for solar is \$2.00 each to be invested in the environment and the future of renewable energy.

Please indicate below the number of blocks of wind below and or number of blocks of solar you would like to sign up for.

☐ Wind energy \$.002 per kWh \_\_\_\_ Block (100 kWh equals 1 block) at \$.20 per block

☐ Solar energy \$.02 per kWh \_\_\_\_ Block (100 kWh equals 1 block) at \$2.00 per block.

I understand that my commitment is for one year and will continue annually basis until I notify North Itasca Electric Co-op., Inc. in writing to end my participation in the Wellspring Program.

### Member Information:

Name: \_\_\_\_\_ Account Number: \_\_\_\_\_

Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Other Phone: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_







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# LOAD MANAGEMENT APPLICATION FORM 2022

To be eligible for a Load management program complete this form and comply to the terms stated below:

- Unless installed by a licensed electrician, all electrical wiring must be inspected by a state electrical inspector prior to the installation of a sub meter.
- Members are responsible for the installation of all load management equipment and wiring. The installation must comply to the National Electric Code.
- Violations of load management policies may result in the removal from the program.
- Must have an adequately sized backup heat source for the Dual Fuel program.
- North Itasca Electric will furnish and maintain load management equipment.
- Electrical energy consumed by the load management sub meter will be billed at the current load management rate. These rates are subject to change at any time upon board approval.
- North Itasca Electric reserves the right to inspect and test load management equipment at any time.
- If North Itasca Electric needs to make a second trip due to an incomplete installation, charges may apply.

## Check Load Control Program desired:

☐ Storage Water Heating ☐ Storage Space Heating ☐ Dual Fuel Space Heating ☐ Drive EV

## Note:

- On the Dual Fuel program, a second heating source (other than wood) is required and able to provide 100% of the homes heating load. It is possible the Dual Fuel control period could last up to 12 hours.
- Central Air Source Heat Pumps can be placed on the Dual Fuel program rate. Ductless Air Source Heat Pumps are not allowed on a Load Control program, because circuit board damage may occur.
- Geothermal Heat Pumps also can be placed on the Dual Fuel program with a second heating source able to provide 100% of the homes heating load.

## Equipment and size installed:

☐ 100 Gallon Water Heater ☐ Electric Boiler \_\_\_\_ KW ☐ Electric Plenum Heater \_\_\_\_ KW  
☐ Electric Base Board Heaters \_\_\_\_ KW ☐ Steffes Room Unit \_\_\_\_ KW ☐ Steffes Furnace \_\_\_\_ KW  
☐ Central Air Source Heat Pump \_\_\_\_ Tons ☐ Geothermal Heat Pump \_\_\_\_ Tons  
☐ Electric Vehicle Charging \_\_\_\_ KW

Print Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Property address: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_





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## Minnesota Sales Tax Exemption for Electric Heating

Electricity sold for residential use is not taxable for the billing months of November through April when sold to metered members who use it as their primary source of residential heat. If more than one type of heat is used, the electricity is not taxable if it is the primary source of heat (supplies more heat than any other source for the largest period during the heating season).

If the primary source of heat is electricity and there is only one meter for that utility, then all electricity measured through that meter is not taxable during the winter heating months. **Reference MN**

**Department of Revenue Sales Tax Fact Sheet 157.**

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My signature below certifies that I meet all requirements outlined on MN Sales Tax Fact Sheet 157 and I am exempt from Minnesota sales tax on my electric bill.

**If I fail to meet these requirements in the future, I understand it is my responsibility to notify North Itasca Electric Cooperative of such change to avoid being in violation of the state law.**

Account Number: \_\_\_\_\_

Name as on electric bill: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Verify your heating system:

\_\_\_\_ Air source heat pump

\_\_\_\_ Ground source heat pump

\_\_\_\_ Electric space heating (baseboard, cove, storage heat furnace, etc.)

\_\_\_\_ Electric plenum heater

\_\_\_\_ Electric in-floor radiant (boiler) heat

\_\_\_\_ Other \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_