Lane-Scott Electric Cooperative

June 2003

Lane-Scott Connections

P.O. Box 758, 410 S. High St., Dighton, KS 67839
Phone 620-397-5327

Lane-Scott Electric Cooperative, Inc. through their subsidiary of High Line Services, LLC is offering the GPS service in connection with our pole testing as to save a cooperative time and money. Our pole testing department of High Line Services is currently doing a pilot program with Wheatland Electric Cooperative to test existing poles but also collect the GPS coordinates for them. What we thought would only be something that would benefit Lane-Scott Electric Cooperative, Inc. can now also help us provide a service to other cooperatives.

Notice

The Lane-Scott Annual Meeting

Will be held
at
6:30 p.m.
on
Tuesday, July 15, 2003
at
The Lane County Fair Grounds

Check the July issue of *Connections* for complete details and plan to attend.

Lane-Scott Electric Cooperative Newsletter
Telephone 397-5327
Owned & Published by
The Lane-Scott Electric Co-op, Inc.
P.O. Box 758
410 S. High St.
Dighton, KS 67839

In Case of Outage

If your electricity is off for more than a few minutes, call Dighton, 1-800-407-2217. Office hours 8:00 a.m. to 5:00 p.m. After hours calls will be answered by the dispatch and forwarded to standby personnel.

After Hours & Weekends Call: 1-800-407-2217

24-Hour Electrician Emergency Service

If you are without electricity, or have an electrical emergency on your side of the meter, we have a master electrician on staff available 24 hours a day. To request after-hours electrician service, call the following number:

1-800-407-2217

GIS-Valuable Resource for Cooperative

In 2002 we implemented a Global Information System (GIS). This system will tie together GPS locations with other applicable consumer data, greatly upgrading our current system of unconnected paper maps and billing records. This will be a two-step process. The collection of GPS data is the first step. The second step is post-processing the collected data and integrating is with our current consumer database.

We have finished the data collection for the circuits radiating from the Manning substation, which encompasses approximately ¼ of the system. We are in process of collecting the data of the Dighton substation circuits. Upon completion of the data collection, we will be able to tie our consumer information with the GPS x,y coordinates. This will not only enable us to produce our own system maps, but also enable us to produce specialty or project-specific maps. Other benefits will include increase accuracy and easier tracking/ plotting of projects such as:

- Outage reports
- Load studies
- Work plans
- System maintenance
- New line staking
- System upgrades
- Physical plant inventory

This will also allow us to provide much more accurate information to our engineers, which will, in turn, provide us with better work plans and load studies.

Alone the way, we have discovered other benefits of our GPS collection equipment and software designed for the GIS system. Some examples are:

In cooperation with the City of Dighton, the city's water system has now been mapped. We were able to provide a map showing where all the electric water wells in Lane county are located to help the Lane county economic development group in project planning. Even small projects like helping a local farmer convert his gas-powered flood irrigation to an electric-driven center pivot system by finding the geographic center of his irrigated land section.

Nathan Burns Journeyman Lineman for Lane-Scott Electric Cooperative, Inc. and GPS specialist is shown here using the Lazer Range Finder from the pickup to get the GPS coordinates for this location.

Nathan getting the GPS coordinates with the back pack unit at our Laird Elevator location.

Nathan collecting data with the GPS back pack unit.

*Spend an electric evening with the Larsons***

One night, Mr. and Mrs. Larson arrived home from work. While Mr. Larson was retrieving the mail from the box at the end of the driveway, the yard light (45 kilowatt-hours per month) was just starting to come on.

From the garage, Mr. Larson carried the groceries into the house while Mrs. Larson plugged in the car's engine heater (200 kilowatt-hours per month). In the house, Mrs. Larson turned on the lights (100 kilowatt-hours per month) and glanced at the electric clock (two kilowatt-hours per month).

She walked to the electric range (100 kilowatt-hours per month) and started preheating the oven while her husband put the groceries away in the refrigerator (130 kilowatt-hours per month) and deep freeze (150 kilowatt-hours per month).

Next, Mr. Larson went to take a hot shower while Mrs. Larson threw a load of clothes into the washer (10 kilowatt-hours per month) right beside the electric dryer (80 kilowatt-hours per month).

Just then, the well pump (15 kilowatt-hours per month) came to life to keep up with this new demand of water. Soon, the electric water heater (400 kilowatt-hours per month) started replacing the hot water that had just been used.

As Mrs. Larson quickly turned to return to the kitchen, she almost tripped over the humidifier (14 kilowatt-hours per month).

Mr. Larson had finished his shower and was pouring himself a cup of coffee from the automatic coffeemaker (12 kilowatt-hours per month) before going into the living room to watch the news on the television (30 kilowatt-hours per month).

Mrs. Larson used the microwave oven (20 kilowatt-hours per month) to heat some vegetables and then she set up the ironing board and iron (five kilowatt-hours per month) to use later that evening.

After supper, Mrs. Larson stacked the dirty dishes in the dishwasher (30 kilowatt-hours per month) and Mr. Larson sat down to open the mail.

"We got our electric bill today," he told Mrs. Larson. "I don't know where we use all that electricity."

"Maybe not," Mrs. Larson said. "But can you imagine living without it?"

**In case you're curious, the Larsons used 1,343 kilowatt-hours per

Month. The kilowatt-hours used by the Larsons are approximate. Usage may

vary greatly from one household to another.

Source: 2000 data; *North Dakota REC/RTC* magazine

Lightning Safety

Dark clouds overhead, gusty wind whipping up, loud thunder rolling, and flashes of lightning; these are all signs of an approaching storm that could mean danger if precautions are not taken.

Lightning kills about 100 people and injures 500 per year. It kills more people than tornadoes each year. Lightning causalities are second only to floods and flash floods in weather-related deaths. The majority of the incidents happen during the summer months with July being the highest.

The top activities for lightning casualties involve being in an open field and a elevated place, being a under tree, doing water-related activities (swimming, boating, fishing, etc.), golfing, being on the telephone, or using a radio.

The best way to avoid getting trapped in a lightning storm is to listen to weather reports and avoid going outside when a storm is predicted. But if you find yourself outdoors with an approaching storm, here are some tips from the National Oceanic and Atmospheric and the Electrical Safety Foundation International to stay safe:

- Heed the sound of thunder. With lightning, your only warning is thunder. If you hear thunder you should take shelter in an enclosed permanent structure or safe location.
- Avoid open areas. Open picnic pavilions or a carport are not able to protect you from lightning. If you are not able to reach a safe structure, a hard-top vehicle with the windows rolled up will offer some protection. While inside the vehicle do not touch any metal. If none of those options are available, squat in low area of a field and cover you ears with your hands. This position makes you the smallest possible target and minimizes the contact to the ground.
- Avoid water. When a storm approaches, you should get out of the water. The charge from a lightning strike has the ability to travel great distance through water. If you are out boating, swimming, or scuba diving, get to shore and away from metal objects.
- Avoid contact with metal. Metal also conducts electricity so you should avoid bikes, clotheslines, fences, fishing rods, tennis racks, tools, flagpoles, and metal in backpacks.
- Use indoor appliances and fixtures cautiously if at all. If you are indoors during an electrical storm, you still have to be cautious. Do not use your telephone, except for emergencies. Stay away from the plumbing fixtures; the metal pipes could conduct electricity from the nearby ground.
- Unplug or turn off electrical appliances. A lightning strike could cause a surge in your electricity and short-circuit your appliances if they are not protected with a surge protector. It is a good idea to have batteries for a flashlight and radios in case of a power outage.

Source: National Electrical Safety Foundation, National Oceanic and Atmospheric Administration.

How Evaporative Coolers Save Energy

Evaporative coolers (also called swamp coolers) are a popular and energy efficient cooling strategy in the warm, dry climates of the western states. The lower your summertime humidity, the better an evaporative cooler can cool your home.

Evaporative coolers use only18 to 25 percent of the energy consumed by air conditioners, and they cost about half as much to install. They compare in performance to air conditioners with a Seasonal Energy Efficiency Ratio (SEER) of between 30 and 40. The most efficient air conditioners have a SEER rating of about 12.

Evaporative coolers have large fans that move air through water-saturated pads. These absorbent pads are made of aspen wood fibers, glass fibers, or specially formulated paper. A water pump in the reservoir pushes water through tubes into a drip trough, which then drips water onto the pads. The water in the pads evaporates, reducing the temperature of the incoming outdoor air.

As cooler air is forced into the house, it pushes warmer air out through open windows or through specialized vents called up-ducts. Unlike central air conditioning systems, which are most efficient when your home is sealed up, evaporative coolers provide a steady stream of fresh air to the home.

On cool nights an evaporative cooler can cool your house without using any water, by using a fan-only control setting.

An added benefit of evaporative cooling is that it works best in the hottest time of the day. When the outside temperature increases, the humidity normally drops. In the early morning, for example, the temperature may be 70 degrees, with a relative humidity of 60 percent. By mid-afternoon, when the temperature has climbed to 90 degrees, the humidity may well have dropped to 30 percent. These dry conditions help evaporative coolers work more effectively.

Source: John Krigger, Saturn Resource Management, www.residential-energy.com John Krigger is a nationally recognized author of numerous energy efficiency books, including *Surviving The Seasons: A Practical Guide To Home Energy Efficiency and Cost Savings*; and *Comfort for Existing Buildings*. For more info, visit his website www.residential-energy.com.

Maintaining Your Evaporative Cooler

Most problems with evaporative coolers (also called swamp coolers) result from poor maintenance. Evaporative coolers need an inspection and major cleaning at least yearly. In very hot climates, where the cooler operates much of the time, you should inspect the pads, filters, reservoir, and pump at least once a month. Be sure to disconnect the electricity to the unit before servicing it.

Dust from the air, and minerals and dirt from the water, will collect in your cooler's reservoir. Save yourself a lot of work and money by draining this reservoir regularly. All coolers have a drain fitting at the bottom of the unit. This fitting is usually connected to an overflow tube. To drain the reservoir, shut off the water, connect a garden hose to the fitting on the outside of the cooler cabinet, and then unscrew the overflow tube.

Replace the pads at least once during the cooling season, or as often as monthly during continuous operation. Some paper and synthetic cooler pads can be cleaned with soap and water or a weak acid solution. The filters should be cleaned when the pads are changed or cleaned.

Inspect the fan blades. If there is any significant amount of dirt on the blades, clean them with a brush and soap or cleaning solvent. Scrape the scale off the louvers in the cooler cabinet and clean the holes in the drip trough that distributes the water to the pads. The reservoir should be thoroughly cleaned each year to remove biological matter, scale, and dirt. Most manufacturers also recommend painting the reservoir area once a year with a water-resistant rust-proof coating.

The pump and the float assembly are the source of many maintenance problems in evaporative coolers. Clean these components thoroughly to keep your evaporative cooler in top condition.

In observance of

Our Office will be closed on Friday, July 4, 2003
Have a safe Independence Day!