Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Your annual meeting

Your member-owned, member-controlled electric cooperative will conduct two of the most important events in the cooperative's year during the next few weeks.

The first event, one that is very significant in that it firmly places democratic control of your rural electric system in the hands of its member-owners, is the director elections. This year the directors representing Districts 5, 7, and 8 will be up for election. The nominating committees met at the cooperative headquarters on January 9, and selected the following candidates for election:

District 5 — Richard Reusch, 1300 East Reusch Rd., Elizabeth, IL 61028
Steve Eden, 3834 S. Eden Rd., Stockton, IL 61085

District 7 — Rodney Fritz, RR 2 Box 213, Mt. Carroll, IL 61053
Duane Gruhn, RR 2 Box 151, Lanark, IL 61046

District 8 — Vernon Law, 4483 W. Airport Rd., Savanna, IL 61074
Leroy Nickles, 6578 W. Georgetown Rd., Savanna, IL 61074

The election for directors from these districts will be conducted through the mail. Only members who reside in the districts in which elections are being held this year will receive ballots. Members in those districts should carefully review the material they will receive in the mail and promptly return their completed ballots to Jo-Carroll Electric.

The second upcoming important event, perhaps the most important of the year, is the 52nd Annual Meeting of Jo-Carroll Electric Cooperative members. This meeting is scheduled to be held March 9, at the River Ridge High School Gymnasium (formerly Elizabeth High School) in Elizabeth. As in the past we will feature reports of directors, officers and the manager of your cooperative. "Delta" will again treat us to their musical selections, and we will have a guest speaker. A box lunch and attendance prizes will be provided to all Jo-Carroll members who attend. More details about the annual meeting will be provided in the coming weeks. We urge all cooperative members to make plans now to attend.

Mark your calendar!!

March 9

Jo-Carroll Electric Cooperative Annual Meeting

March 1991

SUN	MON	TUE	WED	THU	FRI	SAT
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Cut trees safely

Cutting trees is serious business that demands attention to safety measures. You can avoid needless tragedy by observing some simple rules.

Put on work gloves to protect your hands, wear safety goggles to protect your eyes from flying chips, wear a properly fitted hard hat to protect your head from falling branches, and step into steel-toed boots to protect your feet from mishaps with the saw or axe. Now, think you're set to start cutting?

Some of the most serious accidents while cutting trees occur because no attention is paid to the presence of electric power lines. Careful surveillance of the vicinity is essential before you begin any tree work.

Look overhead and to all sides of your cutting site. Be very sure your tree will not come into contact with any power line when it falls.

Wood can be a conductor of electricity. Each year several deaths and serious injuries are reported involving trees falling into power lines. Don't become another statistic—take a few minutes to survey your cutting site.

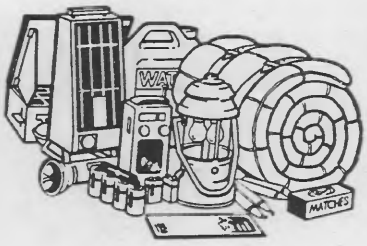
Above all, if you do cause a tree to fall into a power line or you come across a tree which has fallen into a line, do not—under any circumstances—attempt to remove the tree. Stay clear of the tree and the line.

Call your cooperative as soon as possible. We will see that the problem is take care of right away.

Never attempt to remove loose limbs from power lines. We will take care of it for you.

Exercise responsible electric accident control today. Trees and electric power lines don't mix.

Coping with a winter outage



Winter outages can be miserable. It's almost always dark, always cold, always dismal. Try as we might, they'll always be with us.

But a winter outage doesn't have to be disastrous and you can be relatively cozy if some planning is done and a few precautions are taken.

When the power goes off, the first thing to do is to disconnect those electric circuits that serve delicate electronic appliances and entertainment equipment. This will protect them from any surges that may occur when the power is restored. When it is restored, wait for 15 to 30 minutes to reconnect those circuits to ensure that the outage is over.

And, if the lights go dim and stay that way, disconnect those circuits that serve motor-operated appliances. Dim lights mean that the voltage coming into the home is not high enough to adequately serve motors: a low-voltage situation. Operating motors at low voltage may damage them.

For warmth

1. Several layers of lightweight clothing will keep a body warmer than one heavy piece.
2. A backup heater can help, but be careful. If the heater has a flame, ventilation must be provided.
3. During an extended outage, use one room (preferably one on the sunny side of the house with few windows) in the house to conserve as much heat as possible. Open curtains during the day — close at night.

For light

1. Know where the flashlight and fresh batteries are.
2. For safety, place lighted candles in containers such as coffee cans.
3. Have extra lantern fuel on hand if lanterns are used for light. Refill the lanterns outdoors.

For food

1. Stock supplies of food such as canned meat, tuna, powdered milk and juices, cereal, peanut butter, crackers.
2. Fill plastic jugs with water.
3. Should have throw-away plates, plastic silverware and a manual can opener.

During an extended outage

1. Shut off the water supply (and the electricity to the pump, if you have one) and drain the system. Pour antifreeze into the plumbing fixtures in the bathroom and the kitchen.

Have the following general items on hand

1. Wind-up alarm clock
2. Battery-powered radio
3. Extra blankets

Prepare as if every winter outage will be a long one, and you'll not be caught short of creature comforts. You can be confident and rest assured that your Cooperative's employees will work around the clock to restore service to all members as quickly as possible.

Time to check livestock water heaters

Now that cold weather is here it is time to turn those livestock water heaters on.

These water heaters are no doubt more efficient than chopping ice at a pond or carrying water every day. It does, however, mean an increase in kilowatt-hour consumption.

Faulty water heaters use more electricity than normal, so it is to your benefit to make sure your heater is in good working order.

Thermostats that are operating properly might use more electricity than is necessary to adequately heat the water. For example, the water temperature might be 40 degrees and the thermostat set at 45 degrees. In this case the heater would run constantly. A more efficient setting might be a few degrees below 40 degrees.

A good rule to follow to be sure the thermostat is at the best setting is to let the heater run and then turn it down just so it stops running. You must do this with fresh water.

Other conditions to check for include line leaks and faulty control switches. These problems will also cause electricity waste.

Maintaining your winter livestock watering system will be profitable for you in the long run.

Getting to know your radio receiver

Do you have a radio receiver on the outside of your house? A what—you ask? How about this: Do you have a dual fuel system or a water heater that is on our load control? If the answer is yes, you might like to refresh your knowledge on what the lights mean in your radio receiver (that's the small box mounted on the outside of your your home or on your water heater.) If you still have questions after reading the information below, give us a call. We'll be glad to help you out.

The **green light** will be on at all times between the house of 5:30 a.m. and 11 p.m. every day. This light indicates there is proper power supply and radio signal. If this **green light** fails to be on during the mentioned hours, please give us a call.

If you question whether your water heater is being shut off, look for the **red light** in the receiver window. The **red light** indicates your water heater is being shut off for load control. If you are out of hot water, check for the **red light** and check your water heater fuse.

An amber light will appear in the receiver window when your electric heat is being controlled (or shut off). Absence of the **amber light** indicates normal operation of your electric heat.

Reader prize

Each month, we print the name of a Jo-Carroll member who is eligible to win a monthly $25 readership prize. If your name is printed in this month's edition, and not a part of any story, contact Jo-Carroll and claim your prize no later than the 10th of the month following publication.

Office hours

7:30 a.m. to 4 p.m.
Monday through Friday

Outages and emergencies

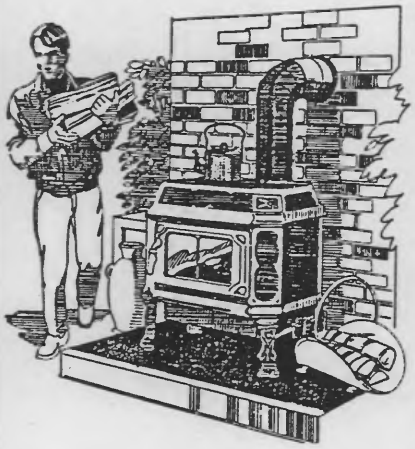
call 858-3311
24 hours a day

Would you believe it?

By Jeffery W. Springer
Dairyland Power Cooperative

Years ago, when central heating systems using oil, gas, or electricity became available, people gladly gave up their wood stoves. Gone was the need for constant firestoking and ash-pan emptying. People could leave their homes for days at a time in winter without fear of frozen pipes when they returned. A new era of convenience dawned—just set your thermostat and forget about it. No one would have believed that they would ever return to wood as a heating fuel.

Then, around 1973, Americans learned a new word: "embargo." With the oil embargo, energy prices skyrocketed and people began to look for alternative energy sources. Wood, the fuel of days gone by, was the logical choice. The old wood stove was moved back into the house or a new one was purchased. Fireplaces were lit in an effort to save other energy resources.



Soon, it became clear that fireplaces often use more energy than they add to the home by draining warm air from inside the house up the chimney. Fireplace inserts and glass doors offered some improvement, but these still allowed as much as 70 percent of the fire's heat to escape. A fireplace may be romantic, but it is ineffective as a heating source.

Wood stoves, on the other hand, have made substantial gains in efficiency. New wood stoves with dual combustion chambers or catalytic elements are up to 80 percent efficient. Today's wood stoves are often used as a supplement to an existing heating source. The wood stove is used during the day and the other heating source fills in at night or when there is no one home to tend the fire.

The quality of the fuel source varies more in wood burning than in any other type of fuel. High-quality, seasoned wood is essential to maintaining a clean and efficient fire. Well-seasoned wood is air dried for eight months to a year after it was cut. Softwoods are easiest to ignite, but hardwoods have the greatest heat content per cord. When you purchase a cord of wood, be sure you get a tight stack measuring four feet wide, four feet tall and eight feet long. You can expect to pay more for a cord of hardwood, but the extra heat output may offset the higher cost. (See chart for heat contents of various woods.)

Safety is an important concern when burning wood. Creosote from wood burning will build up in the chimney, causing a fire hazard. Chimneys must be cleaned at least once a year to remove creosote and debris. A smoke detector should be located in the same room as the fireplace or wood stove, to provide early warning if something goes wrong.

The best advice to those who wish to keep the home fires burning is to exercise extreme caution and never leave the fire unattended. **Janet S. Boyd**

Firewood quality

This is a table which compares the fuel value of popular firewoods. One should consult several such tables before drawing a final conclusion, for different sources tend to evaluate woods differently (perhaps because the density of a given species varies according to location, soil composition, rainfall, etc.).

Wood type (well seasoned)	Heat value per cord (in millions of British thermal units)	Wood type (well seasoned)	Heat value per cord (in millions of British thermal units)
Black locust	26.5	Red maple	19.1
Shagbark hickory	25.4	Black cherry	18.5
Birch	24.7	White birch	18.2
White oak	23.9	Silver maple	17.9
Beech	21.8	White elm	17.7
Sugar maple	21.8	Black willow	13.5
Red oak	21.7	White pine	13.3

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Shireman

See you at your annual meeting

I would like to extend a warm welcome to all of Jo-Carroll's members to attend the annual meeting. It will be held March 9, 1991, in the River Ridge High School gym in Elizabeth (formerly Elizabeth High School). The agenda for the day is printed below.

Jo-Carroll has many new members who have never attended an annual meeting, and that may be due to the fact that they don't realize how much fun the meeting can be. We do have speeches from the officers and myself, and they may not be all that exciting, but they cover important topics about your member-owned, member-controlled electric cooperative. The speeches may not qualify as being "fun" in the truest sense of the word, so we have added some features to make up for the "not-so-fun" parts of the meeting.

For instance, I wonder how many of the members who miss the meeting each year realize that we hire one of the best bands in this area to perform? Delta has really gained a following in recent years, and they can play all types of music. Do the members who miss the meeting know that we have a humorous speaker? The last few years our speakers have kept the audience laughing, and I'm sure this year's speaker, a local lady, will do the same. Do members know that we give attendance prizes for each member attending—this year a summer sausage—and that we draw for prizes like kitchen housewares? Do they know that we offer a "bargain table" with low-priced items for purchase? And displays on energy efficiency? And a babysitting room for the small children of members?

When is the last time you have had a good, old-fashioned box lunch? Each member who attends Jo-Carroll's annual meeting gets one free of charge—and they are fresh, made by the Jacobstown Community Club on site that morning. All in all, each member should try to get to the meeting because those who don't will miss out on the fun.

Annual meeting program

11 a.m. to 12:45 p.m.
Registration

11:45 a.m. to 12:45 p.m.
Lunch

11:30 a.m. to 12:45 p.m.
Music by Delta

11:45 a.m.
Early bird prize $50 on an electric bill

Box lunch furnished by your cooperative, prepared and served by the Jacobstown Community Club.
1:00 p.m.—Call to order ..... Richard Reusch, President
Pledge of Allegiance to the Flag
1:05 p.m. Invocation ..... Reverend Donna Wrzeszcz, Pastor, Shapville Zion Presbyterian Church
1:10 p.m. Welcome Address ..... Miles Kahl, Mayor of Elizabeth
1:15 p.m. Introduction of Special Guests and Employees ..... Connie Shireman, General Manager
Reading of Notice of Meeting ..... Leonard Ricke, Secretary
Reading of Minutes of Last Meeting ..... Leonard Ricke, Secretary
Report of Officers:
President ..... Richard Reusch
Treasurer ..... John Janssen
Manager ..... Connie M. Shireman
Special Guest Speaker ..... Lucy F. Miele, Humorist
Report of Director Election ..... Chairman, Credentials and Election Committee
Awarding of Attendance Prizes ..... Don Schleicher and Herman Lewis

JO-CARROLL Electric
COOPERATIVE
BOX 390 · 793 U S RT 20 W · ELIZABETH, ILLINOIS 61028-0390 · AREA 815-858-3311

Member memo

The board of directors of Jo-Carroll Electric Cooperative, after careful deliberation and examination of the cooperative's financial position, has enacted a rate increase. The amount will be slight, with an increase of $5.00 per month in the facility charge and a 2 percent increase in the cost per kilowatt-hour. The new rates will be in effect beginning with bills due on May 15, 1991.

The board was pleased that the rate increase could be kept to a minimum. It has been seven years, May of 1984, since Jo-Carroll has had a rate increase. During this time period, many other consumer goods have increased in cost; in fact, the Consumer Price Index has risen more than 30 percent.

The increase for the average Jo-Carroll Electric Member who uses 1,046 kilowatt-hour per month will be approximately 6.9 percent. It is due to the diligence of the staff in the budgeting process and the efficiency of the crews performing the work, as well as the availability of REA loans, that enabled the cooperative to keep the rate increase so small. The cooperative's load management program has helped to reduce the amount of rate increase, therefore the dual fuel electric heating rate will not be affected.

Please note that the charge per kilowatt-hour, the unit of measurement under which your electrical usage is billed, will rise only 2 percent. The present rate is 7.7 cents per kilowatt-hour and this will rise to 7.85 cents per kilowatt-hour. This will not severely impact the cost to operate your appliances. For example, the average member spends approximately $8.00 a month for lighting. Under the new rates it will cost only $8.16 per month. If the average refrigerator uses $15.00 per month, under the new rate it will use $15.30.

The increase in costs to operate due to inflation, as well as the continuing challenge to provide high quality electric service and accommodate the new growth the cooperative has experienced, makes this rate increase necessary. Much of the cooperative's distribution system (poles, lines, transformers etc.) was built during the 1940s and 1950s. The systematic replacement and maintenance of this distribution system has also had an impact on our operating revenues. Your board of directors is committed to providing good service over the long term, and this involves capital expenditures to keep the distribution system in good order.

We hope our members will understand the reason this rate increase is needed and they will continue to support their member-owned, member controlled electric cooperative. When one considers the true value of electricity, and the work it does for a relatively small cost, this rate increase will not seem unfair. We hope that when our members make energy choices they will continue to find safe, clean, efficient electric energy to be the best energy value.

How to save energy and $$$ at home!

Much of our residential energy, 48 percent, is used to heat and cool our homes. An additional 16 percent goes for heating water; refrigerators and freezers use 12 percent. The remaining 24 percent goes into lighting, cooking and running appliances.

A few energy-saving practices can save you money now and in the future:

Winterize and weatherize

More of your heating and cooling dollars escape through your home's windows and doors than through any other part of your home. You can reduce expensive heat loss by adding storm windows or installing double-pane windows. Remember to add storm doors for the same insulation effect there. Caulk and weatherstrip your windows and doors. Total heating or cooling loss due to insufficient caulking or weatherstripping can be as high as 30 to 40 percent of your monthly heating and cooling costs. The cost of caulking and weatherstripping is inexpensive, and both are easy to find at almost any hardware store. Caulking and weatherstripping your windows and doors can save you 10 percent or more in annual energy costs.

Now that the heat is on

- Clean or replace furnace filters regularly and keep heating equipment well-tuned with periodic maintenance checks.
- Lower your thermostat.
- Keep windows tightly closed.
- Keep draperies and shades open in sunny windows; closed at night.

Don't waste that hot water

It accounts for 16 percent of all the energy used in our homes!

- Repair leaky faucets promptly.
- Do as much household cleaning as possible with cold water.
- The temperature on your water heater may be set too high. A setting of 120 degrees can provide adequate hot water for most families. Reducing the setting of your water heater even 10 degrees can save more than 6 percent in water heating energy. (However, if you have a dishwasher, then you need water heated to 140 degrees.) **William Murphy**

Buy energy-thrifty appliances

They are more economical even though they are more expensive to purchase.

- When using the oven, make the most of the heat by cooking as many foods as you can at one time.
- Use electric skillets or small electric ovens for small meals rather than the kitchen range. They use less energy.
- Microwave ovens save energy by reducing cooking time.
- Use the range-top rather than the oven.

The typical dishwasher uses 14 gallons of hot water per load. Use it efficiently:

- Scrape dishes before loading them so you won't have to rinse them.
- Be sure your dishwasher is full, but not overloaded, before you turn it on.
- Let your dishes air-dry.

Try to use energy-intensive appliances such as dishwashers, clothes washers and dryers and electric ovens in the early morning or late evening hours to help reduce the co-op's peak. These helpful hints can also help to reduce energy costs:

- Don't keep your refrigerator or freezer too cold.
- Wash clothes in warm or cold water, rinse in cold.
- Fill washers, but do not overload.
- Don't use too much detergent. Oversudsing makes your machine work harder and uses more energy.
- Fill clothes dryers, but do not overload them.
- Keep lint screen in the dryer clean.
- Keep the outside exhaust of your clothes dryer clean.
- Dry your clothes in consecutive loads.
- Save lots of energy by using the old-fashioned clothesline.
- Take showers rather than tub baths. It takes about 30 gallons of water to fill the average tub, but a shower with a flow of three gallons of water a minute

uses only 15 gallons in five minutes.

- Consider installing a flow controller in the pipe at the showerhead.

Most of us overlight our homes, so lowering lighting levels is an easy conservation measure. More than 16 percent of the electricity we use in our homes goes into lighting:

- Turn off lights in any room not being used.
- Use one large bulb instead of several small ones when bright lights are needed.
- Keep all lamps and lighting fixtures clean. Dirt absorbs light.

About 8 percent of all the energy used in the U.S. goes into running miscellaneous electrical home appliances. Appliance use and selection can make a considerable difference in home utility costs:

- Don't leave appliances (radios, televisions, record players, etc.) running when not in use.
- Keep appliances in good working order so they work more efficiently.
- Use appliances wisely—use the one that takes the least amount of energy for the job.

We can cut our energy use and help control living expenses by making our homes energy efficient and by taking a few energy-conservation steps. By following some of these energy-saving tips, we can help hold down energy costs.

Dear dog owner:

Reading your electric meter is our job. We like our work and try to do it well. We're an important link in the operation of your cooperative, so we're out on the job no matter what kind of weather.

We really could use your help, though. If your dog is kept outside and doesn't like strangers, we may not be able to read the meter.

Many members make arrangements with us to let us safely read the meter where they have a guard dog. It would be much easier to make such arrangements than for you to go to the expense of having your meter relocated to a location away from your dog.

If you have a guard dog that's unfriendly toward strangers, please let the cooperative know what kind of arrangements we can work out. We work for you, and it's in your best interest for us to get our job done safely. Thank you.

—your meter reader

Meter readers must check seals

Your cooperative meter reader is required to check all meter seals each month. In order to do this job properly, it is necessary for the meter reader to tug gently on the seal. This does not harm the seal and does no damage to the meter.

So, if your see your meter reader tugging on your meter seal, don't worry. It's being done for your protection.

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Shireman

Checking EMF levels at my home

Many of our members have, no doubt, read and heard much in the news recently about EMF—electric and magnetic fields. Several stories have appeared recently that link EMF with diseases such as leukemia and other cancers. A number of studies have been conducted throughout the United States by various firms that have all been inconclusive in establishing the link between EMF and disease.

I too, was curious about EMF and the health risk associated with this. As manager of an electric cooperative, I was quite concerned about the health risk associated with our principal product, electricity. I took the opportunity last month to have a representative of Dairyland Power Cooperative in LaCrosse, Wisconsin, visit Jo-Carroll Electric and my home to measure the electric and magnetic fields. My home is located approximately 30 feet from a 69,000-volt line, so I felt that my home was a perfect place for such an investigation.

The Dairyland representative used a portable milligauss meter. The basis unit of the strength of an electric and magnetic field is known as a gauss, and the levels commonly found in homes or in transmission lines would be in milligauss.

We first measured the strength of the magnetic underneath the power line that runs through my front yard, and found it to be between .4 and .6 milligauss. We then checked some of the levels inside my home, finding the refrigerator to be approximately 10 milligauss, the microwave oven to be approximately 40 milligauss, and an electric can opener to be nearly 400 milligauss.

It was very interesting to see the amount of EMF in the various appliances and to know that there are lower EMF levels near the transmission line than there are near hand-operated appliances.

I, like many of our members, will continue to read about the research that is being conducted about the health hazards involved with EMF. At this point, scientists don't know enough to state whether there is a cause-and-effect association between EMF and people's health. We are publishing a story on EMF in this issue's Hi-Lines that may help clear up some of the questions our members have about this issue.

Members are cooperative's 'VIP's'

Very often we mention all of you out there as **"members"** of the cooperative. You are, indeed, cooperative members. When you belong to a co-op, you own it. Your membership fee is your investment in the cooperative. We here at Jo-Carroll Electric have an expanded definition of "member." To us, it also means:

A **"member"** is the most important person in our organization.
A **"member"** is not dependent on us—we are dependent on you.
A **"member"** is not someone to argue or match wits with.
A **"member"** is part of our business—not an outsider.
A **"member"** is not an interruption of our work—you are the purpose of it.
A **"member"** is an owner of this cooperative and we are working for you.

Remember, we are here to serve you. Don't be afraid to call us when you need us.

Electric and magnetic fields:

An issue of the 1990s

You can scarcely open a newspaper or magazine these days without seeing yet another article linking electric and magnetic fields to health problems and certain forms of cancer. Commonly called EMF, it is one of many concerns facing an environmentally conscious public in the 1990s. The study of EMF is a complex and technical subject that tends to generate more questions than answers. Yet, because EMF is of varying concern to all of us, we should do our best to learn what we can and form logical conclusions.

Although a number of studies have been completed on the effects EMF has on humans, results have been inconclusive and somewhat contradictory. According to a draft report released in December 1990 by the U.S. Environmental Protection Agency, "The link between electric and magnetic fields and cancer remains unproven." The EPA draft, which is a review of several independent studies, says a connection between EMF and health concerns is doubtful because scientists still don't understand how EMF affects biological processes.

Here are answers to some often-asked questions based on what is known and what is not known about electric and magnetic fields:

Q. What are electric and magnetic fields?

A. Electric and magnetic fields are invisible lines of force that are the result of the use of electricity. Electric fields are related to voltage, and magnetic fields are associated with the current flowing through a wire.

Electric and magnetic fields created through the use of electricity can have different effects and should be considered separately. Electric fields are present in electrical appliances and cords whenever they are plugged in. Magnetic fields exist only when current is flowing, such as when an appliance is turned on.

Q. What are the sources of EMF?

A. Because electricity is so common in daily life, most of us are exposed to EMF produced by electric power virtually all the time. Examples of sources include utility power lines, home wiring, kitchen appliances, television sets, computers, electric blankets, and heater wires in floors and ceilings. The earth itself generates a magnetic field that is considerably stronger than that found around any man-made device. The difference is, however, that the earth's magnetic field is constant and does not alternate.

Q. What are the possible health effects associated with EMF?

A. Health concerns are mainly focused on chronic, long-term exposure to electric and magnetic fields. High-exposure groups have included people who live near power lines and those who work around electrical equipment.

"It is one of many concerns facing an environmentally conscious public in in the 1990s."

The disease that has been a major interest is cancer. Over the past decade, several dozen studies have examined health records, producing contradictory results. Some studies have shown no association between cancer and exposure to EMF, while others have suggested a possible weak correlation.

In a "worst case" situation, two studies indicated that a child's risk of developing cancer might increase from about 1 in 10,000 to about 2 in 10,000 by living near a major electric transmission line. However, other studies based on a similar kind of study have shown no increase in cancer among children living by power lines.

In addition to cancer risks, scientists are studying whether there are effects on reproduction, mental functioning and learning abilities.

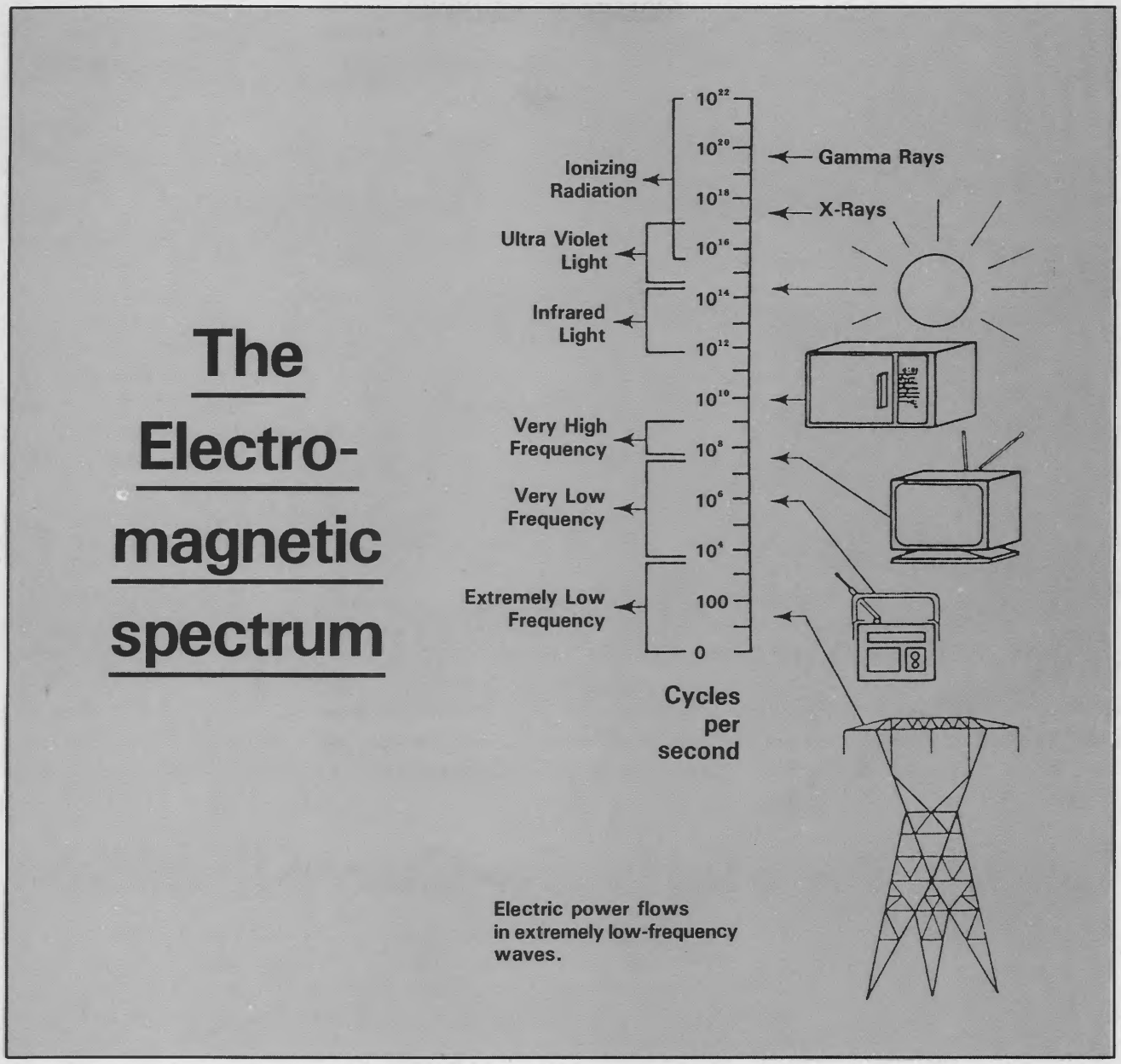
William Maxey

Q. How can EMF exposure to individuals be measured?

A. It is difficult to accurately measure EMF exposure because of the difficulty in designing a study that eliminates other factors. Work and home environments often present exposure to potentially harmful materials, such as toxic chemicals, pollution, and cigarette smoke. Recording individual EMF exposure involves measuring field levels from many sources in addition to the length of exposure.

Electric fields are measured in volts per meter or 1,000 volts per meter. Magnetic fields are measured in units of a gauss or 1,000th of a gauss.

The electric field in a typical home comes mainly from wiring and appliances.



The walls and roof of the house shield electric fields produced by nearby power lines.

Magnetic fields in a home come from sources both internal and external and are not reduced by structural components of the home.

Q. Where do we go from here?

A. Continued research will try to determine if there is a cause and effect between EMF and cancer or other health risks. Until society has a more comprehensive understanding of EMF, we need to keep the possible risks in perspective. There are basically three different ways we could react:

We could do nothing, figuring there's not enough evidence to justify any action.

We could decide there is some basis for concern and limit our exposures with small investments of money and effort. An example would be moving an electric clock from the head of the bed to a table across the room.

Finally, we could decide the potential risk is serious enough to call for immediate, aggressive programs to regulate and control EMF.

The more we know about EMF, the easier it will be to make the right choice. Reading articles from a variety of publications is good, but we need to read beyond the headlines. As we said at the beginning, EMF is a difficult subject that can not be summarized in a headline or a sentence. Keep reading and stay informed.

"The link between electric and magnetic fields and cancer remains unproven." (EPA Report, December 1990)

(Article courtesy of Adams-Columbia Electric Cooperative, Friendship, Wisconsin)

Dick Reusch (left), president of the Jo-Carroll Electric board, and John Cox, newly elected Congressman from the 16th District, are shown in front of a Jo-Carroll Electric Cooperative service area map during Rep. Cox's recent visit to Jo-Carroll.

Rep. Cox visits Jo-Carroll office

Jo-Carroll recently received a distinguished visitor, John Cox, the new U.S. Representative for the 16th District. Although he now holds office in Washington, D.C., John is a local attorney from Galena. Jo-Carroll had enjoyed a good working relationship with John during his years of contact with Jo-Carroll Electric Cooperative.

During John's visit, many topics important to rural electric programs were discussed. John met with board president Dick Reusch, manager Connie Shireman and a representative from the Association of Illinois Electric Cooperatives.

Our leaders in Washington are very important to Jo-Carroll and all their rural electrification programs because of the threat by the present administration to cut REA loans. John shared his views on these and other matters during the visit.

In the past, our Representative from the 16th District has been less than enthusiastic about rural electric programs. While John did not commit to any positions during the visit, we found him to be very open minded and his interest in the local two county area was refreshing. It would appear that the interests of Northwestern Illinois will be well represented in Washington for at least the next two years.

Reader prize

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24 hours a day

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

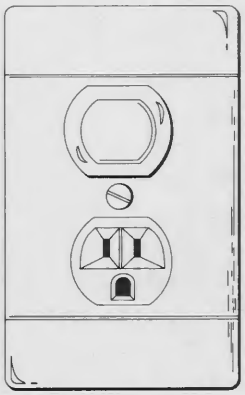
Electrical safety is a major concern for all electric suppliers. Safety of our personnel at Jo-Carroll is a top priority. Through a stringent training process and regular safety meetings we maintain a high level of awareness about electric safety. Electric safety is utmost in our employees' minds when they are working on the high-voltage lines.

We have also made an attempt to keep the awareness of electrical safety utmost in our members minds through articles in this publication, advertisements, and bill inserts. The next electric bill that you receive from Jo-Carroll will include the bill insert reprinted below. Heightening our members awareness of electrical safety remains an important part of our communications efforts at Jo-Carroll, but through a program with Dairyland Power, we can also provide outlet plugs, free of charge to our members.

I hope that all of our members take advantage of this program and stop by the office to get your free ten-pack electrical outlet plugs, and continue to use caution around electricity.

Electrical safety

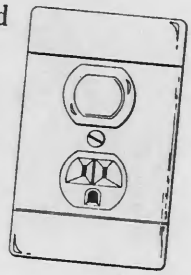
Put in a PLUG for Electrical Safety!



Protect yourself and your family!

Caring for the people we serve. That's a vital part of being an electric cooperative. And your local electric cooperative cares for its members. That's why we're offering you a chance to do your part for electrical safety.

Right now, we're offering outlet safety plugs to our members, free of charge! Just come to our office, and pick up your free pack of 10 electrical outlet plugs.



What's so important about electrical safety?

Although electricity is one of the safest ways of providing energy, accidents can happen. But when you take preventative measures, you're ensuring that you'll have a steady supply of electrical power for your lights, heat for your home and fuel for your cooking needs. And, taking those steps could prevent an injury to yourself or a member of your family—especially small children whose curiosity can put them in danger.

Plus, "Putting in a Plug for Electrical Safety" can save you money! Our electrical plugs are designed to prevent you from losing heat from unused outlets.

Safety begins in the home!

Outlets aren't the only source of potential hazard in your home. Using frayed power cords or overloading an outlet with too many appliances is a dangerous fire hazard.

Electrical objects can be dangerous when they're near water as well. Water serves as a conductor for electricity, and that can lead to serious injuries, or can be fatal to a member of your family.

Remember to always keep electrical appliances, radios and television sets away from the water sources in your home.

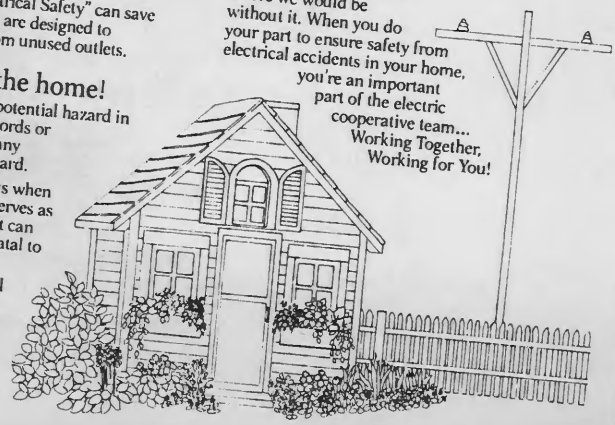
Electrical safety doesn't end inside!

You can do even more to prevent electrical accidents. Being extremely cautious while you're near electrical power lines and substations could prevent a tragedy. Remember these safety tips while you're working around your home or near an electrical power source:

- Stay away from any downed power lines. If you see one, contact us immediately so we can send our service people to repair it.
- Don't use metal ladders, tree trimmers or tools near overhead electrical power lines.
- Avoid using electrical tools or appliances near water or wet ground outside of your home.
- Be extremely cautious when digging near an underground power line. Call your electric cooperative before digging to find out the location of any buried power lines.
- Keep a safe distance from electrical substations. An accidental brush or touch at the wrong spot almost always leads to life-threatening injuries. Only skilled, authorized personnel should enter a substation.

Become a part of the electrical safety team!

Electrical energy is a vital part of our lives. Think of where we would be without it. When you do your part to ensure safety from electrical accidents in your home, you're an important part of the electric cooperative team... Working Together, Working for You!



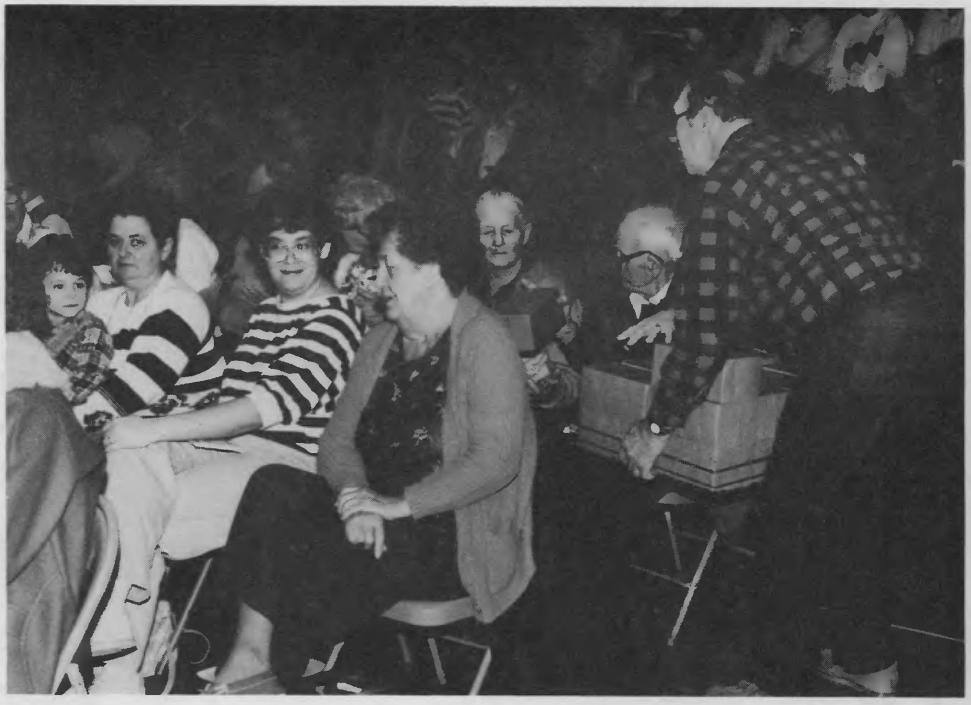
Your annual meeting

Jo-Carroll Electric Cooperative's history of achievement and strong member support form a solid foundation for the future of the service area of the Elizabeth-based consumer-owned electric utility. That was the summary of officers' reports during the 52nd annual meeting of the cooperative March 9 at River Ridge High School in Elizabeth.

Addressing about 450 members and guests, Richard Reusch of Elizabeth, president, likened the cooperative to a lighthouse, saying that "an electric cooperative serves a vital purpose: improving the quality of life of its members."

Reusch said the electric cooperative program in the nation had faced many storms during its more than 50 years of existence, but that Jo-Carroll and other electric cooperatives remain "healthy and necessary" structures in this country. Reusch called members' attention to critics' claims that the rural electric program has outlived its usefulness. He said, "The mission of rural electrification is an on-going one. "There is the demanding task of maintaining adequate, efficient, low-cost service to electric cooperative members."

He said rural electrics have an outstanding record of repayment of loans from the federal Rural Electrification Administration and that actual assistance from the federal government is less per consumer for rural electric cooperatives than for either of the other two segments of the utility business: investor-owned utilities or municipal utilities.



The Jacobstown Community Club again served lunch for the meeting.

Manager Connie M. Shireman continued on the theme of Jo-Carroll's solid foundation in her report. "An organization is only as good as its members. This is particularly true of an electric cooperative," she said.

Reminding members of the organizers of the cooperative and how they struggled to provide electric service in areas where the private utilities would or could not extend service, she said, "The quality of life and productivity of the rural areas continue to improve due to the efforts of those first pioneers.

"Our members continue to strengthen the solid structure of Jo-Carroll. The cooperative members have more than 40 percent equity in a plant valued at more than $13 million." Shireman added that the cooperative does not make a profit, but rather allocates any margins back to the members in the form of capital credits. She pointed out that Jo-Carroll members had received more than $731,000 in capital credit refunds.

In addition, they discussed reasons for the cooperative's first rate increase in seven years. Reusch said the increase, which will amount to about 6.9 percent for the average consumer, was necessary to assure that the cooperative continues to meet its loan requirements to the Rural Electrification Administration and to main-

tain its equity position. Shireman added that growth and system maintenance contribute to increased costs for the cooperative. "We have made efforts to cut costs in many areas before we took the step to raise rates," she said.

Treasurer John Janssen of Chadwick reported that total cooperative revenue for 1990 was $4,928,103, up slightly from 1989. Operating expenses were $4,839,274. Total margins were $329,389, he added.

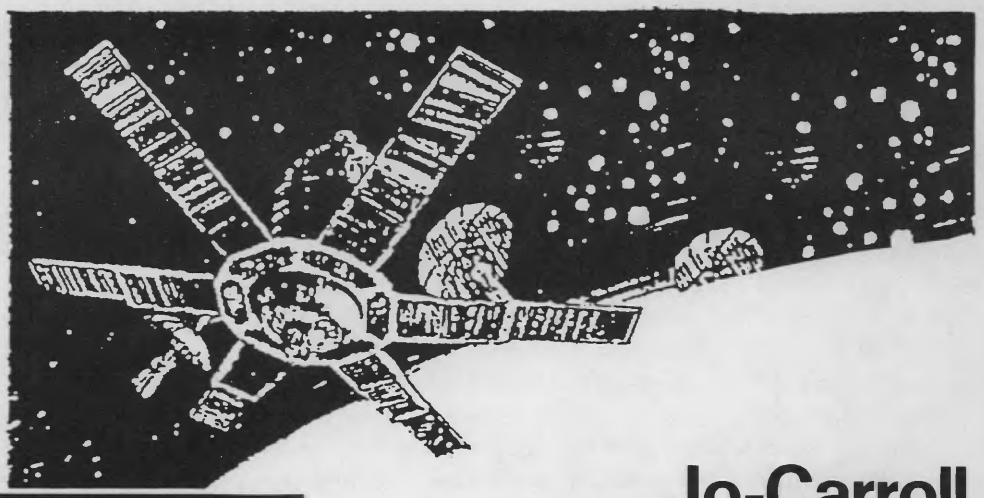
During the meeting, results of mail balloting in the director elections were announced. Three incumbents won three-year terms on the board. Reusch won reelection in District 5. Vernon Law of Savanna was reelected in District 8. Rodney Fritz of Mt. Carroll, who was appointed to the board in November, won election in District 7.

Guest speaker for the meeting was Lucy Miele of Stockton, a well-known author and humorist.

Following the members' meeting, the board met in a reorganizational session and reelected officers: Reusch, president; Law, vice president; Leonard Ricke of East Dubuque, secretary; and Janssen, treasurer.

Three members of Jo-Carroll Electric Cooperative have been elected to the cooperative's board of directors. Seated from left are Richard Reusch of Elizabeth, Rodney Fritz of Mt. Carroll, and Vernon Law of Savanna. Standing is Connie M. Shireman, manager.
Kurt Koppo

The youngsters had their own special place during the meeting.



Rural TV

Jo-Carroll Electric Cooperative

Satellite dish needed **$15.00 hookup fee**

Choose your own programming

HBO/Cinemax/Disney—All three $20.95 per month

Disney—$7.95 per month
HBO—$7.95 per month
Cinemax—$7.95 per month

HBO/Cinemax—$14.95
HBO/Disney—$14.95
Cinemax/Disney—$14.95

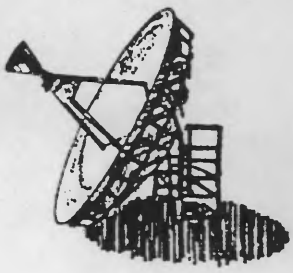
Expanded Basic Package $15.95 per month . . . Includes all basic programs Plus: Arts&Entertainment, PrimeTime24, Superstar Plus

Basic package—$9.95 per month and Prime Network

CNN
ESPN
Headline News
CBN The Family Channel
USA Network
Nickelodeon
Lifetime
KTVT Dallas
The Travel Channel
WPIX New York
WGN Chicago
The Weather Channel
Country Music Television
The Discovery Channel
The Learning Channel
The Nostalgia Channel
The Nashville Network
Superstation TBS WTBS Atlanta

Fixed Dish Package—$8.95 per month

Includes: Arts&Entertainment, CNN, CountryMusicTV, Discovery, ESPN, Family Channel, HeadlineNews, Nashville Network, USA Network, WGN, WTBS



You must have a signal decoder to receive programming.

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Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Jo-Carroll: quite a busy place

This month's issue of the Jo-Carroll Highlights contains photos and descriptions of some of the maintenance construction projects at your member-owned, member-controlled electric cooperative. When reading this, our members will get some idea of how busy the 24 employees of Jo-Carroll are during our peak construction season.

The article doesn't detail the activities in the office, but be assured that the personnel who take care of the accounting, budgeting, depreciation, transportation records, payroll, member records, usage and billing, administrative, recordkeeping, local, state and federal regulatory compliance reporting, and the many other office duties necessary are all year around. The office staff also handles incoming telephone call, mail, correspondence, and members who visit our office.

The article does not mention the member service and marketing area, either. Jo-Carroll has 1,700 water heaters and 170 dual fuel electrically heated homes installed with load management radio receivers. This program requires a great deal of maintenance work, as well as the cooperative's active promotion to acquire more controls. This keeps the marketing director and member service staff quite busy the year around. They also respond to high bill inquiries, perform energy audits, help to promote the Rural TV Program, assist members with stray voltage inquiries, and produce member communications.

All considered, it is a very busy place. It is our goal to provide the best possible electric service. We constantly strive to reduce outage time, and improve our abilities to serve the needs of our members. Scheduling the work is a very important part of this. Members who need the cooperative crews to assist them in their projects, should call well in advance of the date that they need the crews at their location. It is difficult to receive a call in the morning asking for help that afternoon, when the work for the day has been scheduled a week in advance. Another important note is that Jo-Carroll is not a member of J.U.L.I.E. If a member needs underground wire located for any reason, please call Jo-Carroll directly, well in advance of the date the work is needed. By notifying us early, you can help us to provide good service to all of our members.

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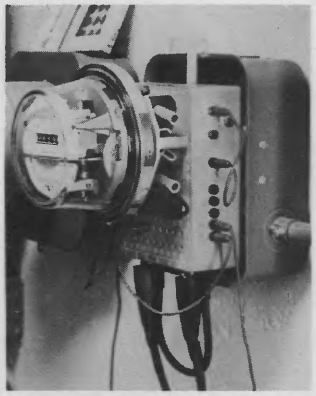
Replacing old sections of line in difficult to reach places helps to keep the Jo-Carroll distribution system strong, and improves our response time to outages.



Good meter maintenance ensures accurate billing for all Jo-Carroll's members.

Summer brings on maintenance

With the advent of warm weather, the maintenance activity at Jo-Carroll Electric Cooperative swings into high gear. Many maintenance tasks, such as tree trimming and pole changes, are performed all year long. The construction activity begins to pick up in the spring. The highway departments are beginning their projects, many of which involve line moves; the contractors are beginning home building which require service extensions; and Jo-Carroll's crews are involved with projects from the Construction Work Plan.

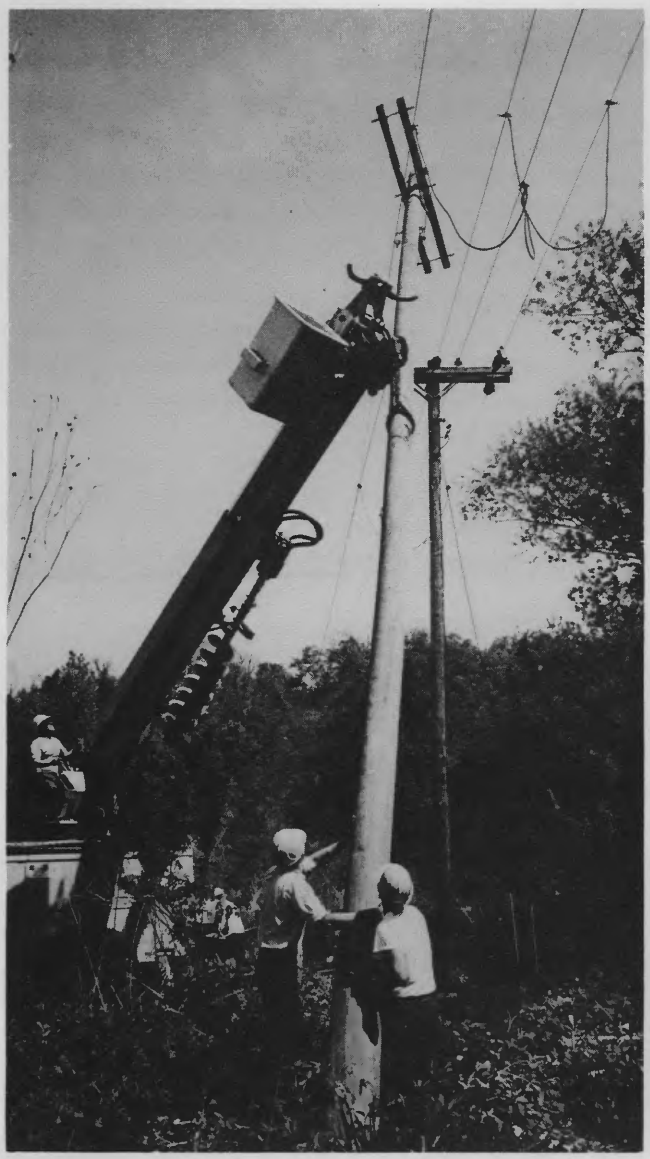
The most important aspect in providing reliable electric service is good system maintenance, Jo-Carroll owns and maintains over 1,000 miles of high voltage distribution power line. The cooperative attempts to perform many of these maintenance activities with Jo-Carroll line crews, in addition to having a tree contractor that helps with the right-of-way clearing. The cooperative hires an outside contractor to test the poles on our system, and the cooperative crews replace the ones that are rejects. Approximately 2,000 poles are tested annually, with about 200 per year being replaced.

Jo-Carroll has nearly 5,000 electrical meters in service. It is necessary to test approximately 10 percent of the meters each year to insure that they are all tested within ten years. This year the cooperative will change approximately 500 meters for testing. The meters tested in 1991 were last tested in 1981.

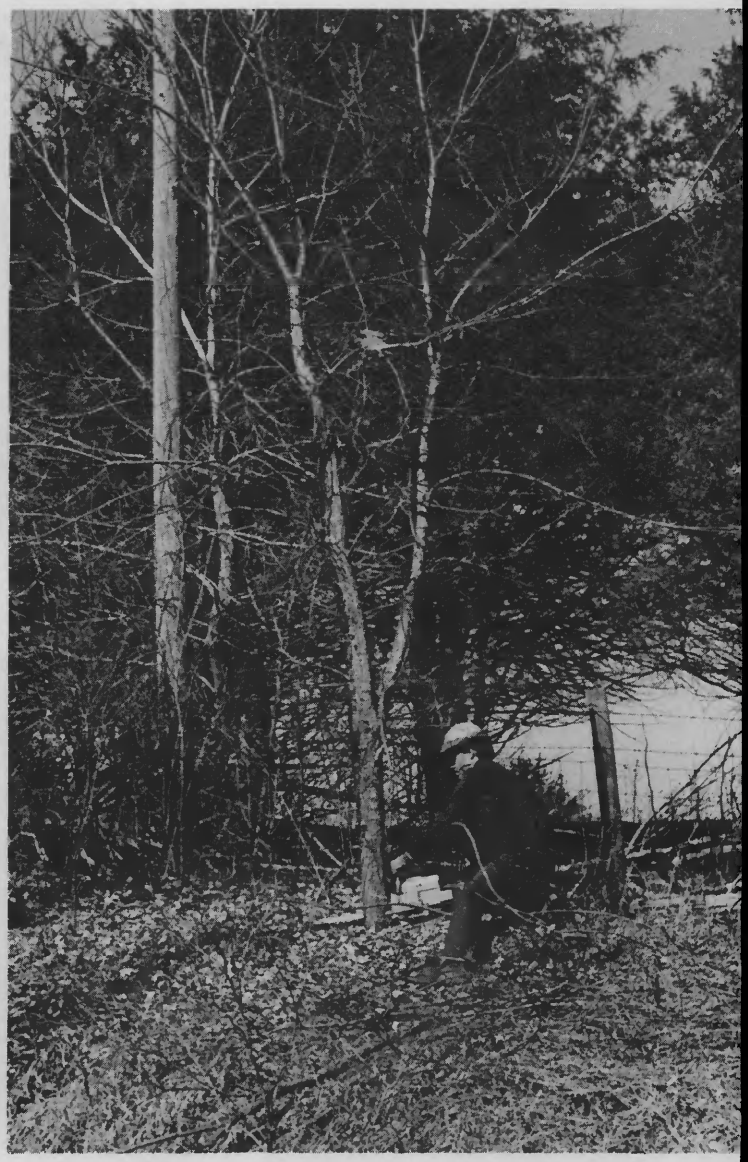
The Jo-Carroll board and management approved a two-year construction and work plan that involves systematic replacement of older sections of line. Two such projects were completed thus far in 1991 with several more planned. During the past several years exceptional growth in our service area has taken place. Approximately 201 new services were installed last year. It is expected that this will slow somewhat, and the cooperative is projecting approximately 100 new services for 1991.

Jo-Carroll crews continue to perform tree maintenance, in addition to the systmatic tree clearing work being performed by our contractor. Three years ago, Jo-Carroll began using a contractor to systematically establish a wide right-of-way for all of Jo-Carroll's lines. The contractor started in the East Dubuque area and has followed the lines, clearing right-of-way as they go. The crews are now working around the Hanover areas.

The many maintenance activities and construction projects must be scheduled around emergencies and outages, requests for locates on the underground wire, security light repairs, substation meter readings, safety meetings, and other non-construction work. All in all, it makes for a busy summer at your electric cooperative. **Mary Hine**



Pole replacement is an important part of reducing long outages.



Tree trimming, a year long activity, continues into the warm weather months.

Extending the power—safely

Why does it always seem like there's never a close or free outlet when you need one? At this point, most people will begin stringing extension cords.

An extension cord can be mighty handy, but it can also be dangerous if misused.

As the amperage of the load increases, so should the wire size in the cord. (Amperage is the strength of current needed to run the appliance.) And as the length of the cord increases, the thickness of the wire should, too. Resistance to current flow decreases with increasing wire thickness, and that means safer and more efficient use of electricity.

It's important, especially for safety reasons, to use the proper gauge extension cord. (Gauge is a measure of the wire's thickness.) The gauge should be on the label of new extension cords or right on the cord. The lower the gauge, the thicker the wire. A 10-gauge cord is about the thickest cord available to consumers; and 18-gauge cord is usually the thinnest.

Knowing the amperage of appliances can help you decide which gauge extension cord is suitable. The amperage of appliances will be on the nameplate.

Improper use of an extension cord can result in serious damage. Data indicates there are some 7,400 home fires a year involving extension cords. In an average year, these fires cause about 80 deaths, 260 injuries and millions of dollars of property damage. Almost half of the fires caused by extension cords are thought to be the result of overloading the cord.

Air conditioner check-up time

Isn't this time of the year great? Spring breezes are just right for line-drying clothes, airing out the house and enjoying outdoor activities. The weather isn't too hot or too cold. It just doesn't seem right to be thinking about your air conditioner, does it? However, before you realize it, summer will arrive with its hot, muggy weather. Plans for reliable summer air conditioning should begin now with a spring check-up of your central or window air conditioning unit or heat pump system.

You can take care of most of the maintenance. Clean the coils, replace the filters, lubricate the motor and check the belts. Review your owner's manual for proper start-up procedures. During the summer, regular maintenance procedures should also include keeping grass, leaves, shrubbery and other obstructions away from outside units. Indoor coils should be cleaned with a vacuum cleaner or brush periodically, while outdoor coils are sprayed with a garden hose. Be sure the vents in your home are not blocked by furniture, curtains or rugs.

If your equipment needs servicing, contact a reputable repairman. He can take care of the more difficult tasks such as checking thermostats and sensors, recharging the refrigerant and testing pressure.

Well-maintained air conditioning equipment will not only keep you more comfortable this summer — it will operate more efficiently and save you money!

Rural TV programming additions

The Rural TV package offered by Jo-Carroll Electric Cooperative has been changed. Two additional services, Showtime and The Movie Channel, are now available. The cost is $7.95 per month for each. As before, HBO, Cinemax, and Disney are still available, also for $7.95 per month each.

Here are our rates for service combinations:

Rural TV

Any two premium channels mentioned above: $14.95 per month
Any three premium channels mentioned above: $20.95 per month
Any four premium channels mentioned above: $27.95 per month
Any five premium channels mentioned above: $33.95 per month

The Weather Channel is no longer available with the basic package or the expanded package, but can be purchased for 50 cents per month as a stand-alone program.

You must have a signal decoder to receive programming.

Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Standby power

Purchasing a standby generator is comparable to buying fire insurance—you may never need it, but it is invaluable when trouble arrives.

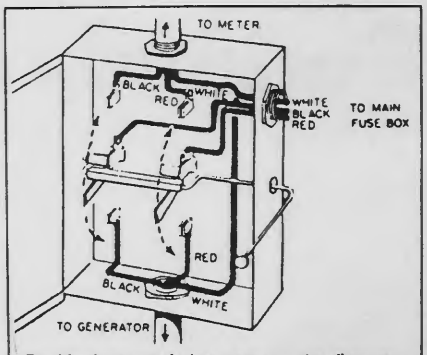
Although our electrical system is highly dependable and reliable, it is subject to the whims of Mother Nature—tornadoes, ice storms or destructive high winds.

How well are you prepared to handle a prolonged outage? Now is the time to take inventory of your home and farm. Determine how you would pump water, milk cows, handle feed, keep pipes from freezing, as well as provide heat and ventilation for livestock. How will you heat your own home, keep frozen and perishable foods from spoiling and operate sump pumps and other necessary equipment?

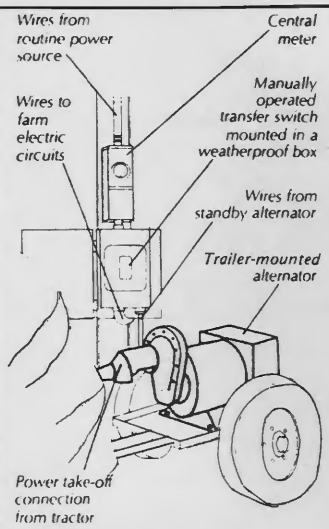
Now is the time to sit down and carefully inventory your electrical needs. Assume that you will experience extended outages that could cause you not only inconvenience, but also financial loss. The cooperative does not sell standby generators, but we do have personnel available to help you analyze your load and make proper recommendations. And also remember, that standby generators are not normally stocked in any quantity, so don't plan on purchasing one **after** an outage occurs.

Remember, too, the installation of any standby equipment requires a positive double-throw type of switch. Operating a standby generator without a properly installed double-throw switch is extremely dangerous and could result in financial liability.

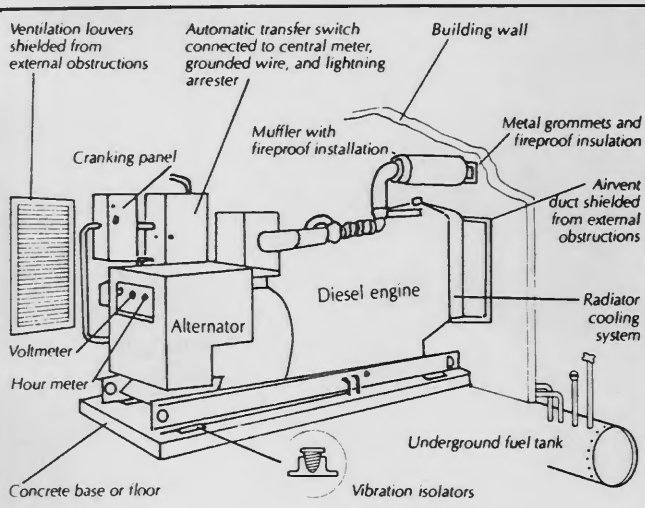
Let us help you guard against any of those "acts of God" no one can foresee.



Double-throw switches protect the linemen working to restore service and they protect your generator, too.



Tractor-driven alternator connected to electric system



Typical indoor installation for a large diesel-powered alternator

Larry Lomax inspects some of the perennials growing at Cedardale Farms.

Cedardale Farm Flowers

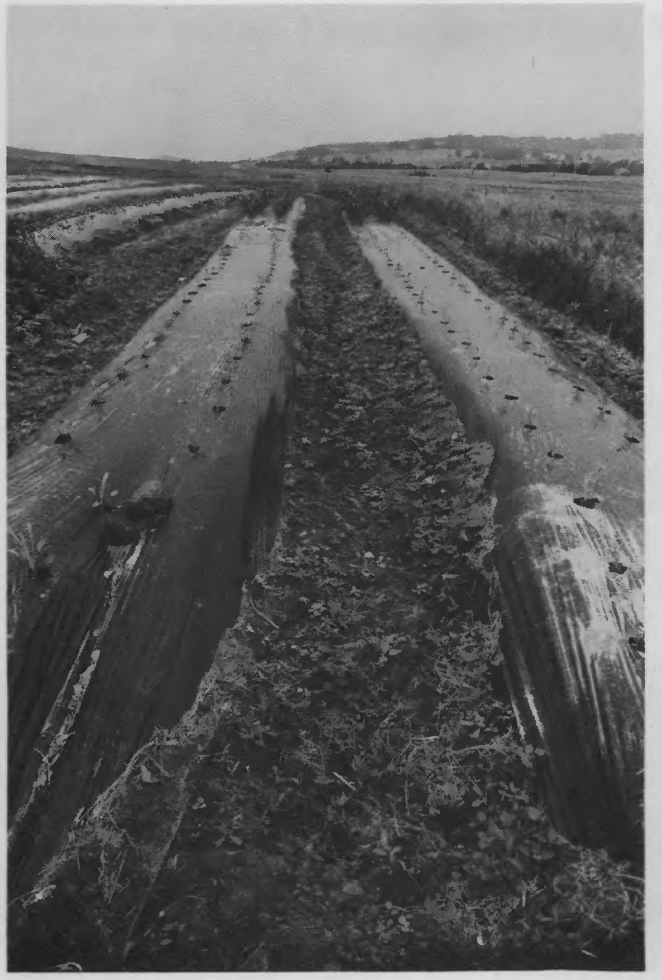
In rural Guilford Township, near the north edge of the Galena Territory, a "blooming business" has developed from a casual interest. Jo-Carroll Electric Cooperative members Lawrence and Mary Hale Lomax have put up a building and tilled a few spare acres to create Cedardale Farm Flowers.

This enterprise does not keep regular hours, but the Lomaxes are often "around" for people to stop by. They also encourage people to call ahead and set a time so they can be sure to be there and greet their visitors. Those who travel to their place on Cogan Lane, about five miles from Galena, are treated to a bewildering array of dry flowers of every sort. Visitors can purchase wall hangings, wreaths, dry flower arrangements, or simply a bouquet of dry flowers. Many of the flowers they grow to be dried at maturity are often in bloom to greet visitors. They put out over 10,000 plants that produce literally millions of flowers in all sorts of varieties.

Larry is a retired farmer, and Mary is a school teacher. Larry commented, "My wife has always enjoyed dry flowers, so we started to grow a few for air drying. One thing led to another, and there are only so many plants you can air dry, so I bought a freeze drying machine." "This machine, which commonly operates at temperatures at 51 below zero, takes fresh flowers and preserves them. Although the flowers dry, they retain their shape, color, and about 85 percent of their smell." Larry explains that it is "basically the same as hanging clothes on the line in the winter—they will freeze, but eventually dry."

Larry also purchased a device that is used in growing some of their flowers. This piece of equipment pushes the dirt into a raised bed and lays plastic over the flower bed. This helps to keep out the weeds, and warms the soil and allows it to retain moisture. "Although that has not been a problem this year," Larry commented.

Any of Jo-Carroll's members who are interested in flowers should take some time to visit this spot. Mary's designs are excellent, and many are in the popular Victorian style. Cedardale Farm is worth a visit if only to see how far the Lomaxes have taken their "hobby."



The flower beds are covered in plastic to help to keep the weeds out and retain moisture while warming the soil.

Approximately 1,000 peonies are drying in the freeze dryer.

Many dried flower arrangements and dried flower bunches are available at Cedardale Farms.

Safety tips for summertime outdoor electricity use

As work activities move into the summer season, the more intense farm work and home-yard care commands greater attention to personal safety. Let's review a few guidelines to avoid or reduce electrical hazards:

- When using electrical equipment outdoors, use grounded circuits protected with a ground-fault circuit interrupter.
- Use electrical yard equipment (electric mowers, hedge trimmers, weed cutters, etc.) that has three-prong plugs and double insulation. Use with care to avoid service cable damage.
- Avoid using electrical equipment outdoors during rain showers and in wet surroundings.
- Be sure there is ample clearance between top edge of farm machines (including antennas) and the lowest overhead electric line under which machine is to travel.
- Avoid raising irrigation pipe, well pipe, and other portable equipment, like grain augers, near or around overhead electric lines.
- Prohibit kite flying around or near power lines.
- Avoid or reduce electrical equipment damage by installing lightning arrestors at building service entrances and on equipment like submersible pumps.
- Check all electrical-conductor/ground rod connections at building service entrances. Be sure there is a secure bond.
- Make certain that special equipment, like grain augers, are in plain view when they are switched on to avoid personal injury.
- Keep all belts and equipment safety guards in place at all times except during "power off" service periods.
- Always use the proper size and type of protective devices, based on circuit conductors size and/or motor load (whichever is being protected).
- If lamps frequently dim, or if TV picture appears to be irregular, have a qualified electrician inspect the wiring system. The condition may be caused by a lose connection, or it may mean the wiring system needs a rather complete overhaul. **John Sutherland**

Why is my electric bill higher/lower than my neighbor's?

Almost every day, a member calls the office asking that very question. Because you use more/less than your neighbor is an answer—but not a good one.

Why is your bill different? Because the occupants of each home are different, their living habits are different, the appliances are different, the uses of those appliances may be different and their efficiencies are probably different.

No two families will use the same amount of electricity or any other purchased energy. Many, many university and industry studies have proven that very basic fact. Some studies even had families switch homes and the family with the lower electricity use still used less after the switch.

We are all different—with different needs and wants. That's the answer to the question.

Office hours

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Outages and emergencies

call 858-3311 24 hours a day

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Vacations and electric bills

Going on vacation this summer? If you expect your electric bill to be lower because of your absence, better follow these suggestions:

Turn off the electric water heater

Turn off the air conditioner

If possible, empty and turn off a refrigerator. Remember, fully loaded freezers and refrigerators operate more efficiently than partially loaded units.

Turn off or unplug all non-essential electricity users such as attic fan, lights, pool pump, well pump, dehumidifier, etc.

The only way to use **no** electricity is to trip the main breaker. That will shut everything off. **To reduce usage,** shut off everything that doesn't absolutely need to be on while your gone. The automatic appliances will continue to automatically operate while your away.

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

5,000th meter put in service

July of 1991 marked a milestone in the growth of Jo-Carroll Electric Cooperative when the line crew installed the 5,000th meter on the Jo-Carroll system. The cooperative had its humble beginnings when 60 members first received service on May 3, 1940. The cooperative had 20 miles of line and three 100-kW generators to serve our pioneers members.

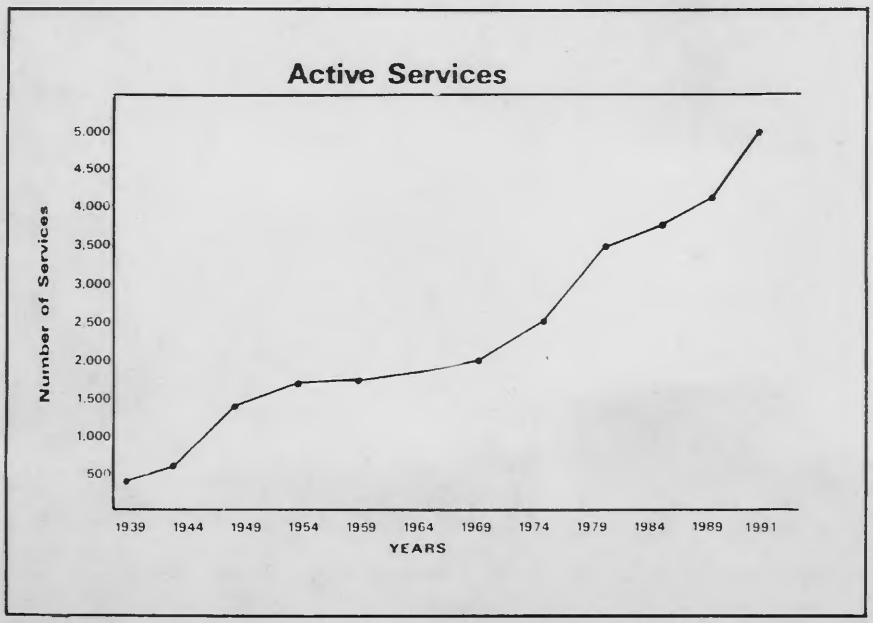
Today, along with the 5,000 meters, Jo-Carroll Electric has nearly 1,100 miles of high-voltage distribution line and 11 substations. Today's modern substations are rated between 3,750 and 5,000 kW. The huge increase in electrical capacity for the Jo-Carroll system is not only due to the growth in the number of members, but also due to the growth and the use of electrical appliances. The early Jo-Carroll members averaged about 80 kilowatt-hours per month, and the present member averages nearly 1,000. The first farmers who received electricity from Jo-Carroll were pretty conservative about electricity, something that they didn't know very much about. Today's modern member has electrical appliances of all descriptions, many of which were of unheard of in the early years.

The growth of the cooperative system benefits all of the cooperative's members. Jo-Carroll has certain fixed costs that can be spread over more kilowatt sales and more facility charges, keeping the rates down for all the members. The efficiency of operation is also better with a larger number of members. In 1983, Jo-Carroll had basically the same number of employees, trucks, and equipment to serve 3,750 meters that the cooperative serves 5,000 meters with today.

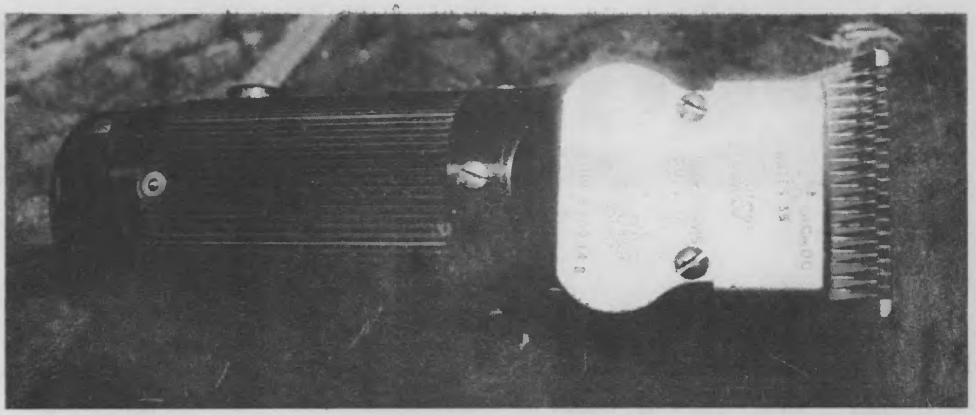
The cooperative constantly strives to provide high-quality service to the existing members while performing necessary construction to add new members. Being a service organization, Jo-Carroll attempts to answer service calls as quickly as possible. Of course, outages and emergencies are responded to 24 hours a day 365 days a year, and there is no hesitation when responding to an outage. However, it is a challenge to juggle the cable locates, security light repairs, request to check voltage or investigate a high bill, perform service upgrades, or visit our members locations to answer questions when we are busy hooking up the new meters. The cooperative makes every effort to keep up with the workload, and I hope we are doing a good job of this.

The cooperative also has a vigorous on-going maintenance program that has to be worked into our schedule. The Jo-Carroll crews do a certain amount of tree

(Continued on page 12d)



This graph charts numbers of the cooperative's meters in service since the cooperative began.

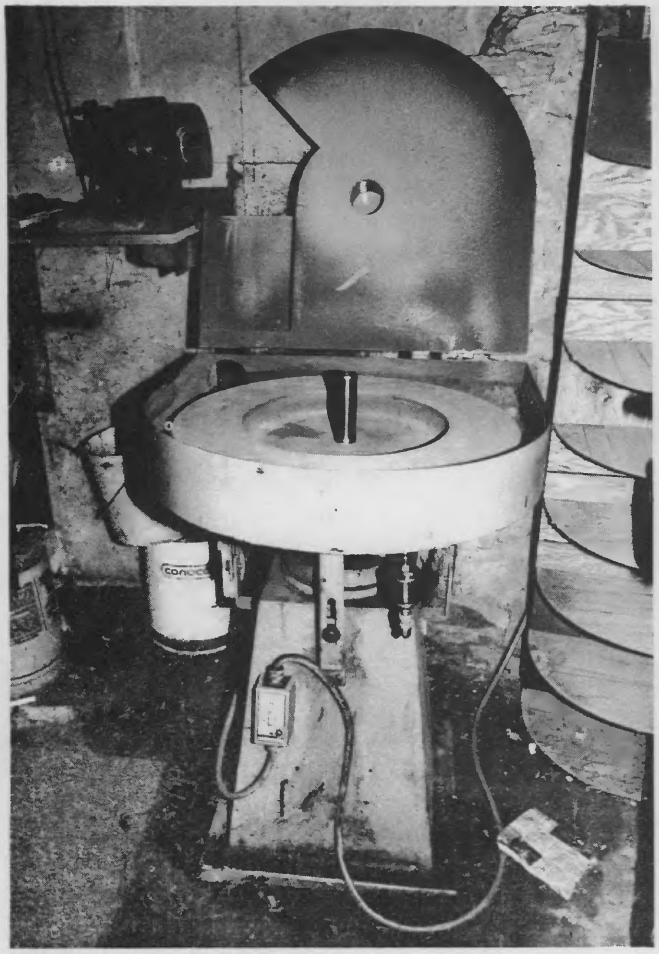


An Oster grooming tool.

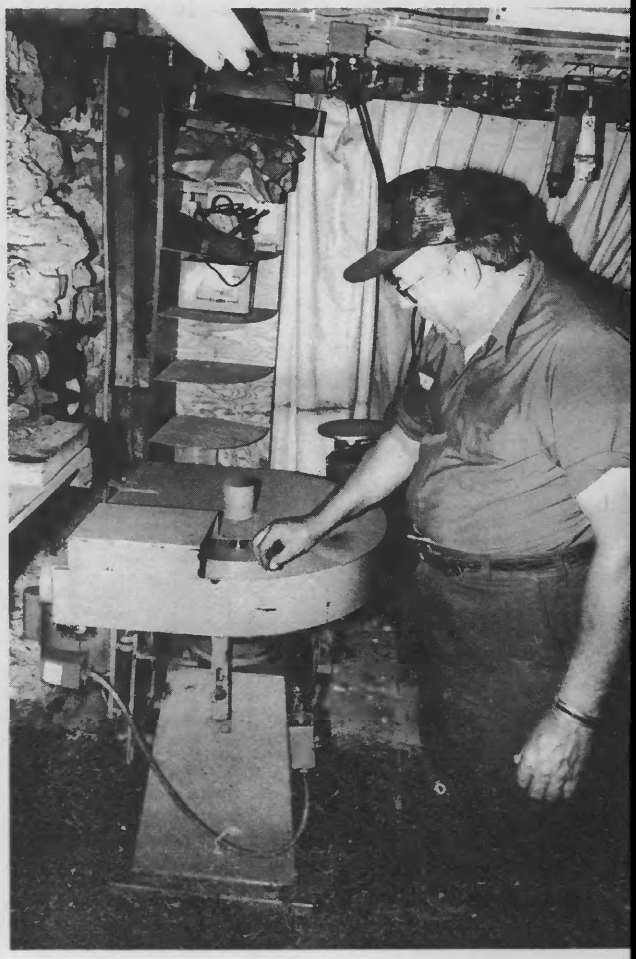
'Sharp Connection'

Jo-Carroll Cooperative member Horst Haenert of rural Scales Mound learned the cabinet-making trade in his native Germany. He came to the United States in 1953, but has been "sharpening things" for as long as he can remember. "As a cabinet maker you have to keep your tools extremely sharp," Horst said, "and there is a special art to sharpening things." "You have to learn it like you learn anything else."

Since coming to the United States, Horst went to school in Milwaukee and was certified by the Oster Company to sharpen their blades. He spent approximately $10,000 to buy the various pieces of equipment necessary to do the job, and went into business by founding the "Sharp Connection." The business is located in the



The Oster Blade Sharpener is one of ten that exist in the United States.



Horst is sharpening a clipper blade on the Oster Blad Sharpener.

basement of his home, and he sharpens over 1,000 blades per month. About 75 percent of the blades he sharpens comes from the dog-grooming industry, but he also takes care of the show horse groomers, as well as the sheep and cattle groomers and barbers. These customers are from "Maine to California, and everywhere in between." One unusual client is the Pontiac Correctional Center.

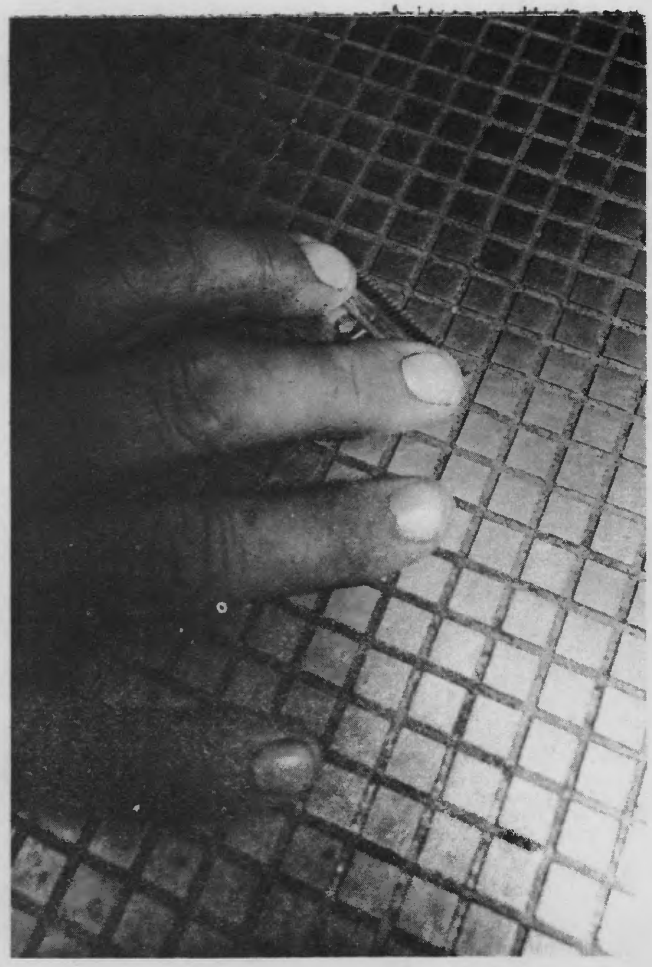
Horst is married to a school teacher from Warren, and they are the parents of two daughters, one a musician in Florida and the other a homemaker in Wisconsin. He is also involved in raising and breeding thoroughbreds, of which he has 22, some of which race at Fairmount or Prairie Meadows Race Track.

Horst explains, "The Oster Corporation in Milwaukee recently began to sharpen the new blades using a robot arm, but it was discovered that the blades were not sharp enough. This craft must be done by hand, each blade has different molecules and it must be hand sharpened and hand checked." Horst had to buy a $6,000 aluminum sharpening wheel in order to do the clipper blades. This machine is one of ten in existence in the United States. This wheel is set at an exact RPM and angle to produce hollow-ground blades. He also uses a checking steel, which is specially made under close tolerances and freeze tempered to insure that it will never warp.

Horst also will sharpen saws, knives, scissors etc., "anything with an edge." His shop equipment contains 13 electric motors that operate the sharpeners and grinders. Horst comments, "For the energy used in the sharpening business, the cheapest you can buy is electricity." Horst went on to say, "Jo-Carroll has had good service. I can only remember one long outage. That was in 1972—about 24 hours, but that is the only bad one that we have had."

Horst's shop is located on Pea Ridge Road east of Scales Mound, and his telephone number is (815) 845-2460. If you have something around the house or farm that needs sharpening, give Horst a call, and chances are he will try to find time for you.

orst with a set of dog grooming clippers. These type ccount for 75% of his business.



The freeze tempered checking steel.

Low room-by-room thermostat setting cuts costs

One of the real plus features of electric heating is room-by-room temperature control. The individual room thermostats mean that the exact degree of heat desired in each room may be obtained. A few weeks of experience with your electric heating system will help you determine the settings which provide the most comfort.

You probably will find you are comfortable at lower temperatures than were necessary with other heating systems. This is because electric heating assures a uniform temperature through each room, and the humidity in the air is retained.

Many people find that living areas are most comfortable at 70-72 degrees, bathroom and dressing areas during periods of use at 78-80 degrees and bedrooms at about 65 degrees or lower. For sleeping comfort, we suggest you turn your bedroom thermostat down. If you like to sleep with a window open, be sure to close the bedroom door to prevent chilling the entire house.

The lowest comfortable settings naturally mean the greatest economy. The accompanying table illustrates the cost of keeping room temperatures above and below 70 degrees using any type of fuel—gas, oil, coal or electricity—in central or room-to-room heating systems.

We want your electric heating service be satisfactory and economical. May we suggest that you place this article in a prominent position in your home.

Temperature-cost relationship

Heating at	Based on 70 degrees
68	Costs 6.2% less
69	Costs 3.1% less
70	Costs 0
71	Costs 3.1% more
72	Costs 6.2% more
73	Costs 9.4% more
74	Costs 12.5% more
75	Costs 15.6% more
76	Costs 18.7% more
77	Costs 21.9% more
78	Costs 25.0% more
79	Costs 28.0% more
80	Costs 31.0% more

Please be cooperative

Don't plant trees or shrubbery within eight feet of the front or four feet of the sides and back of a pad-mounted transformer. Our linemen need adequate room around these devices when they are performing maintenance or restoring power during an outage.

Leonard Bradshaw Sr.

(Continued from page 12a)

work every year, and we have a tree contractor who spends 6 months a year clearing Jo-Carroll's right-of-ways. The cooperative tests 550 meters per year in order to keep on a 10-year test rotation. We also inspect approximately 2,000 poles per year to be sure that they are all safe and sound and storm ready, which generally produces about 300 a year that need to be changed out. Planned maintenance of this nature is essential in the long term "health" of the electrical distribution system.

The economic future of Jo-Davies and Carroll counties looks bright for continued growth. Jo-Carroll Electric is prepared to meet the growth, while providing high quality service to it's existing members and maintaining the electrical distribution system for future generations of cooperative members.

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Jo-Ca

Jo-Carroll Hi-Lines

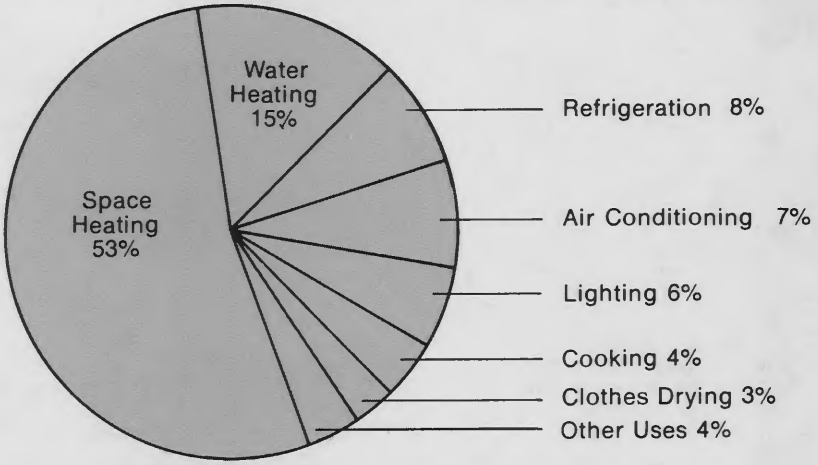
Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

Your Lifestyle can make a Difference!

You know, YOU have complete control over how YOU use YOUR electricity. YOU choose the ingredients that are necessary for YOU to maintain YOUR standard of living.

The WAY YOU LIVE and the WAY YOU USE your electrical appliances have a greater impact on your consumption of electricity than the NUMBER of appliances you have.

This pie chart shows the amount of energy used in the residential sector nationwide.



We in Illinois have relatively good lifestyles, and we tend to use more energy than the national average. This applies to all forms of energy—not just electricity.

Let's take a look at some of these "lifestyle considerations" that can make your electric bill appear to be higher than "normal."

Family Size

Let's face it, there is a direct relationship between the number of people living at home and the amount of energy that is used. That's especially true if you have teenagers at home. In addition, if friends and relatives are visiting, you can expect to use more energy for cooking, baking, laundry, and hot water.

Space Heating & Cooling

From a comfort standpoint, most of us prefer to be relatively cool in summer and warm in winter. Others prefer temperature extremes. In Illinois, humidity plays an important part in our year-round comfort, too. If we operate dehumidifiers in summer (and, to a lesser degree, humidifiers in winter), this contributes to our household energy consumption because they tend to run continuously. Portable space heaters, air conditioners, and fans in such places as the garage and basement also contribute to our energy consumption.

By taking a look at our "comfort" lifestyle in terms of maintaining relative humidity and temperature, we can use energy wisely in many ways. These range from adding insulation, weatherstripping and caulking to simply turning down the heat and turning off the air conditioning in rooms not used.

Water Heating

About 15 percent of the energy used in the average American home is for water heating. Hot water plays a very important role in everyone's lifestyle—but many lifestyles require substantial quantities of hot water, and that results in higher energy use.

Ask yourself some of the following questions:

"When I take a bath, do I use hot water sparingly, or is the tub completely full of water?"

"Do I take short showers, or do I stay in the shower until there is not hot water?"

"Do I repair leaky faucets, or simply let them drip and waste hot water?"

"Do I operate automatic washers and dishwashers with a full load, or just whenever it's convenient? (like with a pair of jeans or just a few dishes)?"

Appliance Use

We have a host of time and labor saving appliances available to help us do our work whenever we need their service. As you work through this guide, you may notice how many more electrical servants you have than you expected. These appliances work for you around the clock, whenever you choose to use them. But wise use of appliances can have a positive effect on your energy consumption.

For example, ask yourself questions like these:

"Do I turn off lights when a room is not in use, or do I leave them on?"

"Does my television set entertain the entire family, or does it entertain an empty room?"

"Do I leave the oven on 'warm' for an extended period of time, or do I cook many dishes at once and then turn the oven off?"

These are prime considerations that affect the amount of electricity you use to maintain your lifestyle. All Americans are part of the residential sector, and a spirited energy management consciousness is likely to start at home.

The effects of a home and farm energy management program can pay big dividends!

Why is my electric bill higher than my neighbor's?

You just answered this question yourself. It's YOUR electric bill, and it reflects the amount of electricity consumed by YOU and YOUR FAMILY in YOUR HOME and on YOUR FARM.

Your neighbors may have a completely different set of circumstances—different number of people living at home, different lifestyle, different size home, different farming equipment and methods, etc. These and many other factors make a comparison with your neighbor less than meaningful.

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A guide to calculate energy use in the home and on the farm*

Appliance	Average Wattage		Monthly KWH	Your Estimated Monthly KWH
Air Conditioner (room)	1000	(varies)	1 KWH/hour	
(central)	2500-3500	(varies)	2.5-3.5 KWH/hour	
Automatic Blanket	200		15	
Car Engine Heater	1000		1 KWH/hour	
Clock	4		3	
Clothes Dryer	4350		5 KWH/load	
Coffee Maker	850		8	
Dehumidifier (8½ KWH per day if run continually)	300		200	
Dishwasher	1190		30-48	
Freezer, standard (12-15 cu. ft.)	350		100-190	
Freezer, frost-free (12-15 cu. ft.)	440		150-240	
Food Mixer or Blender	110		1	
Frying Pan	1200		15	
Furnace, Blower (cold months)	600		75	
Garbage Disposal	400		2	
Heater, Portable	1500		1½ KWH/hour	
Hair Dryer	1250		3	
Humidifier	80		20	
Iron (hand)	1100		12	
Lighting (varies widely)	1600-1400		75-150	
Microwave	1450		16	
Radio	20		4	
Radio-Stereo	40		6	
Range	12000		100-150	
Refrigerator, standard (12'-16')	265		100-120	
Refrigerator, frost-free (16')	475		150-230	
Refrigerator, frost-free (20')	540		225-275	
Sewing Machine	75		1	
Television (Color, 4 hours per day)	250		30-40	
Toaster	1100		4	
Vacuum Cleaner	700		3	
Washing Machine (automatic)	600		8	
Water Heater (standard)	3000-4500	(varies with family size)	400-500	
Waterbed Heater (varies)	300		100	
Water Pump	750-1000	(varies with depth)	40	
			Home Total	

Equipment	Average KWH Use	Comments	
Arc Welder	5 per hour	37.5 Ampere	
Air Compressor	1-3 per hour	.25-.5 Ampere	
Electric Fencer	7 per month		
Engine Block Heater	1-2 per hour	1000-2000 watt continuous use	
Grain Dryer			
• No heat	1-2 per bushel	varies with weather	
• Low Temp (electric)	1-3 per bushel	and moisture to be removed	
Lighting			
Incandescent			
• 60 watt	18 per month	based on 10 hours per day use	
• 75 watt	22.5 per month	based on 10 hours per day use	
• 100 watt	30 per month	based on 10 hours per day use	
• 200 watt	60 per month	based on 10 hours per day use	
Fluorescent			
• 40 watt	15.6 per month	based on 10 hours per day use	
• 75 watt	26 per month	based on 10 hours per day use	
Mercury Vapor			
• 175 watt	60 per month	based on 10 hours per day use	
• 250 watt	84 per month	based on 10 hours per day use	
High Pressure Sodium			
• 150 watt	52 per month	based on 10 hours per day use	
• 250 watt	84 per month	based on 10 hours per day use	
Motors	1 per HP per hour	sizes ½ to 10 HP	
Poultry Operations			
Ventilation	150-190 per 100 birds per year		
Egg collection processing, washing	50-70 per 100 birds per year		
Production Lighting			
• incandescent	42-64 per 100 birds per year		
• fluorescent	11-16 per 100 birds per year		
Swine Operations			
Heat lamps. farrowing house	42 per litter per week	24 hour day, 250 watt	
Summer ventilation, farrowing house	4-8 per sow & litter per week		
Summer ventilation, finishing	5-10 per hog		
Water Pump (deep well)	1.5 per 1000 gallons		
(shallow well)	1.0 per 1000 gallons		
Livestock Waterers (heaters)			
Hog waterer (open lot)	5-10 per head per season	1" insulation	
(sheltered)	2-3 per head per season	1" insulation	
Cattle Waterer			
• open lot	6 per head per season	1" insulation	
• inside barn	4 per head per season	1" insulation	
Cattle-Hog combination waterer			
• open lot	10 per head per season	1" insulation	
• sheltered	8 per head per season	1" insulation	
		Farm Total	

* The average monthly kilowatt-hour consumption figures shown on this chart are based on normal use. Your electrical consumption may be higher or lower, depending on how you and other people in your home and on your farm use the various appliances and equipment.

How to estimate energy use & cost

The wattage of appliances (equipment) and the amount of operating time can vary greatly. The following information will show you how to determine where the energy dollars are going in your home.

Step 1

Since the cost of electricity is determined by the number of kilowatt-hours (KWH) used during a billing period, the first step is to determine your average cost per kilowatt-hour.

$$\text{Avg. KWH Cost} = \frac{\$ \text{ amount of electric bill}}{\text{KWH used}} \qquad \text{EXAMPLE: } \frac{\$128.48}{1400 \text{ KWH}} \quad \$.091 \text{ per KWH}$$

Step 2

Since the wattage of an appliance (equipment) determines the electrical usage per hour, the second step is to determine the wattage.

The wattage of an appliance is found on the serial plate. But it is possible that the electrical requirements will be expressed in volts and amperes, rather than watts. If so, multiply volts times Amperes to obtain the wattage.

EXAMPLE OF SERIAL PLATE

MICROWAVE OVEN			
AMPS	12.1	VOLTS	120
HERTZ	60	WATTS	1450
FORM NO	00000	MODEL NO.	0000
CODE	0	SERIAL NO.	000000

Step 3

Use the formula shown in the following examples to estimate usage and cost.

EXAMPLE A. A light uses 100 watts and is left on 15 hours. How many KWHs are used and what does it cost you?

$$\text{KWH use} = \frac{100 \text{ watts} \times 15 \text{ hrs.}}{1{,}000 \text{ watts}} = 1.5 \text{ KWH}$$

Your cost = 1.5 x $.091 = $.1365 or 13.65 cents

EXAMPLE B. A microwave oven uses 1,450 watts and you use it for 30 minutes. How many KWHs are used and what does it cost you?

$$\text{KWH use} = \frac{1{,}450 \text{ watts} \times .50 \text{ hr.}}{1{,}000 \text{ watts}} = .725 \text{ KWH or } .73 \text{ KWH}$$

Your cost = .73 x $.091 = $.066 or 6.6 cents

EXAMPLE C. A ½ horsepower motor on a ventilation fan operates for 8 hours. How many KWHs are used and what does it cost you?

KWH use = 1 KWH per HP per hour x .5 HP x 8 hours = 4.0 KWH

Your cost = 4.0 x $.091 = $.364 or about 36½ cents

*Motors in the ½ HP to 10 HP range use approximately 1 KWH per HP per hour.

Step 4

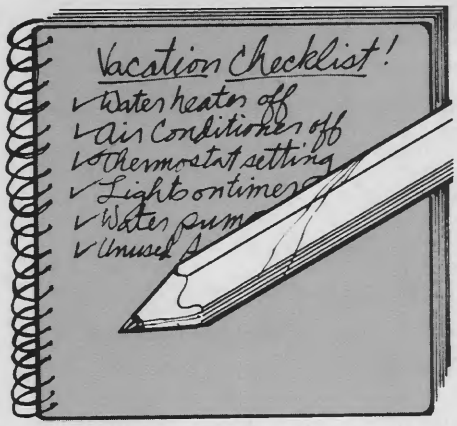
To find your daily cost for electricity, divide your bill by the number of days in your billing period.

$$\text{EXAMPLE: } \frac{\$128.48}{30 \text{ days}} = \$4.28 \text{ which is your daily cost.}$$

To find the daily cost per person in your family, divide the daily cost by the number in your family.

$$\text{EXAMPLE: } \frac{\$4.28}{4} = \$1.07 \text{ per person per day.}$$

Vacations and seasonal use



When vacation time comes, and you're planning to be gone for a couple of weeks or so, your electric bill should decrease significantly, right? Wrong!

Many people believe than when they leave on vacation, their electric meter stops until they return. If they are on vacation for two weeks, they expect their electric bill to be cut in half. Let's ask ourselves a few questions before we assume our electric bill should decrease by any considerable amount during vacation time.

First, was the water heater turned off during your vacation? Remember, if the electric water heater is left energized during vacation, it will continue to operate and maintain the tank temperature even if you're not using any hot water.

Were the refrigerator and freezers emptied and turned off? If not, they will continue to operate to maintain the preset temperatures.

Take a look at other electrical appliances that keep running while you are on vacation—clocks, attic fans and power ventilators, heating and air conditioning equipment, lights, and TV sets with the "instant-on" feature.

If you are determined that no electricity is to be used during your vacation, you can accomplish this by turning off your main breaker or pulling the main disconnect. But remember, when you do this, the automatic appliances and lighting will stop. Your refrigerator and freezer will defrost, your electric water heater will not have hot water ready for use upon your return, and your home may be too hot or too cold when you walk in the door. It's a decision only you can make. Perhaps you can make arrangements with a neighbor to keep an eye on your place and adjust the heat, water heater and/or air conditioner shortly before you return.

In addition, you may wish to unplug all appliances not in use. If a light is to be left on, it should be connected to a timer. If you intend to be gone for an extended period of time, contact your electric cooperative and make arrangements so your electric service will remain uninterrupted.

Read your meter upon leaving, and again when you return. This will let you determine the number of kilowatt-hours used during the period of time you were gone.

Another reminder is that many vacationers bring home several days or weeks of dirty laundry. This laundry will give your electric water heater a workout during your first day or two back home. Only you can decide whether your electric meter gets a vacation or not while you are gone.

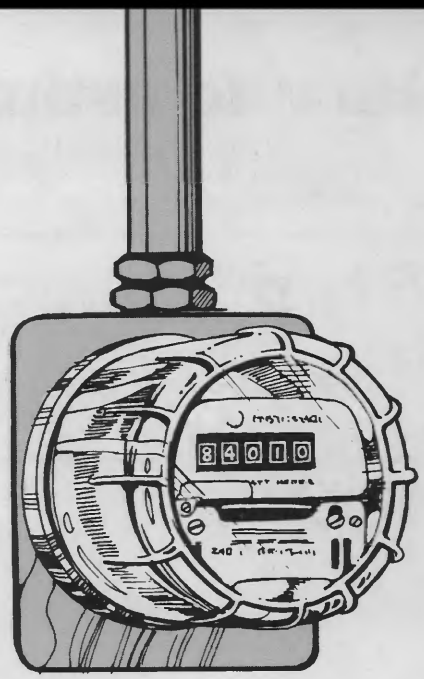
In addition to vacations, you may wish to take a look at some of the seasonal uses for electricity that may cause an increase in consumption.

These include crop dryers, air conditioners, portable heaters in the garage or basement, engine heaters to keep your car, truck, or tractor ready to run, heat tape to keep pipes from freezing, and the list goes on and on.

Let's not overlook hobbies, either, or those businesses that operate from the home. Ceramics equipment, beauty shops with a number of electric hair dryers, woodworking tools, etc., also have an effect on the number of kilowatt-hours you use.

Meter reading dates

Another factor that enters into higher than normal electric bills is the number of days between meter reading. Check the number of days in your billing cycle to make accurate comparisons. You will use more kilowatt-hours in 40 days than you would in 20. Many people seem to overlook this important consideration.



It's important to read your meter on the same day each month. If you notice that your use has increased substantially from one month to the next for no apparent reason, you will be able to diagnose an equipment fault sooner.

Is the meter accurate

The electric meter is often accused of inaccuracy, but it's seldom the culprit. The meter is a finely calibrated, highly accurate device used to measure electric power use. Your cooperative has a continuing program to test the accuracy of all its meters to assure you that you are being billed for the exact number of kilowatt-hours used. Historical data bear out the fact that, in more than 99 percent of the time, the electric meter is accurate. High bills are almost always traced to other causes.

You may request a special meter test by contacting your cooperative's member service department, or you may wish to call an electrician to check your wiring and appliances for grounds, shorts, and other malfunctions.

Robin Landwer

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Jo-Ca

Jo-Carroll Hi-Lines

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MANAGER'S REPORT by Connie M. Shireman

Shireman

Understand the power of your electric lifeline

The importance of electric power in our daily living is taken for granted. Most of us are aware of many of the things electricity does for us. It often becomes the very life line of our existence as it helps us progress toward better living and the realization of our individual goals.

And electricity has, for so many years, been available to us in such abundance that it comes as a surprise to many that we must now make concerted efforts to conserve this vital resource. Otherwise, we will find ourselves facing critical power shortages in the near future.

But our conservation efforts must extend beyond just the electric power itself.

We must also be more concerned about conservation of our most precious national resource—human life.

While electricity can be our lifeline in a positive way, it can also act against us if we fail to recognize and respect its awesome power to destroy.

As your supplier of electric power, we want to remind you of some of the more important things you can do to help make electricity your safe and faithful servant without allowing it to become a dangerous element in your daily living:

- Never try to move electric lines or components which have been damaged by storms, wrecks, or other causes. Such lines or components may still be energized, and your lifeline may be threatened if you come in contact with them. Stay away from live wires, and call our office at once. We have the trained people on our staff to take care of such emergencies. They know how to do it safely.
- Be especially careful when moving large equipment or high-stacked loads near power lines. And never make the mistake of trying to raise such lines so they will clear your work. If such a problem ever confronts you, call us. We know how to deal with the power of electricity.
- Left to the forces of nature, trees near power lines often grow to the point where they come in contact with live wires. Being full of moisture, trees are excellent conductors of electricity. Without the proper equipment and precautions, it can be very dangerous to try to prune or cut trees that are in contact with power lines. Call us and let us do the job—safely.
- In the interests of both conservation and safety, electrical wiring should be large enough and insulated enough to carry the load placed on it. Also, proper installation procedures must be observed to insure safety.
- By carefully planning the size and location of outbuildings and other structures so they do not rise near a power line, you can further help the cause of safety around your property.

In these and many other ways you can become a vital force and influence in the campaign for both conservation and safety in and around your home. You, your family and your neighbors will all benefit from your efforts.

To learn more about what you can do to use the controlled lightning we call electricity more safely, call or write our office.

Life-support equipment

Jo-Carroll Electric Cooperative strives to maintain the best possible service to all of our members. Uninterrupted service would be a manager's dream—never an outage call. In reality, though, there are many factors present in the environment that are working against that dream: wind, lightning, ice storms, faulty equipment, trees, animals, and vehicles are a few examples of things that come into contact with the line to cause outages. In addition, many of the maintenance jobs that our crews perform require the line to be de-energized. These are planned outages and are usually quite short. Nevertheless, if someone were dependent on life-support equipment that operates on electric power, the planned outage could be very serious.

In this issue we are running a clipout form to return to us if you are utilizing such equipment, as well as the steps to take in case of an outage. Your cooperative needs to know the names and locations of our members on life-support equipment, and we keep a registry of these on file in our office. We will make every effort to give priority to restore service on life support systems.

Life-support registry

If you or a members of your family depend on life-support equipment, please fill out the form below and mail to us.

Name _____

Phone _____

Address _____

Location number _____

Type of support equipment _____

Days of use _____ Time of use _____

Do you have an emergency standby generator to operate this equipment?
Yes _____ No _____

Mail the above form to:
Jo-Carroll Electric Cooperative, Inc.
P.O. Box 390
Elizabeth, IL 61028

October is National Co-op Month

COOPERATIVES
MEETING PEOPLE'S NEEDS

Jo-Carroll Electric Cooperative will be one of the nation's 45,000 cooperatives celebrating Cooperative Month during October. The 1991 Theme is "Cooperatives — Meeting People's Needs."

Approximately 100,000,000 people rely on cooperatives for goods and services of on e kind or another. That's nearly half the population of the country.

The first cooperative in the United States was established for fire insurance a little over 200 years ago in Philadelphia. Today there are co-ops organized for credit unions, electric and telephone service, housing, insurance, farm marketing and farm supply, health and day care, news services, and anything else people need that can be provided efficiently and economically the co-op way.

There are 1,000 rural electric cooperatives in 46 states. Jo-Carroll Electric was

Office hours
7:30 a.m. to 4 p.m. Monday through Friday

Outages and emergencies
call 858-3311
24 hours a day

incorporated in 1939 and serves more than 4,800 meters in Jo-Daviess and Carroll counties.

Providing electric service the cooperative way makes electric co-ops a special type of utility. The member-owner has a voice in co-op matters and can be elected to the board. This makes the co-op a true example of democracy in action, and rural electric co-ops have become recognized as one of America's great success stories.

The fact that the co-op is locally owned and controlled also means that it serves the entire community. Whatever benefits the co-op and its member-owners benefits everyone. The bottom line in explaining a co-op of any kind is truly exemplified in the theme "Meeting People's Needs."

Member memo:

Jo-Carroll Electric's bill statement will take on a different look beginning with the bills you will receive at the end of October. The reason for this is a change in the cooperative's computer system. The envelope will also be different, as will the return envelope. It is hoped that this change will not cause any difficulty or confusion. Neither the billing dates or due dates are being changed. If any members should have any questions, concerns, or comments about the changes, please call office manager Richard Larimore at the Jo-Carroll office.

Robb Montgomery

Weatherization hints

At Jo-Carroll Electric Cooperative, we want to see you save your energy dollars. We all know it is expensive to heat and cool your home. By making a few improvements around the house, you can reduce these costs. Efficient energy utilization and conservation are the keys to saving money.

Over half the heat that escapes from the house in the winter is through cracks and loose-fitting windows and doors. Weatherstripping materials will reduce air infiltration around these areas. There are various types of materials which you can use for weatherstripping. These materials have a wide variety of life, durability, and cost. Most of these materials are easy to install. The best way to decide what is most suitable for your homes to visit a hardware or a building supply store. You can also contact your cooperative office.

Caulking loose-fitting windows and doors is another way you can prevent air loss. Caulking compounds are materials used to fill, cover and seal cracks and construction joints. Again, there are several types of caulking compounds from which to choose. With caulking, you need to also consider the adhesiveness and the type of application that will work best.

Replace old caulking that is cracking or flaking. Clean out old joints first to get good adhesion. Caulking can be accomplished with a few low-cost tools and a little practice to get a good seal. Be sure to follow the manufacturer's instructions.

As a general rule, apply caulking wherever two different materials or parts of the house meet. Some of these are:

- Exterior joints where windows and door frames meet siding
- Corners formed by siding
- Where exterior masonry fireplace chimney meets siding
- Where porch meets siding
- Joints between foundation and wall siding
- Where the sill plate meets the foundation
- All other exterior openings.

Again, efficient energy use and conservation are the keys to saving energy dollars. By using these weatherstripping and caulking procedures, you will stop the air and moisture infiltration into your home. These procedures will greatly decrease your home's heating and cooling requirements.

Reader prize

Each month, we print the name of a Jo-Carroll member who is eligible to win a monthly $25 readership prize. If your name is printed in this month's edition, and not a part of any story, contact Jo-Carroll and claim your prize no later than the 10th of the month following publication.

Let's cooperate on Electric Thermal Storage

Introducing our new Electric Thermal Storage Cost-Sharing Plan

All the money-saving benefits of Electric Thermal Storage Heating can be yours now for just a fraction of the usual cost.
Thanks to our new Cost-Sharing Plan, you need pay only a portion of your initial ETS equipment cost. Your local electric cooperative and Dairyland Power split the remainder.
That's what cooperation is all about!

Save now and every month in the future.

Electric Thermal Storage may be the best heating system ever designed to take advantage of low, off-peak rates because it only uses electricity at night when overall demand is low. That, in turn, helps Dairyland and your local cooperative balance the production of electricity and postpones the need to build expensive new generating plants.

Here's how ETS works. Special insulated brick-like material inside the ETS heating chamber is heated by electric heat coils and then retains the heat for an extended period to keep your home comfortable all day. When heat is needed, a blower directs air over the heated material and the warm air is circulated.

Electric Thermal Storage will work in your home as a replacement for or supplement to your present heating system whether it is fueled by electricity, gas, oil, or wood. ETS is available in room heater units, central heating, and slab storage—especially appropriate for new construction.

Contact Donnie Schleicher at Jo-Carroll to find out more about ETS and how you can take advantage of the new Cost-Sharing Plan.

Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Cooperatives: Meeting people's needs

October has been designated as Cooperative Month to give us a chance to pause and recognize the many different cooperatives and the many different ways they go about meeting people's needs.

The 1991 theme of Cooperative Month, "Meeting People's Needs," is very appropriate when you consider electric and telephone cooperatives. The short-term goal of these organizations was to bring electricity and phone service to rural areas where for-profit investor-owned utilities refused to serve. In a broader sense, though, the aim has always been to improve the lifestyle of rural citizens—bringing them the modern advantages available to city dwellers.

The top priority of the cooperatives is to provide their member-owners with dependable service at the lowest possible cost. In recent years, the needs of small towns and rural areas have expanded as the economy of those territories have suffered. The electric and telephone cooperatives—solid structures in their communities—are logical channels through which assistance can be furnished.

Already, through cooperatives, funding for household projects to increase energy-efficiency has been administered. The cooperatives are a system already in place to help their friends and neighbors. It wasn't necessary to set up a bureaucracy.

The electric and telephone cooperatives of Illinois have taken on a leadership role in rural economic development. They are working with other organizations to help attract new business and industry to their communities.

The fact that Jo-Carroll Electric Cooperative is locally owned and controlled also means that it serves the entire community. Whatever benefits the cooperative and its member-owners, benefits everyone. The member has a voice and a vote in cooperative matters, a true example of democracy in action. The aims of cooperatives can be summed up in the theme, "Meeting People's Needs."

In Illinois, 26 electric distribution cooperatives, two generation and transmission cooperatives and seven telephone cooperatives serve more than 176,000 farms, homes and businesses. The statewide service organization is the Association of Illinois Electric Cooperatives, located in Springfield.

Throughout the U.S., cooperatives have been organized for credit unions, florists, farm marketing, health and day care—or anything else that can be provided efficiently and economically. They are all working together to build a better community.

Load management tests scheduled

The radio-controlled load management program will be tested in November by Jo-Carroll and Dairyland Power Cooperative. These tests provide valuable information to the cooperatives about the upcoming load control season, but can also serve our members as a "test run." Please call Jo-Carroll if you experience any problems with your controlled electric water heaters or dual fuel systems. Members who do not participate in these programs are urged to call Jo-Carroll and get "signed up." Your participation benefits all of Jo-Carroll's members.

Water Heaters

Morning

Dates: November 8 and 13
Alert: 7:30 a.m.
Control: 8 a.m.
Restoral: Begins at 10:30 a.m.

Evening

Dates: November 8 and 13
Alert: 6 p.m.
Control: 6:30 p.m.
Restoral: Begins at 8:30 p.m.

Dual Fuel

Dates: November 12 and 14
Alert: 2:30 p.m.
Control: 3 p.m.
Restoral: Begins at 9 p.m. (if needed)

Final adjustments to wind motor on player piano. The player piano operates on a vacuum or suction principle, which takes the information from the roll and drives the action, which is able to operate the keys.

The art of piano repair

When Richard and Janice Kutsch of rural Blackjack Road near Galena decided to improve on the oil burner in their shop, they called Jo-Carroll Electric Cooperative's marketing director for advice on electric heating. The result is that the Kutschs will have a Dual Fuel system of electric baseboard heat, with the existing oil burner for backup. It was during an on-site visit that Jo-Carroll discovered the interesting and unusual way that Richard Kutsch makes his living.

Richard Kutsch is a craftsman in the art of repair and restoration of pianos, in particular, player pianos. The name of his firm is Kutsch's Player Piano Shop. The shop is located in a building on their property on Blackjack Road. After a year at school in Sioux City, Iowa, where he earned a diploma in piano tuning and repair, he decided to specialize in automated musical instruments. He has been in business for 10 years, and he initially had to rely on tuning and servicing work before he could devote himself full-time to repair and restoration of automatic instruments. He is still available for tuning and repair of conventional pianos.

Richard was born and raised in Dubuque and has been in the Galena area since 1984. He gets a great deal of his work by "word of mouth" and referrals from the Chicago area. Richard estimated 50 percent of the work he does is from the Chicago area and that segment of the business is growing. Richard noted that many of the old nickelodeons and player pianos are now collector items. He restores not only the action and mechanical functions, but also the woodwork and the appointments. Richard's comment was, "Many people who have fine pianos will have them tuned, but they neglect the regulation. The mechanical action regulation is important to have all of the notes feel and respond the same. This action regulation is so important, that some concert pianists will have the action regulated after three or four performances."

Richard enjoys his work, but notes, "It does get a bit repetitive with 88 keys on each piano. But you can discipline yourself to enjoy each part of the job, and the machines I get to work on are beautiful and fascinating." Richard does continue to tune and restore pianos when requested, and he is interested in any old player pianos or nickelodeons that people may have that are non-functional. His business is located at 373 S. Blackjack Road in Galena (61036), and his phone number is (815) 777-3509 if any Jo-Carroll members would like to get in touch with him.

Office hours

7:30 a.m. to 4 p.m. Monday through Friday

Outages and emergencies

call 858-3311 24 hours a day

Reader prize

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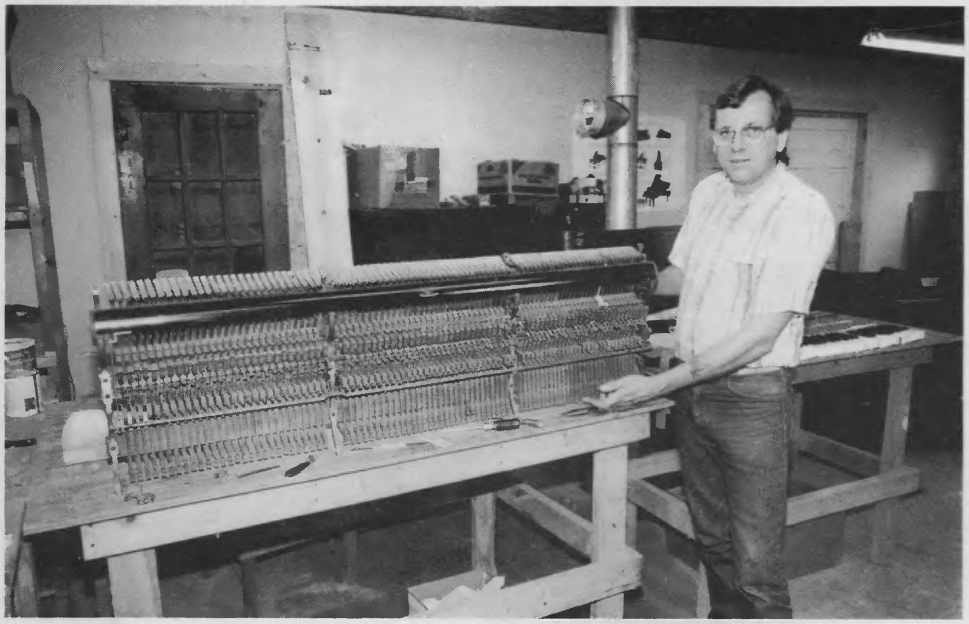
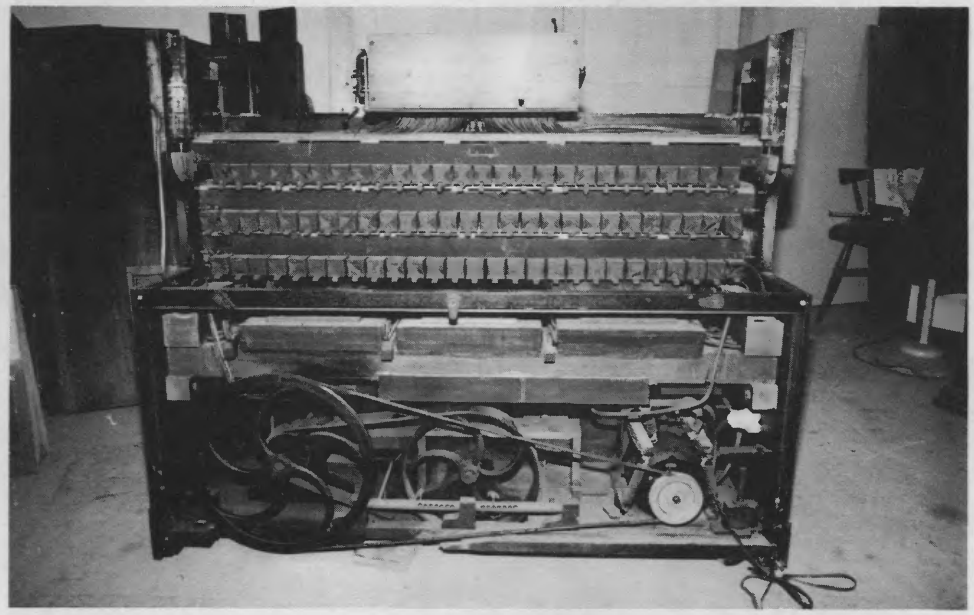


Richard is in the process of reconditioning a piano action, replacing worn and broken parts, regulating and adjusting.



This machine is a Welte Vorsetzer, to be restored for a collector in the Chicago area. It is a reproducing mechanism of the "pushup" type. Made in about 1910, this machine will reproduce the exact music including crescendos and decrescendos and all other shadings and nuances of an actual performance recorded on a special roll.

This is a conventional foot-powered upright that was restored for a man in Galena. The piano was painted, and Richard has preserved its oak finish and repaired it to working order.

John Schueller

Jo-Carroll Electric Cooperative manager Connie M. Shireman of Elizabeth has received professional certification from the National Rural Electric Cooperative Association (NRECA). She received Management Certification at the 50th Annual Meeting of the Association of Illinois Electric Cooperatives (AIEC) in Springfield August 20-22. She completed a series of required training and educational courses plus additional credits in order to receive the certifications. The presentations were made Wednesday, August 21. At the left is Bob Bergland, executive vice president and general manager of NRECA. The certification program provides member-owned electric cooperatives the opportunity to train directors and employees in fundamental principles and new developments in management and energy-related technology.

A long-time director of Jo-Carroll Electric Cooperative, Vernon C. Law of Savanna, has been elected secretary of the Association of Illinois Electric Cooperatives (AIEC). The election took place Thursday, August 22, during the organization's 50th annual meeting in Springfield. Officers elected include: seated, from left, Morris L. Bell of Chandlerville, president; and Albert W. Schoen of Litchfield, vice president; and standing, from left, Law; Hubert L. Chapman of Carbondale, treasurer; Thomas H. Moore of Springfield, executive vice president and general manager; and Randall Rings of Springfield, assistant secretary. The AIEC is the service organization representing the 26 electric distribution cooperatives and two generation and transmission cooperatives throughout the state.

Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Is the REA a dinosaur?

Times change, but rural America still depends on REA to light the way.

When the Rural Electrification Administration was born out of Roosevelt's New Deal in 1935, less than 11 percent of the country's farms had electricity. During the next five decades, the REA loaned money that helped stretch power lines across America's plains, hills and valleys. Farms and rural homes that were shrouded in black when the sun went down now glimmered with electric lights. Rural residents could enjoy conveniences that city dwellers had taken for granted since the turn of the century.

Today, some people think the REA was a noble effort that has outlived it usefulness. After all, 98.8 percent of the farms in the U.S. are electrified. Investor-owned power companies snake electric lines into territories they once ignored as unprofitable. Towns and cities grow and gobble up electric cooperative territory, reducing the number of cooperative members left to share the expense of rural electric utility operation.

The REA has been attacked in recent years as outdated, ready for the old closet filled with buggy whips and Burma-Shave signs. At a time when a bloated federal budget cries out for cutbacks, some look to the REA as a likely target for the axe.

Is the REA a dinosaur that doesn't know it should be extinct?

Not as long as we want food on our tables. Not as long as we want rural areas to remain populated and productive.

Much criticism of the REA stems from mistaken notions about that agency.

First, look at the federally stated purpose of the REA: to provide financing for the construction and operation of generating plants, transmission and distribution lines or systems to provide initial and continued adequate, efficient and low-cost electric service to persons in rural areas.

- **Is this still necessary?** The REA continues working to electrify 1.2 percent of America's farms that are not receiving electricity. In addition, there's the ongoing, demanding job of maintaining adequate, efficient low-cost service to electric cooperative members throughout the U.S. Though some electric companies are now interested in serving certain rural areas, electric cooperatives provide universal coverage, serving many regions no other electric utility wants to serve. A number of sparsely populated, rugged and remote areas would receive no electricity without electric cooperatives and the REA.
- **Isn't the REA a big burden on the federal budget?** In 1988, rural electric cooperatives paid back nearly $4 billion more than they borrowed from the REA and the Federal Financing Bank. Electric cooperatives in Illinois and all over the country are rightfully proud of their repayment record. For the service they provide to 25 million Americans—including 600,000 in Illinois—cooperatives are not a burden to the rest of the U.S.
- **But don't electric cooperatives receive more federal help than other electric utilities?** Actually, electric cooperatives get much less assistance. Cooperatives receive about $50 per consumer per year, while investor-owned utilities receive about $65 per consumer annually. Municipally owned electric utilities get about $93 per customer. Still, electric cooperatives are singled out by opponents as a drain on U.S. taxpayers. Incidentally, electric cooperatives pay all taxes except income tax, because they are not-for-profit organizations.

(Continued on page 12d)

Holiday closings

The offices of Jo-Carroll Electric will be closed November 28 and 29 for Thanksgiving and December 25 for Christmas.

New electric bill look

Jo-Carroll Electric Cooperative recently purchased a computer, high-speed printer, and the necessary sorting equipment that enables us to print the bills at our office and mail them through the local Post Office. Previously, the bills were printed and mailed from LaCrosse, Wisconsin. We hope that this change will provide a better, more cost-effective service to our membership.

The first of the new bills were mailed in October. There were some "bugs" with the new system, but at this time we hope we have those ironed out. This explanation should answer any questions our members may have, but if not, please do not hesitate to call the cooperative's office.

This is a sample of a "typical" electric bill from Jo-Carroll Electric Cooperative. This bill is based on 1,000 kilowatt-hours, which is close to the "average" bill but does not necessarily represent any particular household. The kilowatt-hour usage will vary greatly according to the amount and type of electrical devices that are used and the amount of time they are used.

Know what each part represents

1. Customer number—This is the billing number that is used for all billing information.
2. Due date—The date the payment is due in our office. After this date a late fee is charged.
3. Billing date—The day the bill was printed.
4. Net Amount Due—This is the amount due if received in our office on or before the due date.
5. Gross Amount Due—This is the amount due if received after the due date. The late fee, 5 percent of the amount of the bill, is added to the Net amount due.
6. Name and Address—The name and mailing address of the member. This name represents who has the membership in the cooperative. This person is responsible for payment of the bill.
7. Please show . . .—On our new statement we ask that your write in the amount you are paying.
8. Please return—The top portion of the bill statement is detachable, and it is to be sent in with your payment.
9. Map number—This number identifies the location of your service, and our crews use this number instead of an address. It is helpful to use this number when reporting an outage.
10. Statement—This area shows the amount of the last bill and the payment made, and the balance forward. The balance will be zero if the previous bill was paid in full.
11. Service period—The actual dates the meter was read.
12. Billing days—The total number of days in the billing period.
13. Meter readings—The actual meter readings taken at your location on the dates shown under service period.
14. Multiplier—This is used to determine kilowatt-hours used, depending on the type of meter at your location.
15. Usage—This shows the total of kilowatt-hours used at your location during the billing period.
16. Regular rate—This line shows the cost for the kilowatt-hours. It is determined by multiplying the rate @ .0785 times the number of kilowatt-hours used.
17. Electric Basic Charge—This line details the cost for the facility charge. The charge is $15 for residential service and higher for larger services. This charge covers the cost of providing the necessary equipment to receive electrical service, such as poles, wires, transformers, etc.
18. Water heater control credit—A credit of $3 per month is given for having a control installed on electric water heaters, a savings all Jo-Carroll members should take advantage of.

Don't forget the state tax

19. State tax—The Illinois Public Utility Tax is .0032 cents per kwh, and is collected by Jo-Carroll and sent to the State of Illinois.

JO-CARROLL Electric COOPERATIVE

P.O. BOX 390 • 793 U.S. RT 20 W • ELIZABETH, IL 61028-0390 • AREA 815-858-3311

CUSTOMER NO.	DUE DATE
2345-6	11/15/91
	NET AMOUNT DUE
	95.04
	GROSS AMOUNT DUE
	99.79

(1) (2) (4) (5)

(3) BILLING DATE 10/24/91

PLEASE SHOW AMOUNT OF PAYMENT (7) _____

(6) JOE CARROLLATON
1234 WEST DOUTH
ELIZABETH, IL 61028

(8) PLEASE RETURN THIS PORTION WITH PAYMENT

CUSTOMER- 2345-6 ACCOUNT - 6100100010
JOE CARROLLATON
(9) 4E0100000001
(3) BILL DATE- 10/24/91 DUE DATE- 11/15/91

(10) PREVIOUS BALANCE 89.12
PAYMENTS 89.12-
BALANCE FORWARD .00

TYPE SVC	SERVICE PERIOD FROM	TO	BILLING DAYS	METER READINGS PREVIOUS	PRESENT	MULTI-PLIER	USAGE	AMOUNT
E	9/17	10/16	30	3406	4406	1	1000	

(11) (12) (13) (14) (15)

(16) REGULAR RATE @.0785 78.50
(17) ELECTRIC BASIC CHARGE 15.00
(18) WATER HEATER CONTROL CREDIT 3.00-
(21) SECURITY LIGHT 2.50
(19) STATE TAX 3.20
(20) FUEL CHARGE @.000116- 1.16-
TOTAL AMOUNT DUE 95.04

(22) AS REPORTED IN THE REN, THIS IS THE NEW LOOK FOR YOUR JO CARROLL BILL. PLEASE USE THE ENCLOSED RETURN ENVELOPE FOR YOUR PAYMENT.

(23) ELEC MTR# 87654321

(24)

SERVICE TO	NO. OF DAYS	USAGE	AVG. USE PER DAY
10/18/90	30	1001	33
11/18/90	30	1200	40
12/18/91	30	1230	41
1/18/91	30	1290	43
2/18/91	29	1260	42
3/18/91	30	1200	40
4/18/91	30	1230	41
5/18/91	30	1260	42
6/18/91	30	1260	42
7/18/91	30	820	27
8/18/91	30	883	29
9/18/91	30	920	31
10/18/91	30	1028	34

MAKE CHECKS PAYABLE TO:
JO-CARROLL ELECTRIC COOPERATIVE

NOTICE BILLS WILL BE DELINQUENT IF NOT PAID ON OR BEFORE THE DUE DATE INDICATED ABOVE

20. Power Cost Adjustment—Based on the cost to produce the electricity by Dairyland Power Cooperative, the PCA will be either a charge or a credit. If a credit, a minus sign will be in front of it and it will be subtracted from the bill. The rate schedule account for a certain level of cost to generate power and any more or less than that amount will be divided on a per kilowatt-hour basis.
21. Security Light—This shows the cost of a metered Jo-Carroll owned and maintained rental security light.
22. Message file—Messages are printed in this area.
23. Electric Meter No.—The serial number of the electric meter at your location.
24. History—A new feature, this area shows a record of your last years kwh usage history, the number of days in the billing period and the kwh used.

(Continued from page 12a)

Electric cooperatives are also proving to be vital in the push to revive the rural economy. Independently and as a whole, they have worked to promote their territories as sites for industrial and residential development. The cooperatives are also logical bodies to help carry out state and federal rural development legislation, since they are already in place.

Already backed by a record of great achievement, perhaps even greater successes for the REA and America's electric cooperatives lie ahead.

Easy tips for managing home energy use

There are many ways to save electricity, but saving is only one part of home energy management. Enjoying the benefits of electricity is a big part, too. Electricity brings you comfort, convenience, power and value. Use it wisely and safely. Below are easy tips for managing your home energy use.

Heating and cooling

Heating and cooling are your biggest energy users. To get the most out of your system, clean air filters regularly. Dust vents or baseboards, and do not block them with furniture or drapes. Every few years have a service professional check your system to increase both savings and comfort.

Major appliances

When buying a major appliance, shop for efficiency. For example, many new electric heat-pump water heaters are twice as efficient as the models commonly found in homes today. Consumer information on energy efficiency is included on the label for most major appliances.

Windows

Be window wise. Shade your windows from the summer sun. During winter days, let the sun shine in: then cover windows at night to keep the heat from escaping. Use close-fitting shades or mount drapes from floor to ceiling for best results.

Air leaks

It is hard to make an older home too "air tight." An eighth-inch crack around a door lets in as much air as a hole the size of a basketball. Weatherstrip and plug air leaks for savings and comfort year-round. About one-tenth of all air leaks passes through electric switch and outlet plates on uninsulated walls. Inexpensive foam insulators that fit behind the switch plates pay back fast.

Hidden power users

Don't forget to manage hidden electricity users. Well pumps, sump pumps, pool pumps, space heaters, waterbed heaters, furnace fans, dehumidifiers, self-cleaning ovens and hobby tools all use electricity. Keep them well maintained. Put a timer on your waterbed heater; keep the bed covered.

James Hansen

Lighting

Enjoy quality lighting indoors and out by investing in efficient bulbs. Shop to get more "lumens"—or light output—per "watt." New quiet, color-corrected fluorescent lights can be three to 10 times cheaper over the long haul than standard bulbs, even considering the initial higher purchase price.

Showerhead

The one energy-saving device with the quickest payback for most families is the water-saving showerhead. Splurge $8 to $15 for a high-quality model that gives a good spray of 1.5 to 2 gallons per minute, and you may like it more than your old water-wasting showerhead.

Reader prize

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Jo-Ca

Jo-Carroll Hi-Lines

Jo-Carroll Electric Cooperative, Inc., Elizabeth, Illinois — (815) 858-3311

MANAGER'S REPORT by Connie M. Shireman

Shireman

Thank you to our load management participants

During the fall budgeting sessions, it was noted by the board of directors that Jo-Carroll's wholesale power cost rankings had fallen when compared with other Dairyland Power Cooperative systems. The cost of wholesale power is Jo-Carroll's single largest expense, and all of our wholesale power is purchased from Dairyland Power Cooperative. Dairyland is comprised of 27 other cooperatives like Jo-Carroll, and the cost per kilowatt-hour varies according to how much contribution each cooperative makes to the Dairyland system peak.

The load control program allows cooperatives to remotely turn off selected loads, such as electric water heaters and dual fuel heating systems, therefore avoiding any contribution to the Dairyland peak. Historically, due in part to the large amount of uncontrolled electric heat on the Jo-Carroll system, we had ranked very high on this relative comparison from Dairyland Power.

Our board was quite pleased to note that we now rank 13th of 28 in wholesale power cost. The lower the ranking, the cheaper the wholesale power, and the more savings for all of Jo-Carroll's members.

The Jo-Carroll board of directors would like to sincerely thank our members who take part in the load management programs at Jo-Carroll for making this reduction possible.

Did you know?

- More than 1,800 electric water heaters owned by Jo-Carroll members are wired with radio load management controls.
- The load management program allows control of the water heaters without the member experiencing loss of hot water.
- Controlled water heaters save the cooperative an estimated $110,000 each year in wholesale power cost, a saving that is passed on in lower electric rates.
- Each controlled water heater pays the member $3 each month, lowering the member's electric bill by $36 per year.
- Jo-Carroll pays a $100 cash incentive for all new electric water heaters that have a radio control installed.
- The $100 cash incentive and $36 per year bill credit total to $280 in just five years, which is more than the cost of the water heater—it's like getting the water heater for free!
- Jo-Carroll pays nearly $100 per 1,000 watts of power during Dairyland Power's peak time.
- The peak time is between 5:30 and 7:30 on the coldest winter nights.
- Any avoidance during that time by the Jo-Carroll membership will save the cooperative and help control the rates we must charge.
- Ten 100-watt light bulbs operating during that peak time will cost Jo-Carroll $100.
- A typical clothes dryer operating then will cost the cooperative about $450.
- Electric motors operating at that time will cost $75 per horsepower.

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Office closed

The offices of Jo-Carroll Electric Cooperative will be closed on Christmas Day and New Year's Day.

In the event of an electrical emergency, please phone

858-3311

Ice storm!

On November 1, Jo-Carroll received a call reporting that a severe ice storm had hit northeastern Iowa and southeastern Minnesota. The call was from Dairyland Power Cooperative's coordinator of the Emergency Power Restoration System requesting as many men and trucks as Jo-Carroll could send to this stricken area. Four Jo-Carroll linemen and two trucks headed out that same day to assist with the storm restoration. After 10 12–16-hour days the men finally returned to Elizabeth. We applaud their efforts in helping another cooperative restore the extreme damage done by the ice storm. They were joined by hundreds of other cooperative crews from around the upper midwest in the restoration effort.

Long hours of difficult line work in terrible weather conditions was certainly a hardship. However, the line workers were not the only ones suffering a hardship. Many of the cooperative's members in this storm-stricken area were without power for those 12 days while the lines were being repaired. Imagine the hardships to your family or agri-business to be without electricity for 12 days. In most homes or farm operations, very little will work without electricity. Whether you heat with fuel oil, propane, natural gas or electricity, more than likely none of those systems will operate without electricity. Most rural homes are on water wells which are run by electricity. Most appliances are electric, as are nearly all the lighting for our homes and businesses. Twelve days without heat, water, or use of any of your appliances would indeed be a hardship. Jo-Carroll has been very fortunate in recent years that we have not suffered any extreme storm damage, or subjected our members to any lengthy power outages. However, we can never be sure when mother nature will wreak havoc in our area and subject us to the same type of storm that hit our neighboring cooperatives.

Coping with a winter outage

Winter outages can be miserable. It's almost always dark, always cold, always dismal. Try as we might, they'll always be with us.

But a winter outage doesn't have to be disastrous and you can be relatively cozy if some planning is done and a few precautions are taken.

When the power goes off, the first thing to do is to disconnect those electric circuits that serve delicate electronic appliances and entertainment equipment. This will protect them from any surges that may occur when the power is restored.

When it is restored, wait for 15 to 30 minutes to reconnect those circuits to ensure that the outage is over.

And, if the lights go dim and stay that way, disconnect those circuits that serve motor-operated appliances. Dim lights mean that the voltage coming into the home is not high enough to adequately serve motors—a low-voltage situation. Operating motors at low voltage may damage them.

For warmth

1. Several layers of lightweight clothing will keep a body warmer than one heavy piece.
2. A backup heater can be used, but carefully. If the heater has a flame, ventilation must be provided.
3. During an extended outage, use one room (preferably one on the sunny side of the house with few windows) in the house to conserve as much heat as possible. Open curtains during the day — close at night.

For light

1. Know where the flashlight and fresh batteries are.
2. For safety, place lighted candles in containers such as coffee cans.
3. Have extra lantern fuel on hand if lanterns are used for light. Refill the lanterns outdoors.

For food

1. Stock supplies of food such as canned meat and fish, powdered milk and juices, cereal, peanut butter, crackers.
2. Fill plastic jugs with water.
3. Should have throw-away plates, plastic silverware and a manual can opener.

During an extended outage

1. Shut off the water supply (and the electricity to the pump, if you have one) and drain the system. Pour antifreeze into the plumbing fixtures in the bathroom and the kitchen.

Have the following general items on hand Roger Lincicum

1. Wind-up alarm clock
2. Battery-powered radio
3. Extra blankets

Prepare as if every winter outage will be a long one and you'll not be caught short of creature comforts. You can be confident and rest assured that your cooperative's employees will work around the clock to restore service to all members as quickly as possible.

Another method of coping with lengthy power outages is the use of a stand-by generator. Stand-by generators can be used to operate either all or part of the electrical system in your home or business during times of extended outages.

It is very important to be aware of the safety considerations when installing a generator. A double-pole, double-throw disconnect must be installed in order to meet the NEC guidelines. If a generator is hooked up improperly, the power could be sent out on the line and cause serious injury or death to line workers who are assuming the line is dead.

Also, in a situation such as occurred in November, many of the lines are laying on the ground. Even though, everyone knows you should never go near a downed power line, if someone assumes they are dead and a generator will send electricity down those lines, injury could result. If anyone has any questions about operating generators, please call Jo-Carroll.

Jo-Carroll line workers came back saying they heard many comments during their travels during the ice storm. Often times people would say, "You don't realize how much you use electricity until it is gone, then you really begin to appreciate it." Others commented on how expensive it was to generate electricity, and how relatively cheap it was to buy it from the cooperative. They commented also on how well everyone worked together during a time of crisis.

(Continued from page 10a)

- An electric stove operating then will cost about $400.
- An electric water heater will cost as much as $450.
- Electric heat operating then may cost as much as $2,000.
- More than 180 Jo-Carroll members have installed dual fuel systems that save the cooperative more than $100,000 per year in demand costs.
- The rate for electric heat on dual fuel is 63 percent less than the regular rate—only 3.0 cents per kwh.
- Jo-Carroll offers a $200 cash incentive fore new dual fuel installations.
- Electric thermal storage heating technology can make nearly any home qualify for dual fuel.
- Jo-Carroll will pay two-thirds of the cost of the electric thermal storage (ETS) units purchased by our members.

Board election

One of the most important aspects of a cooperative is the democratic election process that decides which of the cooperative's members will serve on the board of directors. Here is how the election process works at Jo-Carroll Electric Cooperative. Prior to the annual meeting, a special mailing is made to elect directors for a three-year term. Only the members who receive electric service in the district may vote for the director from their district, on the basis of one vote per membership.

The nominees who will appear on the ballot are chosen by a nominating committee of Jo-Carroll members. This year's nominating committee will meet at the headquarters building early in January to submit the names. Any members interested in becoming candidates should contact this committee. Directors are to be elected in Districts 1, 3, and 4 this year.

Members of the committee include:

District 1: (Incumbent: Leonard H. Ricke) Delbert Schulting, 6895 N. Main St., East Dubuque; Edwin Handfelt, 7427 N. Main, East Dubuque; and Francis Powers, 16131 Oak Bluffs Ct., East Dubuque.

District 3: (Incumbent: David G. Hughes) Melvin Gratton, 7914 U.S. 20 West, Galena; Tom Arnold, 997 N. Salem Rd., Elizabeth; Ken Haas, 1961 S. Apple River Rd., Elizabeth.

District 4: (Incumbent: Clarence H. Glasker) Don Crawford, 10886 S. Crazyhollow Rd., Hanover; Donald Edgerton, 6996 W. Blanding Rd., Hanover; and Laverle Streicher, 164 W. Hanover Rd., Hanover.

Reader prize

Each month, we print the name of a Jo-Carroll member who is eligible to win a monthly $25 readership prize. If your name is printed in this month's edition, and not a part of any story, contact Jo-Carroll and claim your prize no later than the 10th of the month following publication.

Office hours

7:30 a.m. to 4 p.m. Monday through Friday

Outages and emergencies

call 858-3311 24 hours a day