Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

Annual meeting Feb. 23

The Chancellor Hotel and Convention Center (formerly the Ramada Inn) will again be the location for Illini Electric Cooperative's 47th Annual Meeting Saturday, Feb. 23. The business meeting officially starts at noon with a luncheon.

In order to have enough meals reserved, the Cooperative must know in advance how many people will be attending. There will be a meal reservation card included in the annual meeting notice to be mailed about Feb. 6. This card must be returned along with a dollar for each meal you wish reserved. From past experience, without this request for partial payment, a large number of meals would be reserved for no-shows, causing the Cooperative to pay for many unserved meals. Please be assured this is not an attempt to discourage you from attending, we only want to limit payment for unserved meals.

Feb. 20 is the cutoff date for returning your meal reservation card and dollar donation for each meal, since we must turn in an exact meal count on that day. Meals will not be served to those who fail to return reservation cards prior to Feb. 20. Please help us by returning your card as soon as possible.

The board of directors and staff would like to invite each and every member to attend the annual meeting, to hear the officers' reports on the past year's activities and to exercise your democratic right to vote in the election of directors. Directors will be elected from the following districts: Champaign County Southeast, Douglas County East, and director- at-large. The nominating committee, appointed by the board of directors, will submit names to be voted upon at the meeting. Nominations will also be accepted from the floor. In an attempt to increase the attendance, the Member Advisory Committee (MAC) has suggested the meeting day be moved to Saturday and to shorten the meeting by replacing a keynote speaker with exhibits which may be viewed before and following the meeting. These exhibits will allow you a close-up view of linemen's equipment and various electric heating equipment including a working ground water heat pump.

G. J. Stiehl, Board President

The Chancellor Hotel is located just one block north of the Cooperative's office. Plenty of free parking is available, so plan to be there. For those in attendance, many good prizes will be awarded at the close of the meeting.

For an informative and interesting afternoon, mark your calendar for Feb. 23 and return your meal reservation card by Feb. 20.

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

The 1985 Annual Meeting is just around the corner. This is a time each year that every Cooperative member has an opportunity to participate in the review of the previous year's business, future plans and the democratic election of board members. I personally invite and encourage each of you to make a commitment to participate in this year's meeting.

With the many challenges that your cooperative faces and the tough problems we all face in rural America these days, it really concerns me that our annual meeting attendance has been so slim. Therefore, one of our major efforts this year was to review the annual meeting format with the Member Advisory Committee. Since the MAC represents a cross section of the membership, they have given us several suggestions on improving the meeting.

Changes for the annual meeting

The MAC rose to the challenge and here are some of the major changes we have made to make the meeting more attractive to the members:

- The meeting will be on a Saturday (Feb. 23) rather than on a weekday so that those who work Monday through Friday can attend without having to take time off from their work.
- We have shortened the reports so the meeting will not be so dry.
- We have eliminated having a keynote speaker so that the meeting won't be so long.
- We have added some equipment displays which should be of interest to everyone.
- And we have added entertainment prior to the meeting and during the meal.

I want to thank the MAC for making these suggestions and the board of directors for responding so positively to the suggestions.

We must have 150 members present in person or by proxy to be able to conduct the business of the annual meeting. In recent years we have been dreadfully close to not having a quorum. The Cooperative has a potential of over 4,200 accounts being represented at the meeting and it would be marvelous to have them all in attendance.

I challenge each of you to set aside a couple of hours on Feb. 23 and come show your commitment and your support for your cooperative.

Stray voltage on farm

Dairy farmers may occasionally notice a change in the behavior of their cows, such as extreme nervousness in the parlor or a reluctance even to enter the parlor. These are signs the cattle may be the victims of stray voltage stress. Symptoms such as uneven milk letdown, reluctance to drink water or reduced feed intake can mean other problems as well, but dairymen might want to consider stray voltage as one possibility.

Stray voltage is a problem that is becoming more common among livestock farmers. By learning more about it, dairy farmers can take action to protect their herd and avoid farm management problems.

Voltage is the electrical pressure or force necessary for the flow of electrical current. Just as a pressure is needed to make water flow through a pipe, voltage must be present to make electric current flow through a wire. Although proper voltage is a necessary element for the use of electricity on the farm, when it occurs in unwanted places, it can cause trouble.

Stray voltage is the term used for a misplaced, low-level electrical impulse occasionally found in dairy parlors or other livestock facilities. In

most situations, this low-level voltage (usually between one-half and five volts) is too small to be felt by humans or animals. But in dairy parlors and some swine facilities, there are special characteristics which cause stray voltage to be a problem. Because of the wet ground or floors commonly found in livestock operations, with its ability to conduct electricity, an animal's feet have a good electrical connection to the earth. Any small voltage on equipment, such as milking stanchions, cattle trainers or watering cups, may be conducted to the ground through the animal's body. This will not harm the animal, but may stress them, causing dairy cows not to let down their milk and other livestock not to eat or drink.

The working voltage for most farmstead equipment is either 120 or 240 volts. This is measured between the "hot" wire and the neutral wire. The third wire in the system, the ground wire, is present in case of an electrical fault or short. Normally, there is no current traveling through the ground wire but if a fault should occur, this wire will provide an "easy path" to the ground and allow the fuse or circuit breaker to open and safely deenergize the circuit.

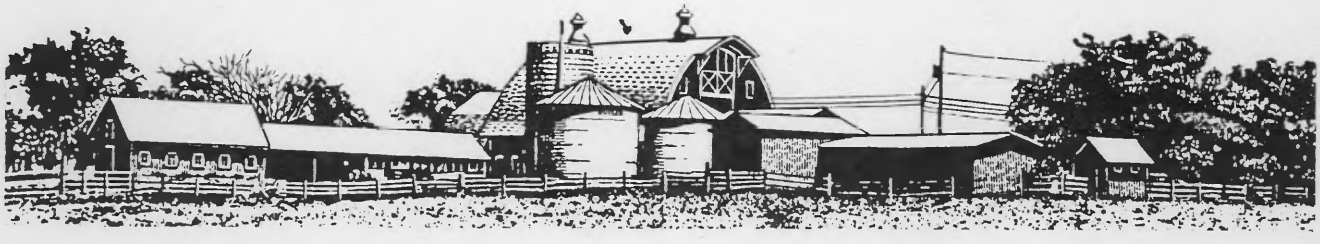
Other conditions

Now, let's turn our attention back to the neutral wire. The "hot" wire is the "delivery" wire of the circuit and the neutral wire is the "return" wire. It is normal to have a small voltage reading (of five volts or less) on the neutral wire as compared to the true ground, and normally this low voltage cannot be felt by people or animals. But in the unique environment of the dairy parlor, this voltage difference between the neutral wire and true ground, now commonly called stray voltage, has been of concern by livestock producers.

Basically, this is the situation that might exist. The neutral wire of the farmstead wiring system may carry a low-level current which is harmless under normal circumstances. As required by the National Electric Code, the neutral wire is connected to the earth through ground rods and through electrically grounded equipment and facilities in contact with the soil. All wires and electrical connections have some resistance to the flow of electrical current. Due to these resistances, whenever there is current flowing in the neutral wire, a voltage exists between it and earth. A cow's feet in contact with the wet concrete floor of the parlor provides a good electrical connection to ground. When the animal's nose touches the stanchion or when the milking cups are applied to the udder, the cow provides a "better path" for this low voltage to return to ground. Although the farmer cannot feel it, the animal may be stressed by this low-level voltage.

This neutral-to-earth voltage difference is the most frequently cited cause of stray voltage. Other situations causing stray voltage are: induced currents, unbalanced electrical loads, improper grounding of service equipment, faulty ground rods, galvanic action, electrical shorts and primary neutral current.

The stray voltage situation is a complex one and there are still many unanswered questions. Since stray voltage was first identified about five years ago, several teams of agricultural engineers, animals scientists and



others have been involved in dealing with this problem.

Although more research is needed, preliminary results indicate that there is no direct connection between the presence of low voltage levels and loss of production in dairy cows. But the reaction of dairy animals to these low voltage levels (nervousness in the parlor, kicking off milkers, reluctance to eat or drink) will almost assuredly result in management problems for the dairy farmer, and could indirectly affect milk production in the herd.

Let us help you on your farm

If you feel that you have a problem with stray voltage on your farm, we recommend you contact the Cooperative Extension Service for assistance. Area agricultural engineers can assist you by making measurements and evaluating your farm's wiring. A milking machine representative should also be contacted to check the milking equipment. Your electric cooperative stands ready to assist you in checking out possible problems on the primary electrical system which serves your farm or your secondary farmstead wiring system.

Help us keep costs down

Electric cooperatives are unique in many respects. Cooperatives were formed to provide electric service at cost to members. These cooperatives were organized after public utilities showed disinterest in serving the sparsely settled rural areas. To these rural families, the price of electricity was not the immediate concern, but the availability was. Knowing that serving the rural area would not generate much revenue, cooperative officials did everything possible to decrease the cost of service such as eliminating the use of crossarms on most lines. Members did their part by donating their right-of-way and reading their own meters.

Your Cooperative's rate for electric service has always been slightly higher than neighboring public utilities. Part of the difference comes from the fact that the investor-owned utilities average over 35 consumers per mile of line and the municipally owned systems average over 80 consumers per mile of line, Illini averages just 2½ consumers per mile of line. Such a high investment, of course, affects our rates. The revenues from each mile of line for other utilities average over 10 times more than the revenues for electric cooperatives. It is quite evident that cooperatives must have some economic help that only members can provide. There are also a couple other ways in which our members can help their cooperative to keep rates as low as possible.

For instance, overdue bills are very time consuming and expensive. Extra work is performed on every overdue bill. About 95 percent of the bills are paid by the regular due date. To encourage payment on time and to cover the extra cost of the additional notice and handling, a 5 percent penalty is added after the due date. Further costs are incurred from those few accounts which must be collected by our linemen.

Outage calls are another example of how members can help their cooperative to reduce cost. Some outage calls are for blown fuses. It is quite expensive to send our linemen out on overtime just to replace the member's blown fuse that most everyone should know how and be able to replace.

If an outage occurs, a phone call will get the linemen out quickly. When you call to report an outage, check with your neighbors first to see if they have power. This information helps us to locate the problem faster and get the power back on much sooner. Also be sure to give us your account number when you report an outage.

We offer these suggestions to help you help us. We want to keep your power costs as low as possible.

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Fireplace may burn your money

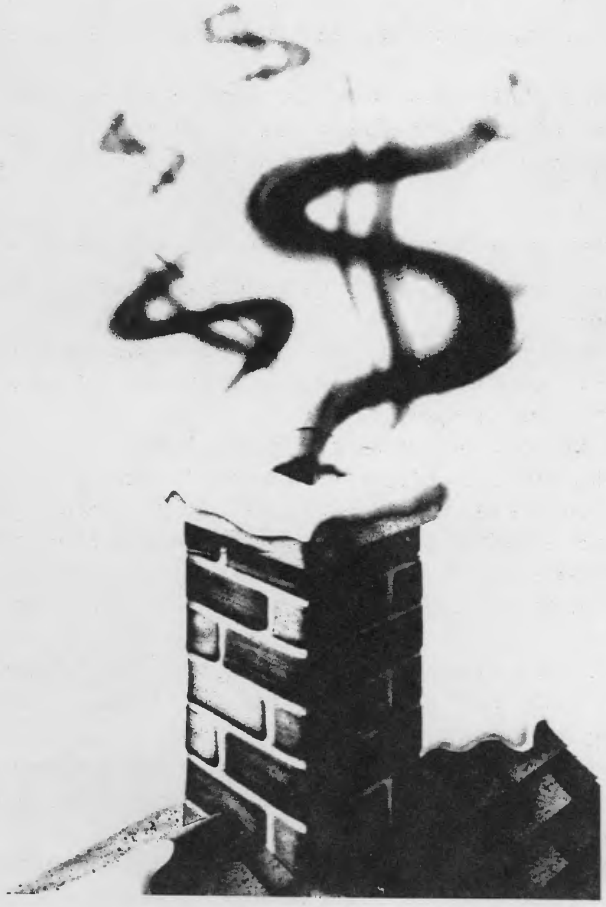
There's no denying the coziness of a toasty fire on a cold winter evening. However, that wealth of heat near the fireplace can lead to a false belief that heating costs are being reduced.

With a conventional fireplace, the loss of heat begins when the fire is started. As soon as the flue damper is opened, heated room air begins to rise out the chimney.

As the fire builds to a blaze, it burns more and more room air, which is replaced with cold outside air drawn into the house through infiltration points. The temperature in other rooms drops. The heating system is activated, raising the air temperature in the rooms. All the while, the burning fireplace continues sucking heated air into the fire and up the chimney.

Finally, as the fire dies down, more warm air is lost as the damper is kept open to allow combustion gases to escape.

So much heated air escapes, researchers at an eastern university have found, that nightly use of a fireplace can raise monthly heating bills by 20 percent.



As we have pointed out, this is because the fireplace pulls cold outside air through infiltration seepage areas around doors, windows, wall outlets and others. It also allows heated air to rise out the chimney when the fire is started and when it dies down.

While cutting waste from a fireplace can be done through adding glass doors and careful use, getting a real heat gain is more challenging.

The typical fireplace delivers only about 10 percent of the potential heat available in the fuel it burns. Essentially two factors contribute to this poor efficiency. First, there is no method of controlling combustion air. Second, a mechanism to transfer heat to where it is wanted is lacking.

However, many recent models of fireplaces incorporate technology which makes them more efficient. Outside combustion air is brought into the fire through a duct. Some models offer a device to control the amount of air intake. And air exchangers are available to help transfer heated air into the room while glass doors reduce air loss up the chimney.

Wood-burning stoves do offer better performance. A testing center for stoves has found that heating efficiency ranges between 40 and 60 percent, more than twice as high as even the most

Mark your calendar

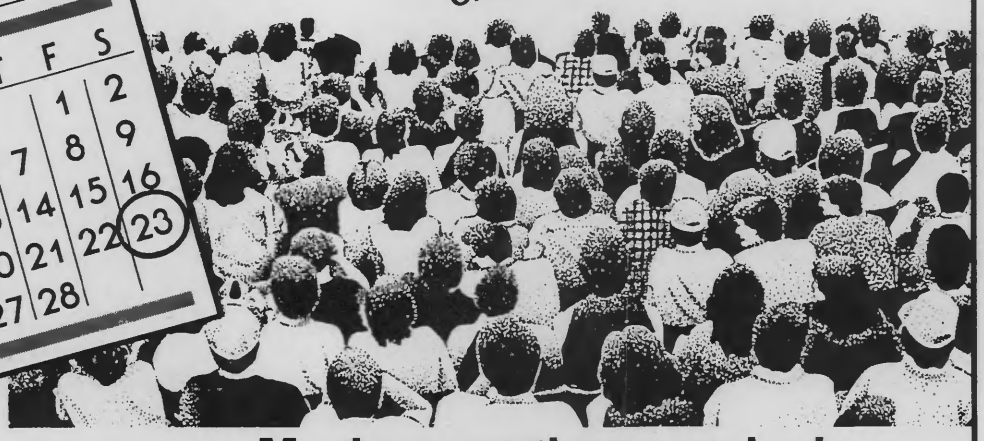
Annual meeting notice

Saturday, Feb. 23

Chancellor Hotel and Convention Center

1505 S. Neil St.

Champaign



Meal reservations required

Efficiency of stoves

efficient fireplace. Stoves control air intake more precisely and their bodies act as heat exchangers by radiating heat on all sides.

The traditional Franklin stove is one of the least efficient. The most efficient wood-burning stoves are almost air tight and offer lots of surface area.

If you have a home with an older type fireplace, remember that it won't save you much money, so use it wisely. And those homeowners with recent models which incorporate outside air intake and glass doors can only expect marginal benefits.

Portable heater use and safety

Are you contemplating a portable heater to supplement your home's heating system this winter?

According to the U.S. Consumer Product Safety Commission, more than 5,000 persons each year receive hospital emergency-room treatment for injuries associated with portable space heaters.

Whether you select a gas, oil, kerosene, or electric heater, make sure it has a tipover safety device. A fuel-type heater should have a shut-off valve to stop the flow of fuel if the heater is tipped over accidentally; an electric one should have a switch or sensor device that would automatically turn off the heater.

It's imperative to follow the manufacturer's instructions before using any type of space heater.

Most fuel-type models, for example, require some type of ventilation for proper combustion. Then, too, you must follow the manufacturer's instructions for keeping the heaters adjusted and clean.

On the other hand, with an electric heater, you must make sure your home's wiring can safely handle the additional load. Otherwise, the heater will trip a circuit breaker or blow a fuse.

Because of the importance of following the manufacturer's instructions, you should review them when getting out the heater for another season.

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Threats to your program

In 1972 the Rural Electrification Program was seriously threatened when the Nixon Administration eliminated the Rural Electrification Administration. However, through the efforts of many rural electric leaders, Congress reinstated REA, but only after negotiating modifications to the financing program. These modifications meant increased financing cost, but the program was still alive.

Now, in 1985, we face the same problem. David Stockman, Director of the Office of Management and Budget, has expressed his opinion that REA should be eliminated. If this recommendation is accepted by President Reagan, we can expect our cost of future financing to increase drastically, as we will be forced to borrow on the open market. Of course, this would impact our electric rates.

Equally as bad, if we lose REA, would be the elimination of the construction standardization which now exists across the U.S. REA's engineering standards branch provides the suggested minimum quality and types of construction for rural electric lines. This ensures that the quality of service across the nation remains constant assuming, of course, that all cooperatives maintain their lines properly.

Rural electric leaders understand that we must accept a few changes along with the other federal programs if the federal budget is ever to be balanced, but rural America should not be the sacrificial lamb.

We will be monitoring the situation along with the National Rural Electric Cooperative Association and the Association of Illinois Electric Cooperatives. If we see movement in that direction, we will follow up with appropriate action. This problem is of a serious enough nature that we may be asking for your assistance in a letter-writing campaign. I will be informing you of future developments.

OMB plans for REA

Although official Administration proposals for the rural electrification program were not available as we prepared this, a budget document circulated by the Office of Management and Budget on Capitol Hill indicated that the Administration will propose the following:

- the rates for insured loans to distribution systems would be raised to the cost of money to the Treasury;
- REA insured loans would be phased out altogether by 1990;
- borrowers who utilize Federal Financing Bank loans guaranteed by REA would be able to receive only 50 percent of their capital requirements from the government;
- guaranteed loans would ultimately be phased out altogether;
- no new loans would be made for power plant or transmission projects.

The Administration also has plans to strip the Rural Electrification Administration of its personnel, administrative and budget functions by moving those functions to the Farmers Home Administration. Elimination of the engineering standards division is also being considered by the Administration.

REA REA REA REA ?

MEMBER SERVICES by Ray Weiss

The cost of electricity?

Everyone is talking about the cost of electricity these days. The cost of electric power has increased substantially the last few years under the impetus of inflation and escalating costs for fuels to generate electricity. But one thing we need to remember is that the cost of electricity was so low at the beginning that it may have spoiled us.

When electricity was cheap, perhaps it was wasted and misused. Now we are having to come to grips with the necessity of careful and wise use. We need to give some thought to how dependent we are on the kilowatt-hours we use and start to manage and budget our electric usage, much as we do our income and other expenses. It is now important that we study our usage and understand that we have to be wise and self-controlled consumers.

Electricity, your grocery bill, entertainment and other expenses should be considered and met according to the welfare, comfort and needs of you and your family. Put your electric bill high on the list to pay. When our income has lessened or expenses increase, we eat hamburger rather than steak. By the same token we should consider our daily usage of electricty and manage our use according to our ability to pay. Remember, electricity is the one commodity that is "all used up" before we pay the bill.

The cost in perspective

How expense is electricity? To put the cost of electricity in perspective, let's take a look at the cost of electricity and compare it to other costs:

- The cost of an electric blanket will pay for the electricity to operate it for about five years.
- The cost of one-half sheet of plywood will operate the electric saw used to cut it for one week.
- The cost of a pound of sirloin steak will pay for the electricity used by the skillet to cook it for over 50 hours.
- The cost of one flashlight battery will pay for enough electricity to operate a clock radio for 117 hours.
- The cost of one record album will pay for the electricity to operate the stereo to play it for over 900 hours.
- The cost for two people to attend a movie is equal to the cost of running a television set five hours a day for two months.
- The cost of one pound of coffee will operate the electric percolator for nearly 70 hours.

How expensive is electricity?

Become a meter monitor

Electric bills are up.

But so are costs for all forms of energy.

By becoming a meter monitor you can chart changes in your family's lifestyle that will enable you to live within your energy budget.

Using a chart with each day's date and kilowatt-hours used, jot down the reading on your electric meter. If possible, begin your readings on the day you read your meter and enter the reading on your billing stub which you return with your payment.

Each day, read your meter and subtract the previous day's reading from the current reading and you have the kilowatt-hours used during the 24-hour period. By adding the daily figure into a weekly total and the weeks into a monthly total, you can see how much power your family used — and when — during that monthly billing period.

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MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Clinton update

We have heard so much negative gossip about the Clinton Power Station that I thought you might want to hear some good news.

Jim Greenwood was added to the Soyland Power Cooperative staff on January 2. Jim's new position is manager of power supply and he will have overall responsibility for the generating plants in which Soyland is involved. His initial thrust will concentrate on the Cooperative's ownership interest in Clinton.

Jim is a registered professional engineer and holds a senior reactor operator's license for Wisconsin Electric Power Company's Point Beach nuclear plant. He spent 11 years at the Point Beach plant, serving in positions ranging from control room operator to assistant manager of nuclear operations. Jim also has a wide range of fossil fuel experience.

In his first report to the Soyland Board Jim said, "I'll eventually be in and out of every nook and crannie in the plant. My goal is to intimately know that plant and the people that will operate it. I will report on plant progress as well as any trouble spots I may encounter."

Work progress pace increases

The Nuclear Regulatory Commission had a pleasant surprise at Clinton this month! Progress has been at such a rapid pace that the NRC is now increasing its own inspection activities to avoid interference in the critial path of construction.

Major milestones in the construction schedule have been achieved in the past few months. In late November the reactor plant component cooling water system was turned over to the Illinois Power startup department for testing. This system provides cooling water to the reactor auxiliary systems (which indirectly support the operation of the reactor) and to equipment in the control, fuel, auxiliary and containment buildings.

On December 13, integrated flushing commenced in the reactor pressure vessel and associated nuclear steam system. This was done to insure cleanliness and involved all personnel on site because nearly 20 plant systems were involved.

January 1 was the completion date of the integrated reactor vessel flush. According to Greenwood, "The water used during the integrated flush is so pure that it won't even conduct an electric shock when an energized wire is placed in a bathtub full of it!" This activity continued for several days, with frequent shutdowns to clean filters, until the system ran clean.

Jim was impressed by the involvement and professional attitude of the site construction managers and the startup group. He further reported, "Upon my arrival in Decatur the first of January, I heard a good deal of negative gossip about this plant. As you can guess, I expected to find the very worst construction site when I made my first visit there. I must say, I was very pleasantly surprised, for what I found was exactly the opposite. From what I've seen thus far, my initial impression is good. The plant is a beehive of activity and work seems to be progressing at a rapid pace."

As of January 1985, plant construction is just over 90 percent complete. Commercial operation remains scheduled for November 1986.

Long-term power requirements stabilized

Control of long-term power requirements is expected to provide rate stability for member-consumers of the Illini Electric Cooperative for many years in the future, members were told during the cooperative's 47th annual meeting February 23 in Champaign.

Cooperative board president G. Jay Stiehl, Tuscola, said, "The next few years between now and 1989 concern us because rates will be going upward, but we have finally gained control of our own destiny through Soyland Power Cooperative. As of January 1, we are purchasing our full power supply requirement from Soyland and, once we are beyond the initial years, we expect to be able to provide much greater stability in the retail rates. Your board of directors, management and employees are continually reviewing our operating performance to ensure that efficiencies are gained in every facet of the cooperative's business."

Stiehl added that the 50 years of rural electrification has produced much change for rural areas. "Rural living and productivity have improved tremendously since those days of the coal oil lanterns. Many years of hard work by dedicated cooperative pioneers laid the foundation for a strong electric cooperative which now serves us with an abundant source of electricity. Electricity is no longer a luxury, it is a necessity," he said.

Wholesale cost climb continues

Manager Wm. David Champion, Jr., reported that the year 1984 was a good one for Illini. "Our kilowatt-hour sales and retail rates were sufficient to meet our mortgage requirements and budget, leaving a margin which provided for our cash flow needs," he said. "We didn't raise our retail rates, but the wholesale cost continued to rise dramatically. It will be necessary to raise our retail rates some in the spring this year," he added, "our studies are not complete at this time so we're not sure of the amount."

Champion said Soyland's role as the cooperative's only supplier of power means that Illini is no longer at the mercy of the old wholesale power agreements that caused the cooperative to pay a premium for power. "Long-range stability is now within our grasp," he added.

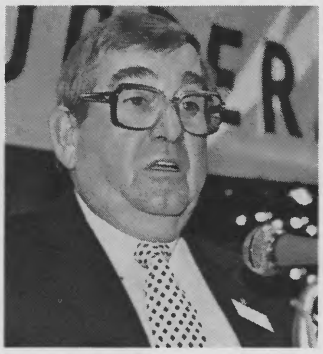
Treasurer L. Dean Ward, Champaign, said energy sales for 1984 were up more than 2.8 million kilowatt-hours compared to 1983, but below the average established in years before 1983. Costs attributable to wholesale power accounted for an increase in the average kilowatt-hour cost from 10 up to 11.3 cents. Total operating revenue for 1984 was $6,490,291, he said, with power costs accounting for $3,713,153. Margins were $457,077.

Below: Manager Champion (right) with reelected directors, from left: James Beatty, Laverl Byers and Herbert Aden.

Your coo

Four persons received Illini's Rural Electric Pioneer Award: C. Victor (Vic) Swanson, Paxton, an incorporating director who served from 1937 to 1981; Burdette Griffith, Champaign, an incorporating director who served from 1937 to 1972; Wilburn M. (Wamp) Withrow, Urbana, who was employed by Illini from 1939 until he retired in 1970 and was the fourth employee hired by the young cooperative and the first employee to have continuous employment until retirement; and French L. Fraker, Champaign, attorney for Illini since 1942.

Three members were reelected to the board of directors: Herbert L. Aden, Newman; Laverl Byers, Tuscola, and James F. Beatty, Philo. In addition to Stiehl, Ward and the reelected directors, other directors of the cooperative are: Robert D. Clark, Atwood; Charles C. Cole, Rantoul; Wilbur W. Gady, Sadorus; and Clarence C. Maddox, Allerton.



Upper left: From left, Thomas H. Moore, general manager of the Association of Illinois Electric Cooperatives; John Schweighart, chairman, nominating committee; and Eldred Cornelius, chairman, Member Advisory Committee. Center left: Gene Trimble Orchestra. Center right: Board president G. Jay Stiehl. Bottom row: part of the crowd. Three winners of Illini Rural Electric Pioneer Award, left to right: Withrow, Fraker and Swanson.

erative's 47th annual meeting

Check your system first

Occasionally we have a member who finds he has a ground in his electric system and has probably wasted a considerable number of kilowatt-hours before making the discovery. By using the following procedure, you can check your farm wiring system for grounds:

- Turn off ALL appliances, equipment and lights. Be sure to disconnect everything — even the electric clocks.
- Check the revolving disk in the electric meter. It may move slowly either forward or backward, but will stop before it makes a full turn. This is normal.
- If the disk continues to rotate, electric current is being used. Disconnect at the fuse box, one circuit at a time. If the meter stops, this indicates that the trouble is in the circuit that was last disconnected. Meters do not run unless electricity is being used.
- If the disk still continues to rotate after ALL circuits have been disconnected, the trouble is between the meter and the fuse box. The service entrance cable, trees, windmill frames, or ground wires may be the cause of trouble.

Electricity leaks are more common during wet weather. The trouble can often be located around the water pumps, shop equipment or entrances to buildings.

If you are unable to locate the ground, call your electrician.

If your electrician is unable to locate the ground, then contact us at Illini Electric Cooperative, telephone 352-5241.

Levelized Billing

Weather and seasonal changes from heating to cooling and back can cause fluctuations in consumers' electric bills. Occasional high bills can wreck anyone's budget.

Illini Electric Cooperative now offers once a year, a budget billing system to smooth out these peaks and valleys. It's called Levelized Billing.

Unlike a fixed budget amount for 11 months, then a catch-up month bill, the Levelized Billing method averages the last 11 months' usage with the current amount used. This billing system causes your bills to float up and down slowly, reflecting annual weather patterns, rate changes and changes in your own living habits. The greatest benefit is the elimination of the catch-up month bill.

To find out how Levelized Billing can work for you, call us at 352-5241 before April 24 in order to be enrolled this year. Your Cooperative is working hard to serve you better.

Utility tax is deductible

Effective January 1, 1984, the Illinois general sales tax rate changed to the same rate as the Illinois Public Utilities, Gas Revenue, and Messages tax. These selective sales taxes are not deductible as a general sales tax on the schedule A of federal income tax Form 1040. They have not been included in the 1984 Optional Sales Tax Tables included in the instruction booklet.

The amount of the allowable deduction (like the general sales tax) may be computed in two ways. You may figure the sales tax deduction per the tables and then add 10 percent of this amount, or you may compute actual sales tax paid, as shown on sales receipts, and include the state public utility tax that is shown on the utility bills.

For further information visit your local IRS office or call toll-free 800-424-1040, Monday through Friday from 8:00 a.m. to 4:30 p.m.

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ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

REA stamp unveiled

The design of the commemorative stamp marking the 50th anniversary of the Rural Electrification Administration was unveiled February 5 in New Orleans. The stamp will be issued by the U.S. Postal Service May 11 in Madison, S.D.

Assistant Postmaster General Eugene C. Hagburg was the principal speaker at the unveiling ceremony held in conjunction with the 43rd annual meeting of the National Rural Electric Cooperative Association

(NRECA). The association represents more than 1,000 rural electric systems.

REA and the consumer-owned rural electric cooperatives throughout the nation make electrification possible for thousands of Americans who live in places that are impractical for utilities to serve.

The stamp design shows a rural scene with wires running from an electrical pole in the foreground to a cluster of illuminated farm buildings. In the upper left corner is "USA 22" in black type. In the lower left corner, printed in three lines of black, is "Rural Electrification Administration."

In the lower right corner is "1935 1985."

The stamp was designed by Howard Koslow of East Norwich, N.Y. He also created the 1972 Wolf Trap Farm and 1983 Brooklyn Bridge and Tennessee Valley Authority commemorative stamps.

President Franklin D. Roosevelt created the REA by executive order on

May 11, 1935. Now a part of the Department of Agriculture, the REA was established permanently by an act of Congress May 20, 1936. The act authorized the REA to serve as a lending agency and to develop a program for rural electrification. The rural electricity movement became viable when farmers formed seven cooperatives that were granted loans. Two of these still are functioning, the Volunteer Electric Cooperative of Decatur, Tennessee,and the Boone County Rural Electric Membership of Lebanon, Indiana.

Successful program

Since its inception, the REA has approved almost $60 billion in loans to assist nearly 12 million electricity consumers and 5.2 million telephone subscribers. In 1935, only 10 percent of farms had electricity. Today, 99 percent of all rural residents enjoy the comfort and convenience it affords. (Reprinted by permission from Linns Stamp News, February 18, 1985.)

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Your board of directors and I feel so strongly about the young folks of today being our leaders of tomorrow that we are implementing a new youth involvement program.

Youth Tour

Here's how it will work. You've heard about the "Youth to Washington" tour which takes place each June. This is where a select group of rural high school sophomores and juniors from all over Illinois attend a chaperoned bus tour from Springfield to Washington, D.C. They spend a week in Washington touring historic sites and learning about our country's history and rural electrification. They meet with their Congressmen, Senators and with White House personnel. They get red carpet treatment to go places where most people can't.

The young folks who attend the tour each year are, of course, hesitant at first because they don't know anyone, but by the time they return from the trip they have made many life-long friends.

The cost of the trip this year is $450, which includes transportation, meals and hotel, virtually all the expenses of such a tour.

Illini Electric Cooperative will pay half of the cost for the first five sophomoes or juniors who sign up to go on the trip.

The only stipulation is that the student must reside on Illini Electric Cooperative's lines.

If you're interested in this opportunity, please contact Ray Weiss or me at the Cooperative office, immediately. Remember, it's for the first five who sign up!

Circuit breakers

Resetting a circuit breaker in your electric service panel is even easier than changing a fuse. Just follow these steps:

1. Unplug or turn "off" all of the lamps and appliances you were using when the circuit went off.

2. Move the circuit breaker handle from the "tripped" position to the "off" position. You will detect by feel when the breaker has reset. Then switch it to the "on" position.

3. If the breaker does not hold in the "on" position, call your electrician.

Downed lines can be deadly

While we understand the urgency of restoring electric power to our member-owners after a severe storm, we consider hazardous conditions created by the storm to be our first priority. That means the detection and repair of downed overhead power lines, and we need your help.

Power lines that have been snapped or pulled down as the result of a storm present a serious, even deadly danger. If you come across a downed wire, stay completely away from it. Don't touch the line, the pole to which it is attached, or anything else in contact with the wire. Call us immediately — don't assume someone else will. We want to know about downed wires immediately so we can send our professionally trained linemen to make the needed repairs.

Take some time today to teach your children about the dangers of downed electric wires. Instruct them to tell you or another adult as soon as possible about the problem, and to warn other children away.

Never, never assume a wire is harmless. Let us make the determinations and the repairs. Together we'll continue to keep our community safe from electric accidents.

CALL: 217/352-5241

Life-support registry

While Illini Electric Cooperative strives to maintain the best possible service with a minimum of outage time, occasional outages, either planned or uncontrolled, do occur.

Your Cooperative needs to know the names and location of Cooperative members who depend on life-support equipment. We keep a registry of members on life-support equipment, and it is important that this information be current and accurate. We will make every effort to give priority to restore service to members on life-support systems.

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

Name _____

Phone _____

Address _____

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:
Illini Electric Cooperative
P.O. Box 637
Champaign, Illinois 61820

If you depend on life support equipment we need to know.

MEMBER SERVICES by Ray Weiss

Meter multipliers

Occasionally we get calls asking why there are differences in meter multipliers. On the Cooperative's system, there are meters which have a multiplier of one, 10, 20 or 40. On a rare occasion, usually in situations involving larger commercial accounts, there could even be some multipliers of 80, 120 or even up to 300. Generally speaking, the larger the multiplier, the larger amount of power the meter is able to register. Having different multipliers does not mean one account will use more than the other, it just means that one meter has the capacity to measure a larger amount.

The easiest to explain are the meters with multipliers of one and 10.

Meters that have a 60-amp capacity have a multiplier of one. In this case, each number change on the register is one kilowatt-hour.

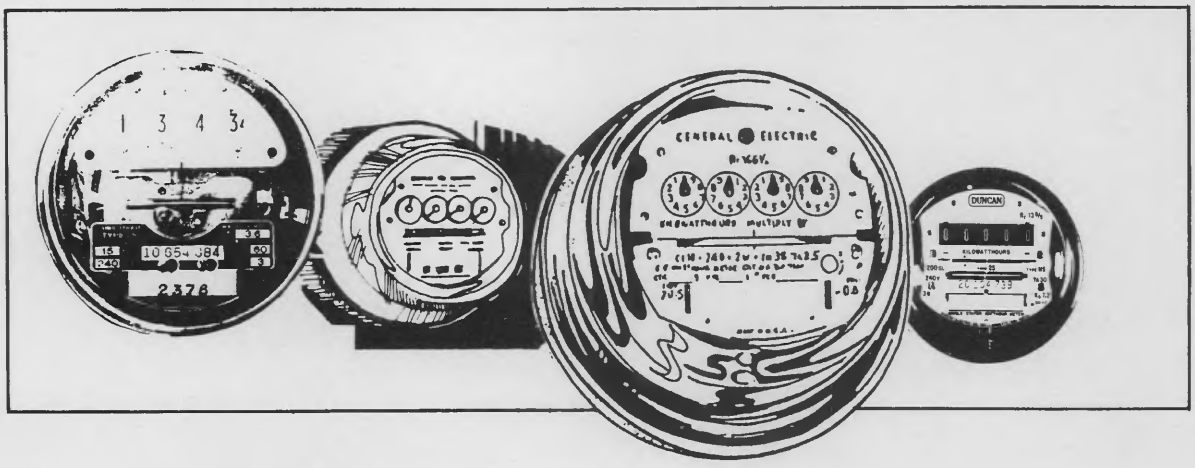
When larger capacity meters with five numbers are used, it is necessary to cover the farthest right number. That covered number is still there and turning. Thus when the first uncovered number (fourth from the left) changes one number, 10 kilowatt-hours have actually been used. This meter is then labeled a "times-10" meter.

From here on, it becomes more difficult to explain. A different style of meter is used to measure larger amounts of power. All of the Cooperative's meters with multipliers of 20 up to 300 use a measuring device at the top of the pole. The wires pass through this round, doughnut-shaped device called a "current transformer" (C.T.). Current passing through the C.T. is accurately measured. A signal (fractional part of the actual current) is sent to the meter below to register the kilowatt-hours being used. The capacity or ratio of the C.T. determines the multiplier of the meter.

Let's take an example of a "multiplied-by-40" meter. For every number change on the register, 40 kilowatt-hours have actually been used, thus it is labeled a multiplied-by-40 meter. By using C.T.'s with various capacities and ratios, different multipliers are achieved.

The important thing to remember is that, regardless of which meter multiplier you have, they all accurately measure the exact amount of power being used. Although higher multiplier meters turn slower for the same current, once the multiplier is taken into account, they all register the same kilowatt-hours.

If you have further questions, I invite you to call me at your Cooperative's office.



Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

Tour deadline is May 24

Last month, the manager's column first announced a new approach to selecting students to participate in the Youth-To-Washington trip. Rather than an essay contest to select the winner, the board chose to support one-half of the trip cost for the first five students to sign up on a first-come, first-served basis. Printing schedules require long lead times, thus this was written before the first announcement actually came out. Whether five students have already signed up is unknown; however, if you are interested, you are encouraged to call the Cooperative office.

The Youth-To-Washington tour is a nationwide tour sponsored by local cooperatives, the Association of Illinois Electric Cooperatives and the National Rural Electric Cooperative Association. Our five students will be part of two bus loads of students from across Illinois. In Washington, they will join nearly 1,000 other students from rural electric cooperatives across the country.

The chaperoned trip June 7-14 consists of one solid week of touring most all of the monuments and major museums, including Capitol Hill and the White House. From morning till late at night, there are scheduled activities. We guarantee this will be one of the most memorable trips a student could take. The normal cost for the trip is $450 for the entire trip. With the Cooperative picking up half of this cost, the trip is a bargain indeed.

The only restriction is that the student be either a sophomore or junior and their family be a member of and reside on the lines of Illini Electric Cooperative.

The deadline for reservations is May 24. If you are interested, call Ray Weiss or Dave Champion, general manager. If space is available, you are certainly welcome.

Cooling system check

Dirty, inefficient air conditioners waste more electricity than just about any other appliance. Before turning yours on this spring, make sure it's in proper running order.

First, check the filters. If they're dirty, clean or replace them, but be careful not to damage coils or fins.

If you're buying a new air conditioner, look for the energy efficiency rating (EER) on each model to be certain you're getting the most cooling with the least electric use. The higher the EER number, the more efficient the unit and the less it costs to operate.

If possible, place your window unit on the shady side of the house so it won't work so hard to keep you cool.

If you have central air conditioning, keep leaves, grass and other obstacles from interfering with the operation of the outdoor condenser unit.

For more information on how to cut your cooling costs and conserve energy, contact your electric cooperative. Remember, efficient use of electricity is energy conservation.

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Think before you do

Warmer weather will have established itself for the summer as you receive this issue in your home.

I want to remind you that as you are increasing your outdoor activities: please keep safety in mind. Many of these activities can have serious health consequences if we forget to use our common sense. Don't forget to think before you do!

The planting season is well under way and by now farm families can begin to feel the pressures and fatigue from pushing to get the crops in the ground. Don't forget to think before you do!

The grass has been mowed a few times. When using your mower: Don't forget to think before you do!

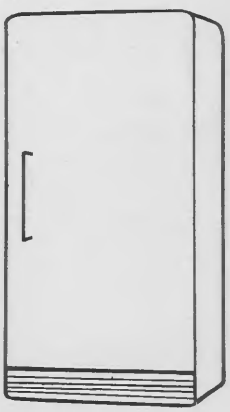
When performing maintenance on buildings, using hammers, saws and ladders: Don't forget to think before you do!

When swimming, boating, fishing, and enjoying other outdoor recreation: Don't forget to think before you do!

Life is too short as it is, so take a few minutes, plan your activity in advance and anticipate traps that you may be setting for yourself. Avoid unnecessary risks. Accidents happen very quickly and once they happen there is very little we can do to turn back the time to try again.

Don't forget to think before you do!

Home freezer tips



More Americans are now buying home freezers, not only for the convenience involved but also to take advantage of seasonal lower prices on meat, vegetables, frozen foods and specialty items.

Aside from combination refrigerator-freezers (with the frozen-food compartment at the top or bottom, or the side-by-side type), there are two basic freezer models featuring a wide variation in special features.

The upright freezer, for example, opens from the front and frequently offers "bookshelf" storage on the door and interior providing more convenient access to individual packages. The uprights range in size from six to 25 cubic feet.

In the chest-type freezers, which range in size from 10 to 32 cubic feet, the storage space is divided by removable sections or baskets. They need more floor space than the uprights but are more useful for storing irregularly shaped packages.

Experience shows that between 25 and 35 pounds of food can be stored in each cubic foot of storage space, depending on the shape of the packages.

One disadvantage to the upright is that it will lose a lot of cold air when the door opens since cold air falls, whereas the chest-type holds much of the cold air inside even when the door is open.

Anyone planning a freezer purchase would be wise to look for all or most of the following 10 features before making a decision on which model to buy:

1. A signal light or alarm to warn when the freezer is off or when the temperature is too high.
2. A lock on the door. This is important when children have access to the freezer.
3. Easily removable shelves, bins and baskets to simplify cleaning.

4. Frost-free operation. Although slightly more expensive, frost-free models never require defrosting.
5. A drain for quick removal of defrost water (if the freezer is not frost-free).
6. A counter-balanced lid on a chest freezer so that it will stay open when food is being removed or added.
7. Coils directly beneath the shelves. This permits quick freezing of foods. Almost all freezers except the frost-free type provide them.
8. Wheels or rollers to facilitate cleaning and moving the freezer.
9. An easily reached dial to contro! temperature.
10. A light in the interior to make foods easier to locate.

And for those who already own freezers, nutrition experts offer the following tips for successful freezing:

- Choose the fruits and vegetables which freeze best. Officials of your local Agricultural Extension Service are always anxious to provide this type of information.
- Freeze only top quality foods. Quality is retained when food is frozen but it is never improved.

MEMBER SERVICES by Ray Weiss

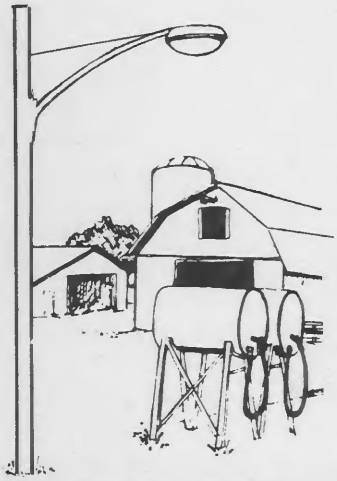
Security lights

Security light rental has long been a successful program for the Cooperative. For a monthly $5 rental fee, the Cooperative will install an automatic, dusk-to-dawn mercury vapor light on an existing pole. I'm sure most everyone knows what type of light fixture I'm talking about. There have been a few comments received recently which indicates there are a few misconceptions about the operation of the light and the rental program.

The most important point I want to make is that the electricity used to operate the light does not go through your meter. The rental fee includes the operating cost. Many tests run in years past indicate a standard security light will use an average of 72 kilowatt-hours per month, slightly more during the longer nights of the winter and slightly less during the summer.

The second point is that there is no charge for the installation and there is no charge for any maintenance to the light. Complete service is just a phone call away.

Whether you rent or own the security light is a decision which should based on where the light is needed. If the Cooperative pole is located in the right area, it is cheaper to rent the light. However, when the light needs to be closer to the work area, it is best to purchase a light and place it on your own pole, or the side of a garage or machine shed. It's not uncommon for many farms and even rural residences to have two, three or more lights placed in strategic locations around the property. This will make your property safer from accidents and should reduce thefts. Adequate lighting can also extend the workday or light the play area.



An automatically operated security light provides more security for expensive equipment and supplies than a switched pole lamp. Turning on a pole lamp when you leave is an open invitation to a thief. Once he determines your pattern, this is a signal that the coast is clear. The automatically controlled light provides the light needed and gives no clue that you are away from home.

Whether you rent or own a security light, we encourage you to light up your life!

The GFCI can save your life

Electrically powered pressure washers, used by farmers and others, can cause deaths when power cord connections get wet or there's an internal short. Several fatalities from electrical shock caused by defective pressure washers have been reported.

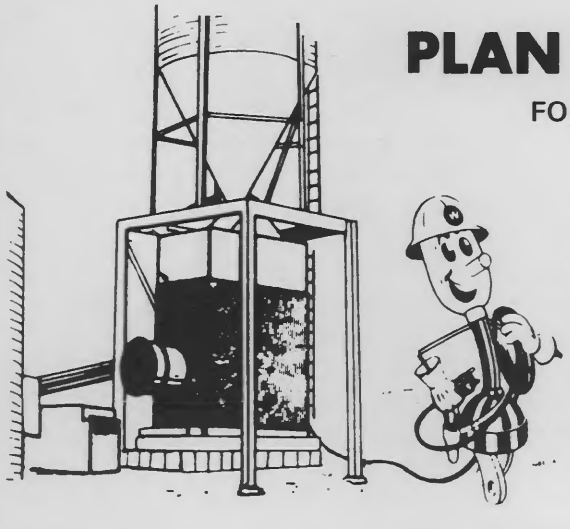
One recent case involved a three-year-old boy, killed when he came in contact with a pressure washer that his father was using.

Ohio State's Al Pugh says, to avoid this possibility, users should stay away from adapter plugs, always plug into a three-wire grounded outlet, and wear rubber footwear. Now that ground-fault-circuit-interrupter (GFCI) protected outlets are available for under $20, washer users should install one at a good location.

Unlike a fuse or circuit breaker which is designed to protect the circuit or the appliance, the GFCI is designed to protect people. For example, a 20-amp circuit breaker is designed to trip when the amperage flowing through the hot wire exceeds 20 amps. It is not able to tell whether there is a short in the appliance. The GFCI, on the other hand, measures both the hot and the neutral wire in the circuit it is protecting. When there is an uneven amount on the two wires the difference must be flowing to an unwanted area. This could be a short in the appliance causing part of the power to flow to the third wire (commonly called the ground wire) or, even worse, it could be allowing some of the power to flow to the person using the appliance.

You might ask how much electricity it takes to cause a fatal accident. To put things into perspective: It takes less electricity to cause a fatality than a single 7 1/2-watt Christmas tree bulb uses, or approximately 40 thousandths of one amp. The GFCI is designed to trip from a short as little as 5 thousandths of an amp. Keep in mind, we are talking about fractional amounts of one amp as compared to a normal 20-amp circuit breaker.

Because of their sensitivity, it is common to suspect there is a faulty GFCI when it trips, rather than suspect the appliance. Nothing is fool-proof — however, when a GFCI trips, you should first assume the appliance is at fault. Some of those nuisance trips may just save a life someday.



PLAN POWER NEEDS NOW

FOR YOUR GRAIN DRYING EQUIPMENT

The Cooperative must be notified any time a grain drying motor is added. Our engineering department will check the capacity of your transformer and existing service wires. Serious voltage problems can occur if either one becomes overloaded.

Even though construction has not been started, the Cooperative should be notified just as soon as your plans are firmed up.

DON'T WAIT TILL OCTOBER

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

Summer cooling tips

Keeping your cool during the hot months doesn't mean just trying to stay calm, control your temper and think tranquil thoughts. There are many things — some are just plain, practical common-sense things — you can do to get through the scorcher days.

First of all, you need to make sure your house has proper insulation and weatherstripping. This keeps the house cool in summer and warm in winter. Check with your rural electric cooperative for advice or assistance if you're a new homeowner or if you haven't inspected your insulation and weatherstripping for some time.

Use heat-producing appliances sparingly. Turn off lamps, TVs and stereos when not in use. Replace incandescent lights with fluorescent ones. They provide twice the light for the same amount of electricity, last much longer and produce much less waste heat.

During periods of bright sunshine, keep the drapes closed. Light colored drapes and curtains reflect sunlight and heat outward.

Use an exhaust fan to reduce heat and moisture in your bathroom, especially when you bathe or shower.

Air conditioning efficiency

Close central heating vents when using window air conditioners. Keep cool air in your rooms, not in the duct work. Set air conditioner at 78 degrees or higher. Operating costs of cooling systems decrease with each degree you raise the thermostat setting. When you're away from home for any length of time, set thermostat a few degrees higher. Inspect and clean filter screens regularly to reduce fuel consumption and to reduce and eliminate dust and pollen (especially important if you have hay fever, other allergies or asthma.)

Unvented clothes dryers release heat and moisture. Vent your dryer to outdoors if possible.

Install an attic vent fan. Attic temperatures can reach 140-160 degrees on the hottest days. A small fan will exhaust the heat and keep it from radiating downward through your home. The fans are economical to operate and some come with a thermostatic switch that turns the unit on and off automatically.

The kitchen can add a tremendous amount of unwanted heat during the hot days. Here are a few ways to eliminate those extra degrees:

- Use electric skillet, broiler oven or toaster oven instead of your range

oven. They use half the energy and won't throw off as much heat as the range.

• Use a microwave for reheating, defrosting and cooking small quantities. Only the food gets hot, the kitchen stays cool. Cook outdoors whenever possible.

• If possible, cook foods for lunch and dinner in the early morning when the kitchen is coolest.

• Use the dishwasher only with full loads, operate it early in the morning or after 8 p.m. at off-peak hours.

• Operate the refrigerator at normal temperature settings. Keep coils clean. If humidity is not high and your refrigerator has a power-saver switch, turn it to "off."

• Use an ice chest or ice bucket for ice cubes and cold beverages to cut down on refrigerator door openings.

Wear lightweight, light color clothes made from materials that "breathe." Wear loose-fitting clothes so air can circulate; go barefoot around the house.

These are just a few tips to help you cope with Mother Nature. With proper planning and common sense you'll find that you can enjoy a long, hot summer and use your energy wisely.

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

See a hazard? call Illini

Your Cooperative has nearly 1,600 miles of overhead and underground lines and thousands of poles, insulators, transformers, and other related equipment necessary to supply electricity to our 4,300 consumers. Through systematic inspection and maintenance, we try to keep everything in good repair.

Sometimes, however, the unexpected occurs along the lines and creates safety hazards we can't possibly know about unless someone tells us. We hope that, should such a situation arise that comes to your attention, you will be the someone who reports the problem to us.

Here are some of the kinds of hazards you should be on the lookout for:

• Damaged or Fallen Utility Poles — When a pole has fallen, because of an accident or other reason, or when it is about to fall, don't get near it. Call the office at once. Then, if possible, stay on the scene to warn others away from the hazardous area. We will send out a repair crew as soon as possible to correct the situation.

• Damaged Lines or Insulators — Storms, accidents, or vandals may inflict damage to electric lines or insulators. Sagging or broken lines can be acute safety hazards. Should you happen on such a scene, call us at once.

• Trees on Lines — Electric power lines are more-or-less fixed, but nature (and sometimes man) seems to find ways for trees and lines to come together. When this happens, the tree can become a conductor of electricity and cause a dangerous shock to anyone touching it. If you see that a tree or a broken limb has fallen across power lines, call us at once. We have crews who are trained to eliminate such hazards quickly and safely.

In summary, we are asking that you share the responsibility of spotting safety hazards along the electric lines that serve you. It is simply not possible for your Cooperative personnel to inspect every foot of power lines every day. We must rely on you to help by calling 352-5241 and telling us when and where safety hazards exist.

Never, never try to do anything about the safety hazard yourself.

Microwave ovens and summer

Microwave ovens are becoming more popular each year. They are an energy- and time-efficient means of cooking. In the summer they are especially helpful because they do not heat up a house, as do conventional ovens.

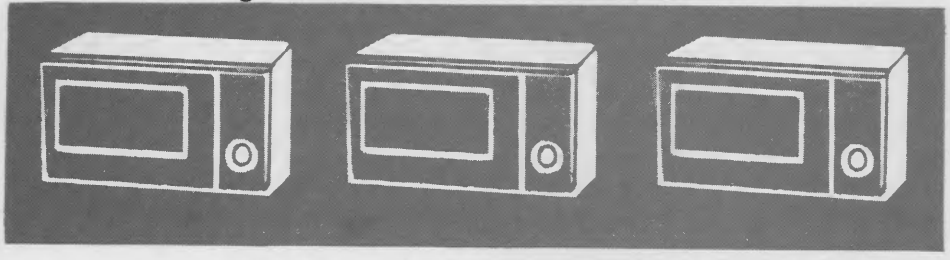
Microwaves are electromagnetic waves, just as are radio and TV signals. In an oven, microwaves are produced by an electron tube called a magnetron. They are used in cooking because they are absorbed by food. Microwaves are reflected by metal, but will pass through glass, paper, plastic and similar materials. Microwaves heat food by moving molecules. They bounce back and forth within the metal interior of the oven until they are absorbed by food. As they bombard the food they agitate molecules. Agitation causes friction as the molecules rub and bump into each other at an accelerated rate. It is actually water molecules that vibrate, so foods high in water content, like fresh vegetables, cook quicker than other foods.

The federal Food and Drug Administration sets performance standards for microwave ovens. They specify that no more than five milliwatts per square centimeter of microwave radiation leakage may occur any time during the life of the oven. Leakage is measured at two inches (five centimeters) from the surface of the oven. In recent tests of many current models, Consumer Reports found that leakage did not exceed 0.5 mw/cm2 in any oven — well below the safety standards.

Undue alarm about leakage

There is little cause for concern about excess microwaves leaking from an oven unless the door hinges, latch or seals are damaged, or the oven was made before the present standards were set in 1971. If you have reason to suspect that your oven is leaking microwaves, you should check with the manufacturer. Not only are today's ovens designed for minimal leakage, but anyone concerned about microwave leakage should know that microwave energy decreases dramatically with distance. Someone a foot or more from an oven that is leaking the maximum level allowed by the FDA would be exposed to only minuscule levels of microwave energy.

There are no documented cases of radiation injury from the ovens. Any injuries reported have been ones that could happen with any oven or cooking surface — such as burns from hot food or steam.



At one time there was concern that leakage from microwave ovens could interfere with the proper functioning of certain cardiac pacemakers. Possible interference with pacemakers from electric razors, auto ignition systems and other electronic products caused similar concern. Because there are so many products that can also cause this problem, the FDA does not require microwave ovens to carry warnings for people with pacemakers. The problem has been largely resolved since pacemakers are now designed so they are shielded against electrical interference. However, people with pacemakers may wish to consult their physicians about this.

As stated earlier, microwaves penetrate glass. It should be remembered, however, that there is no danger of their penetrating the glass door of the oven. A perforated metal shield in the door allows one to view the food inside, but the holes in the shield are small enough to prevent

microwaves from getting through.

Microwave ovens operate on standard 110/120-volt house wiring. Most ovens draw between 1,300 and 1,600 watts, so they are best operated on a separate 15- or 20-ampere circuit. If you can't provide the oven with its own circuit, you would be wise to choose one of the lower-wattage ovens which draw 1,300 watts or less. In any case, avoid plugging your microwave into any circuit with other appliances that use much energy, like an electric skillet or a toaster.

For high-current applications at 110/120 volts, a three-wire circuit is required. Do not plug a microwave into a two-wire (ungrounded) circuit.

Safe utensils for microwave ovens

Glass, paper, ceramic or plastic containers are used in microwave ovens because the microwaves pass through them and into the food. Although such containers are not heated by microwaves, they become hot from the heat of the food cooking inside. Some plastic containers should not be used because they can melt from the heated food. You should not use utensils that have metallic glaze or trim.

If in doubt about any glass, pottery or china utensil (without metal trim or decoration), try the dish test. Place the empty dish in the microwave oven on high for 15 to 20 seconds — not more. If the container feels warm when taken from the oven, do not cook or heat in it, because it will absorb microwave energy. If you use such a container it may heat up to the point where it could break or melt, or burn you.

Metal containers should not be used in microwave ovens for two reasons. First, they shield food from the microwaves and therefore prevent it from heating or cause it to heat unevenly. This is a mere inconvenience. The second reason for not using metal is that it can result in electric arcing, especially if two pieces of metal touch or almost touch. The metal racks in some models are designed by manufacturer to allow for passage of microwaves. The are positioned in the oven on plastic holders that prevent them from touching sides of the oven. If you want to use metal foil, check your owner's manual to see how it can be safely used in your oven.

As with any other appliance, we urge you to read the instructions for safe and efficient use.

Controlling water heating costs

The second-largest user of energy in the average home is the water heater (the heating and/or cooling unit is the largest). Anything that can be done to lower water heater operating costs will almost always yield substantial savings throughout the year.

The most obvious way to cut operating costs is to reduce the amount of hot water used. This can be achieved by installing water-saving shower heads in bathrooms, repair all leaks or drips, wash more clothes in cold water and take short showers (instead of baths).

Another way to reduce water heater operating costs is to lower the setting on the thermostat(s). For homes that contain dishwashers a water heating setting of 140 degrees is adequate. A setting of 120 degrees is satisfactory for dwellings without a dishwasher.

Besides these measures, many homeowners do not realize that as much as 25 to 30 percent of the energy that a water heater consumes is lost when heat is dissipated through the sides and top of the tank while the water is not being used. Thus it must be reheated before it is used. Water heaters have built-in insulation, but most do not have as much as they should have.

It is possible to increase the efficiency of your water heater by adding insulation to the outside of the water heater.

If you have any questions concerning thermostat setting or adding additional insulation, please don't hesitate to call us (352-5241) for advice.

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Clinton update

The Clinton Power Station is approximately 94 percent completed as of May 30, according to Jim Greenwood, who is the Soyland/WIPCO on-site expert. Scheduled fuel loading is January 1986, commercial operation is scheduled for July 1986, and scheduled full-power operation is November 1986.

Jim is quite confident that those schedules will be met. The plant is a beehive of activity with over 7,900 people on site pushing to meet the deadlines and to pass all of the many quality control inspections.

The final few months before start-up will be used for system testing. As of my latest report, 78.2 percent of the plant systems have been turned over to the start-up groups. Initial operation and testing has been completed on 74.2 percent and full functional testing is complete on 21.9 percent.

There are several independent inspection and audit teams on site reviewing the activities. A Nuclear Regulatory Commission team will visit the site late this month to assess the level of construction progress at that time and to assess the achievability of the present schedule.

I'm sure you are aware that Illinois Power Company recently announced that the projected final cost of the plant had risen again. When you hear such reports, keep in mind that we have reached our investment cap and that our construction costs will not rise along with Illinois Power Company's costs, although our percentage of ownership in the plant will decrease. Each report that I receive is more encouraging.

Use care with portable generators

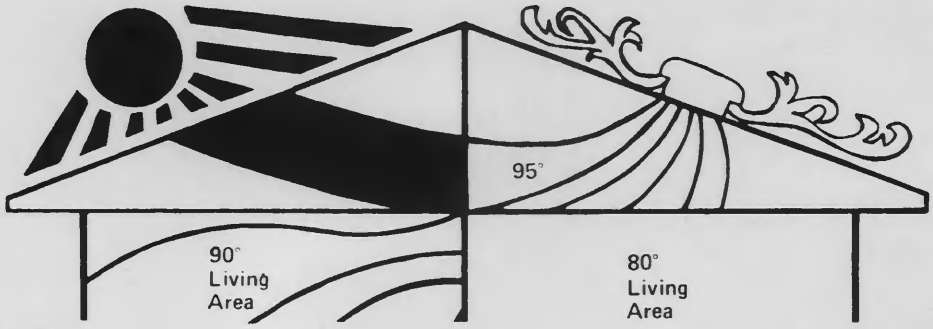
A portable generator or alternator, used at home as an emergency power supply source, can be a wonderful device in times of power loss.

However, even this most useful device can cause serious problems if not used correctly.

One of the most common misconceptions about portable generators is that they can be plugged directly into a house's circuitry and be used to substitute for the loss of power during an outage. Plugging such a power source directly into your home's circuits can cause serious electrical problems, including burned out and badly overloaded circuits, creating a fire hazard.

Portable power units are designed and rated to handle specific power loads, which should be carefully adhered to at all times. Trying to operate an entire household circuit system on a portable unit is asking for trouble. In addition, when power is fed into your household circuits from a portable unit it is also being fed into your outside lines, energizing otherwise "dead" lines during outages. Such action can lead to severe damage to the system, as well as create a serious safety hazard.

Double-throw switches installed at the meter box can prevent power from a portable source from entering incoming lines, reducing the potential for serious problems.



Remove excessive heat and moisture

During the hot summer months, super-heated air trapped in the attic of your home can soar as high as 150 degrees Fahrenheit or more. In the process, home air conditioning equipment works much harder, adding considerably to monthly utility bills.

Heat build-up in your attic can penetrate downward through your ceiling insulation and into the living space below. This heat transfer is known as heat gain; the greater the difference between attic temperature and living area temperature, the greater the heat gain. Heat build-up not only makes your home more difficult to keep cool, but it can also add significantly to home maintenance expenses.

All homes require proper attic ventilation. Improperly ventilated attics often bring about premature deterioration of shingles, roof, rafters, insulation, wiring and outside paint.

The solution to this problem is a power attic ventilator, which is easy to install, economical to operate and pays for itself with savings on home cooling and maintenance costs.

Many homes, even those built today, are ventilated to minimum FHA standards. This means that only minimal intake and exhaust ventilation is generally used in attics. Older residential dwellings with full-sized attics have little or no attic ventilation and, therefore, are inclined to suffer more severe heat and moisture damage, and contribute to higher energy use for inefficient cooling of living space.

Experts say chances are that nine out of 10 homes may not be properly ventilated, but almost any home can be equipped with some form of ventilation system to remove hot, stagnant air and moisture from attics.

Power roof ventilators

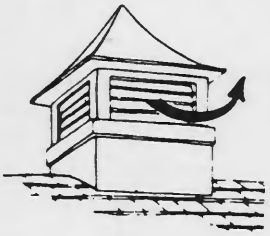
Power roof ventilators will keep the attic temperature down and minimize heat gain by removing trapped hot air. Without such ventilation, a "heat blanket" builds up in the attic, working against your cooling system. The result is a heavier load on your air conditioner, increased maintenance costs, high operating expenses and a serious waste of energy. Installing an efficient power ventilation system can replace trapped attic air with fresh, cool outside air. You'll find your air conditioner won't run as often or a long as it did before, and the need to mechanically cool your home during the early and late cooling season may also be eliminated.

Power attic ventilators are a popular item now. You can buy one at many large hardware, building supply or home improvement centers. Prices range from about $50 to $150. Ventilators are available with thermostats that can be adjusted to start the power unit at a preset temperature. Many thermostats have a 15 degree "swing" in temperature. This means that when the attic temperature reaches 100 degrees, for example, the fan will automatically start to exhaust hot attic air and pull in cooler outside air at the same time. When the attic temperature reaches 85 degrees, the unit goes off until the attic temperature again reaches 100 degrees, then the cycle is repeated.

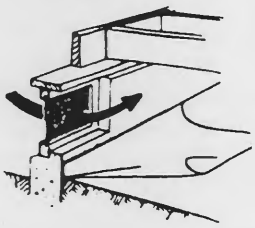
Power roof ventilators are available in varying capacities. The recom-

mended volume of air movement is 10 air changes per hour or a minimum of 0.7 cubic feet per minute (cfm) per square foot of attic floor space. For a black roof, 20 percent should be added to the capacity of the power of the ventilator.

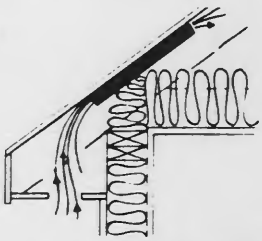
The most popular size power ventilator is rated at 1,400 cfm, which is sufficient for up to 2,000 square feet of attic area. For the 1,400 cfm unit, a minimum of 300 square inches of inlet vent area is required to keep from overloading the fan motor. Soffit vents are best since they are low and in a shaded area.



Cupola vent



Foundation vent



Eave to attic vent

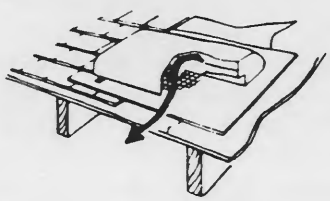
The basic attic ventilator types

There are five basic types of attic ventilators: ridge, roof, under-eaves, gable and rectangular and triangular. Ridge ventilators with under-eaves strip vents are considered by experts to be the best natural ventilation system. Ridge vents provide a continuous opening along the entire ridge line of a pitched roof, keeping rain and snow out while allowing a full air flow to be vented from the attic. Under-eaves strip vents on both sides of the house are usually recommended when using ridge vents.

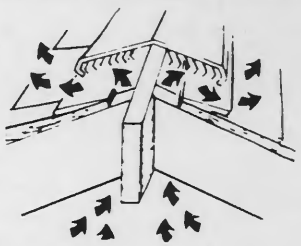
Roof vents such as wind-driven turbines with under-eaves vents provide a good ventilation system for a hip style roof, while gable-end roofs may be equipped with either rectangular or triangular gable-end vents mounted in the high point of the gable. In all cases, under-eaves intake ventilators complete the system.

A combination of power ventilators with under-eaves vents for air intake provides an extremely effective attic venting system, according to engineers. They recommend the system for existing homes because it's easy to install.

Gable vent



Roof vent



Ridge vent

Savings may be 10-30 percent

A typical ventilator, drawing about the same amperage as a 75-watt light bulb, can drop air conditioning costs from 10 to 30 percent. How much you'll save depends on your individual house, your lifestyle and habits. In addition to cutting operating costs, ventilators may even allow you to get by with a smaller, lower cost air conditioning unit.

Even if your home isn't equipped with an air conditioner, power vents pay off by keeping your home cooler and offering you an inexpensive answer to summer comfort.

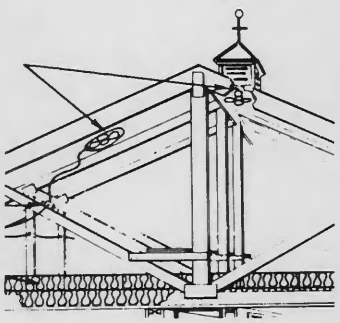
In addition to attic heat, ventilators attack another big home energy

waster — winter moisture. When it's cold outside, proper ventilation reduces condensation that ruins insulation and boosts heating costs. Power vents guard gainst moisture build-up automatically, if you install a humidistat. Humidistats can be preset to activate the power ventilator in your attic when relative humidity hits a high level. The ventilator will remove moisture-laden air before it can cause damage.

Excess winter moisture stems from a number of causes, including various household appliances, such as dishwashers, dryers and humidifiers. Daily use of shower and tub and cooking vapors also contribute to excessive moisture within your home. When this moist air from the living area rises to the attic, it can condense and freeze and cause many problems.

Beside soaking insulation and making it less efficient, excess moisture can stain and crumble ceiling, and blister exterior paint. Frozen and thawed, moisture can damage roof shingles. A power ventilator can correct this by moving more air and with better control than methods which depend on the natural flow of air or variable winds.

Roof or gable installation



You can buy power ventilators designed for installation on the roof or on the gable sidewall. Roof types are typically placed on the rear slope of the roof, near the peak and centered, with air intakes at the eaves. This installation reaches all attic space efficiently. If your roof is in good condition, simply cut a hole in the roof on the rear slope of the house or on the side at the apex and insert the self-flashing base under shingles or siding. If locating it on the roof is either impractical or undesirable, a power gable ventilator is the answer. Kits are on the market especially designed for easy installation by the do-it-yourselfer. But be sure to have a qualified electrician make the necessary electrical connections.

Before buying a power ventilator, it's best to have a basic idea of how attic ventilation systems work and the approximate size you need. In principle, there are two types of ventilation systems: (1) natural or static and (2) power systems. Some combinations of natural and power ventilation work better together than others.

Natural ventilation systems use fixed or nonmechanical devices generally referred to as ventilators. Installed in openings in the attic space, they must be properly positioned to take advantage of the natural air flow.

High-temperature shut-off vital

One important safety feature to include in your attic ventilation system is the addition of a high-temperature shut-off. In the event of a fire in the house, a power ventilator without an automatic shut-off control could pull hot air from a burning area below up into your attic, spreading flames throughout the house. If your power ventilator has no automatic shut-off, be sure the fan motor can be controlled by a switch located on the main floor of your house.

An automatic, high-temperature shut-off will shut down the fan motor and avoid spreading a fire. Make sure any attic ventilator you install has this safety device. Don't take chances with your safety and that of your family — shortcuts may be tragic.

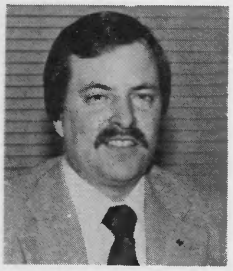
The fall season is traditionally considered the ideal time to paint or roof your home. If you are considering roofing, don't fail to investigate the advantages of installing a power roof ventilator. But before buying, figure how much ventilation is needed for your home by finding (1) the amount of free area needed for the system and (2) the proper size of ventilator. Your building materials dealer can help you determine the proper sizes. Your cooperative's member service department can also provide valuable ventilation data to assist you.

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.



Champion

Your opinion on the annual meeting

Included with your April bill was a questionaire which centered around the most recent annual meeting, held this past February. We attempted to get an overall feeling from the membership of the changes made for this meeting and what other changes could specifically be suggested.

There of course was some constructive criticism; however, most comments were of a favorable nature. There is not space enough to list each of these comments, but I thought it might be informative to publish the tabulated results. We thank each of the nearly 350 people who took time out to read, fill out and return the survey.

Here are the results, with the number of people who checked each particular item in parenthesis after the item:

1. I did not attend the Annual Meeting because:
   - A. I do not like the Chancellor Hotel (formerly the Ramada Inn) (6)
   - B. Meetings are too boring (34)
   - C. Meetings are too long (38)
   - D. It was held on Saturday (25)
   - E. I'm satisfied that the Directors and Management are doing all they can to provide electric service at a reasonable cost (54)
   - F. If I attended the meeting it would not change anything (106)
   - G. I had to be somewhere else that day (80)
   - H. I don't understand why I should go (14)
   - I. The meals are not that great (7)
   - J. Because I had to pay $1 for the meal (8)
   - K. It was raining (1)
2. I attended the Annual Meeting because:
   - A. I'm proud to be a member (40)
   - B. I want to be involved (26)
   - C. I like the meals (39)
   - D. I wanted to win a prize (33)
   - E. I'm interested in hearing what is happening with the Cooperative and how it affects me (68)
   - F. I think my rates are too high and I wanted to find out why by hearing the reports and participating in the meeting (44)
   - G. I heard that Gene Trimble's Orchestra was going to entertain (17)
   - H. I'm dissatisfied with the service I'm getting (7)
   - I. I want to show my support (43)
   - J. I believe in the democracy of cooperatives (33)
   - K. I know my director and I want him to know that I care (16)
3. We made some changes this year. Which changes do you feel are improvements:
   - A. Information packets (43)

(Continued on page 10b)

Continued from page 10a)

B. Saturday meeting (51)
C. Clown band (40)
D. No keynote speaker (49)
E. Shortened speeches (72)
F. Limited meeting length to 2 hours (91)
G. Round tables (43)
H. Head table along side of room (32)
I. Equipment on display (31)

4. Would you be more likely to attend the meeting if:
   It was held on a weekday (62) or Saturday (67)
   morning (44) afternoon (50) evening (38)
   There would be a credit on my bill instead of a meal (50)
   Meals weren't so formal (6)
   A single large prize would be offered in the drawings (3)

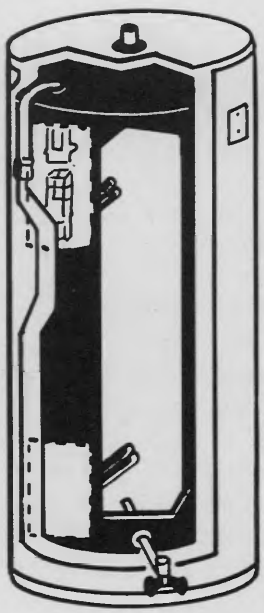
Water heater program

In June, your board of directors established a new program designed to encourage members to replace older, inefficient water heaters with new, very high-efficiency electric water heaters. Your Cooperative is promoting these high-efficiency water heaters to lower your cost of heating water and to lower the Cooperative's peak demand cost of wholesale power.

Beginning in August, your Cooperative will be taking orders for 80-gallon water heaters, which we will sell to members only, for $125 plus tax. Included in this price is delivery to your home and placement of the heater as close to your existing unit as possible. The actual electrical and plumbing installation will be each member's responsibility.

When the board and staff began looking for a water heater to sell, long life and high efficiency were two of the biggest factors. Right away one brand stood out. The SEPCO water heater by Vaughn Manufacturing seemed to be what we were looking for.

Most manufacturers offer a five- or 10-year prorated warranty against tank leakage. The SEPCO heater is warranted at 100 percent for a full 10-year period. The longevity is apparently due to a unique type of stone lining. For efficiency, two-inch urethane insulation and the exclusive



WATER HEATER INFORMATION REQUEST

Please send me more information on the SEPCO high-efficiency water heater.

Name _____

Address _____

City _____

Telephone Number _____

My existing water heater is: Electric _____ Propane _____

Nat. Gas_____

For more information, fill in and return with payment.

SEPCO "heat trap" make these heaters stand above all the rest. The "heat trap" keeps hot water from naturally siphoning up a pipe when overhead water lines lead away. These are the major items, however, there are other subtle little differences which make the SEPCO heater stand out. All of this is available to members for only $125. If you think it should cost more, it does.

How this plan will work

Since the selling price is being subsidized somewhat, a brief explanation on how the Cooperative expects to retrieve this subsidy is necessary. Nearly 75 percent of the wholesale cost of power is related to the peak demand established on the Cooperative's system. Reducing the peak demand will reduce the wholesale cost. Over the life of the heater, the Cooperative expects to more than save enough to warrant the heater subsidy. To reduce this peak, each water heater sold will have a 3,000-watt element instead of a 4,500- or 5,500-watt element. To compensate for the smaller element, a larger storage tank size is needed, thus we have standardized on the 80-gallon tank.

The larger dimensions of the tank (26 inches diameter and 58 inches high) may be a restriction in some instances. The unit weighs 400 pounds, with the stone lining contributing significantly to the weight.

What about your water heater? Unless it was made in the last three or four years, it is probably very inefficient. Older electric and gas models usually have poor insulation and inefficient combustion chambers, and they lose much energy up the flue when not operating. Considerable heat is lost through the tank jacket and piping when the water has been heated but is not being used. Given all this, don't hesitate to replace your inefficient gas or older electric water heater with a newer, more efficient model. For more information, return the attached coupon, call or stop by the Illini office.

Wiring system maintenance

Have you given your electric wiring system any attention lately? Maybe you are one who believes the wiring will last forever. It may seem strange, but wiring deteriorates much like materials. Wiring requires maintenance and regular checking of physical conditions and electric loads sometimes require revamping of circuits or addition of new circuits.

Each time any new electrical load, such as a water heater, dryer, range, freezer, motorized equipment or heating device, is added, you should review the parts of your electrical system which will handle the new load.

You may need the expertise of a qualified electrician to help check your wiring's requirements and capabilities. General maintenance should include a visual inspection of all parts of the system which are exposed.

The National Electric Code covers minimum specifications for safe installations of electric devices and wiring size requirements. A qualified electrician will know the electric code requirements and be able to give good advice and provide safe electrical installations.

Another check to make is to look for loose terminals and connections. Connections have a tendency to loosen over a period of time, especially if the circuit is exposed to heavy usage. The heating up of wiring causes expansion and when cooling, the wire will contract and this can cause loose connections.

A good place to check for loose connections is in the fuse panel or breaker panel. Before checking in this panel, make sure the MAIN BREAKER or MAIN FUSE is in the OFF position.

While in the panel, check for any discoloration and melting of the insulation on the wires. This is a sign of overheating of circuits and action should be taken to correct it before other damage occurs.

MEMBER SERVICES by Ray Weiss

Year-round uses of electricity

When electricity was used primarily for lighting, electric bills were low in the sunny months of summer and higher in the darker months of winter. Today, in addition to the lighting, every household has many year-round uses for electricity which add to the comfort, convenience and pleasure of the family. Residential electric bills follow surprisingly uniform patterns from year to year. The fact that a bill is higher than usual naturally arouses curiosity — there must be a reason. Our members have found there are many reasons for variations in use and cost of electric service.

Hot weather brings air conditioning and greater use of fans, refrigerators, freezers, dehumidifiers, and laundry facilities. Warm weather also makes appliances such as refrigerators and freezers work harder. Cold weather affects heating requirements, use of furnace fans, humidifiers, supplementary heaters, and auto engine heaters. Holidays mean extra cooking, lighting, and Christmas decorations in your home.

Many changes in family life affect your electric bill: moving into a new home, alterations to the old home, more time spent at home, a new baby, relatives coming to stay, more laundry, more hobbies, more homework, and teenage entertaining.

Have you recently added a dryer, an air conditioner, a supplementary heater, a freezer? This is a common cause of increased usage because everyone adds new appliances from time to time.

If you still have a question about the amount of electricity you are using, ask for our publications "Your Family Is Unique!" and "Home Appliances-Control Your Costs." Many helpful hints are included plus a checklist for you to add up the average number of kilowatt-hours you should be using, based on the appliances you have. They're free for the asking from your cooperative office.

Children and appliances

What is the best age for children to start using the toaster, the clothes dryer or the microwave? How much supervision do they need?

Good questions, says Marian Hess of the Missouri Cooperative Extension Service. "Delegating responsibility in the use and care of appliances is good training," Hess says. So find your appliance instruction booklets and read them with your children. This not only teaches them how to use the appliances but also reinforces the need to read instructions.

The American Home Appliance Manufacturers say the median age when children are able to begin using appliances as shown on the right:

	Supervised	*Unsupervised*
Refrigerator	4	5
Toaster	5	7
Freezer	6	7
Hair Dryer	7	10
Blender	8	10
Clothes Dryer	9	11
Range	9	12
Coffeemaker	10	12
Food Waste Disposal	10	12
Microwave Oven	10	12
Clothes Washer	10	12
Electric Frypan	10	13
Trash Compactor	10	13
Food Processor	12	14

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

How is Illini's service quality?

The corporate goal of the Cooperative is to provide a reliable source of electric energy at the lowest possible cost consistent with sound economy and good management.

We have discussed the cost of electric service many times during recent years and I'm sure that the subject will be discussed many more times while there is disparity in rates.

We often get so caught up in our rate discussions that we forget about the quality of electric service. The ice storms over the years have caused higher rates, but our electric system is in very good shape. Nearly all of our multiphase lines are new and we have plenty of system capacity. We should not have to make any major investments in our lines in the near future. Some single-phase lines are still a bit ragged, but they will be replaced over the next three years as part of budgeted routine maintenance.

The Cooperative is providing a vital service to its members, the quality of which would not be duplicated by any other source. The staff and employees have dedicated themselves to serving you. We feel like we are doing a good job, but we solicit your comments. We need to know how you feel about the quality of service you receive from the Cooperative. Take a few moments, if you would, and jot down you thoughts. How are we doing?

Recognizing that my electric rates are higher than I would like to be paying, I feel the quality of service I receive from the Cooperative is:

_____

_____

_____

_____

_____

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_____

Please return any comments with your next bill payment.

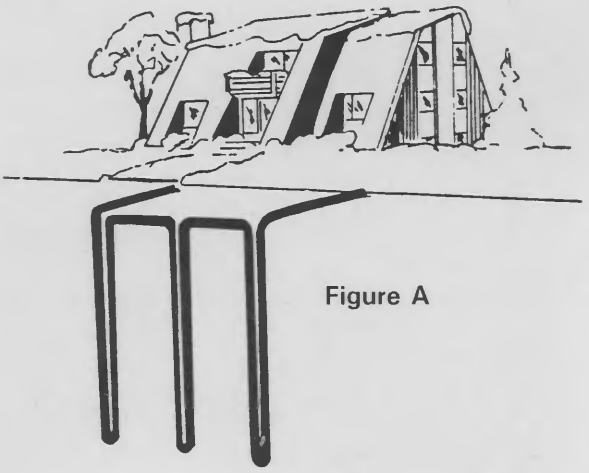


Figure A

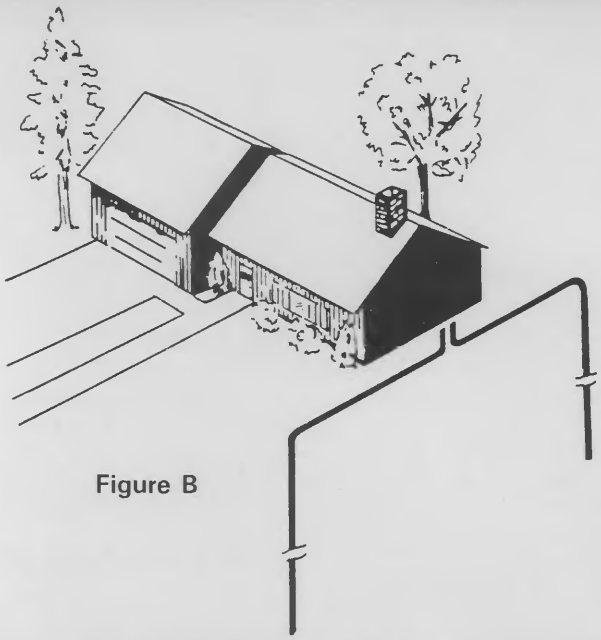


Figure B

Earth-coupled water source heat pumps

When the subject of water source heat pumps comes up, it is necessary to distinguish between the ground water (open loop) and closed loop systems. Both are earth-coupled, meaning they are in contact with the earth and thus capture the natural heat of the earth to heat your house. The difference is the loop itself and how this loop contacts the earth.

The open loop, or ground water system, uses water from your normal well. The loop in this case is the water from underground. The term "open loop" means the water is not the same water used over and over. In the open loop system, once heat from the water is removed, the water is discharged and not intended to be reused. Discharging generally means either dumping it to a basement drain or field tile or, if there is a chance of running out of water, it should be returned to a "return well" at least 100 feet from the supply well (figure B).

Most of the open loop systems installed to date are returning the water to the same level taken from. This discharged water is not harmed in any way. The difference is that eight to 10 degrees have been removed as it passes through the heat pump.

Closed loop refers to a loop in a closed circuit, meaning the fluid is reused or recirculated again and again. The closed loop heat pump works much the same way as the open loop heat pump, taking out eight to 10 degrees of heat from the water with each pass. The difference in operation is the source of water. Although both systems can be described as "earth-coupled," the closed loop system relies entirely on the length of the loop that is in contact with the earth to pick up the required heat. The loop or pipe and its length must be carefully sized to each particular house. A loop that is undersized will not provide the needed heat and a loop oversized will add to the cost of installation.

Even when the closed loop is sized properly, during the coldest weather the ground will not give up heat to the loop as fast as it is removed at the heat pump, thus the loop temperature may drop to the freezing point, requiring an antifreeze solution to be used.

Specific design

Water source heat pumps used on a closed loop must be designed for the specific application. Most water source heat pumps are designed to operate with water from a well that is generally at a constant temperature of around 54 degrees. To keep from freezing the heat exchanger in case of a water supply problem, these heat pumps will automatically shut down when the incoming water temperature is less than 40 degrees. Thus, installing an ordinary water source heat pump on a closed loop will not work.

In a closed loop, the kind of pipe and depth buried is important. Only two kinds of pipe are recommended. Polybutelene or polyethelene are recommended. Both are extremely tough and have an expected life of 50 years. In addition to their strength, the relative ease of heat transfer from the earth to the fluid is important. A pipe that acts as an insulator would cause the loop to need more length in order to pick up an equal amount of heat.

Horizontal or vertical

The closed loop can be installed in a horizontal or a vertical position. In a horizontal system, the pipe should be buried as far down as possible in order to be in contact with warmer, moist soil. Generally it is best to be between four and six feet deep or more if economically possible. This is deeper than most trenchers will go, so a backhoe may be needed. Generally once you get down eight feet, there is not much seasonal change in soil temperatures. As a rule of thumb, around 450 feet of pipe will be needed for each ton of cooling, thus a lot of open ground would be needed. Anyone having open farm ground next to their house might find the horizontal system the cheapest to install (figure C).

Vertical loop techniques

Although it varies from area to area, most closed loops in this area have been vertical loops. With a vertical loop, generally a five-inch hole is bored to around 150 feet deep. A loop of pipe is dropped into this hole. The number of bore holes is determined by the length of pipe needed. That in turn is determined by the size of the house and the heat pump. A rule of thumb calls for 175 feet of bore hole per ton of cooling needed. To keep the ground temperature of one bore hole from affecting another one, the holes are generally at least 10 feet apart (figure A).

Although not a well, these holes are generally drilled with well drilling equipment. Sometimes described as deep post holes, the advantages are less yard torn up during installation and the reduced footage of pipe needed because the air temperature does not influence the earth temperature in the slightest. Although many of these details will escape you, it's important to remember that both systems work equally well. Without a doubt, the installation of either one will lower the cost of heating your home.

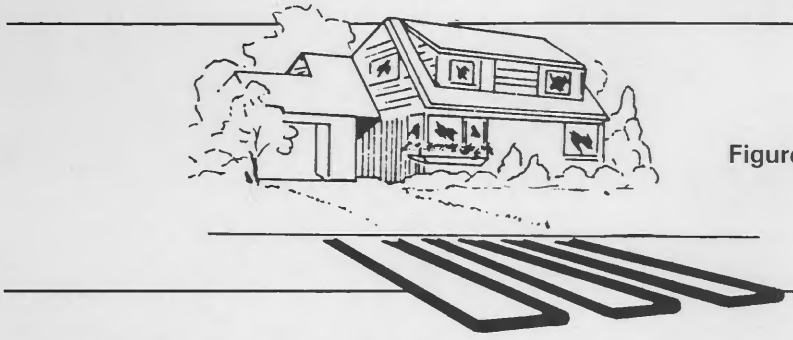


Figure C

Energy savings for heating

Although the water source heat pump has been widely used in the far southern climates for many years, the water source heat pump is a much greater energy saver during the heating cycle than the cooling cycle. Most water source heat pumps have an EER rating of between 12 and 14. This is good but not all that much better than some super-efficient air source air conditioners.

The greatest efficiency is in the heating cycle. The operating cost during the winter is nearly one half of the air source heat pump. The reason is that the earth's temperature is much warmer than the air, with the greatest difference occurring in the northern climates.

For more information on the earth-coupled water source heat pumps, talk with the Member Service Department at Illini Electric.

Autumn special time for safety concern

A review of some possible problems will help remind all members of potential hazards to watch for and report.

- **Antenna installations for TV and CB near overhead electric lines, or those that could possibly fall on a line.**
- **Low clearances possibly caused by new construction of roads, driveways, approaches of buildings.**
- **Meter installations damaged or wires exposed.**
- **Tree houses built close to lines.**
- **Trees where children might climb and touch wires.**
- **Excavation over an underground cable.**
- **Bare secondary wires in a tree.**
- **Cranes or drilling rigs working near lines.**
- **Building under a line or trailer being set up under a line.**
- **A lake or boat landing where clearances could allow a sailboat mast to hit a line.**
- **Persons working or preparing to work near lines with conductive tools or devices such as paint roller handles, aluminum ladders, antenna pipe, irrigation pipe or pruning tools.**
- **Loads on trailers or trucks where contact with the lines is probable, such as farmers in a hay field.**

We hope you will read these items and discuss them with all the members of your family and have a safe, enjoyable and productive autumn.

High Efficiency Water Heaters available for IEC members

Your Cooperative is now selling electric water heaters for installation in residences served by the Cooperative.

The *SEPCO* heater we are handling is an 80-gallon, stone-lined, 3,000 watt unit insulated with a two-inch urethane foam jacket. The *SEPCO* heater has many positive design features for high efficiency and long life, and is warranted against leaks by the manufacturer for a full 10 years.

The *SEPCO* heater is for sale to you for $125 plus tax, delivered to your home and placed as close as possible to the existing unit being replaced. Installation and removal of old unit will remain the member's responsibility.

For more information, please fill out and return the attached form.

WATER HEATER INFORMATION REQUEST

Please send me more information on the SEPCO high efficiency water heater.

Name _____

Address _____

City _____ Zip Code _____

Telephone _____ My existing water heater is: Electric ☐ Propane ☐ Nat. Gas ☐

For more information, fill in and return with payment.

ILLINI ELECTRIC COOPERATIVE

P.O. Box 637
Champaign, IL 61820

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

'Fall Energy Special'

On September 11 letters announcing the "Fall Energy Special" were sent to all members. The board and management are really excited about this three-month program that will benefit all Illini members. It is really fun to have good news to tell. (If, by chance, you overlooked your letter explaining the program, be sure and call Illini's office because the program will provide significant savings to those who can utilize it most.)

I want to address two questions that I anticipate that some members might ask. First, "Why have you not done this in the past?" Second, "Aren't you overcharging us with your regular rates if you can provide this large discount now?"

"Why haven't you done this before?" Your cooperative was not able to provide this kind of program in the past because, under the old wholesale power purchase agreements, our power supplier looked at our peak demand each month and billed us based on that peak. Now that we purchase our power from Soyland Power Cooperative, there is flexibility in the wholesale rate, enabling Illini to provide programs that will help individual members save money and help the general membership at the same time.

"Aren't you overcharging us with your regular rates if you can provide this large discount now?" No, the flexibility I mentioned in my previous answer comes from the fact Soyland is concerned only with peak demand during July, August, December, January and February. Those are the months that Soyland experiences its peak. Consequently, in any other month, Illini can offer special incentives to help encourage load growth. Because this consumption is off-peak it serves to make the power plants more efficient. That efficiency can be passed on to Illini members who help cause the greater efficiencies.

Everyone benefits

The "Water Heater Sales" program, "Fall Energy Special" and the newest, a "Water Heater Timer" program, are all designed to help qualifying members and the Cooperative at the same time.

The board and staff are working on some electric heat incentive programs at this time and those will be announced in the near future. If load growth continues, future rate increases will be substantially reduced. Illini is not out to force sales of kilowatt-hours on members, but those who can and who want to use more through these incentive programs will experience savings while helping defer future rate increases for all members.

Questions?

Again, if you have questions about these or future offerings, please contact Illini's headquarters.

A time switch to save money?

This past summer, Illini Electric announced the beginning of a water heater sales program. The SEPCO water heater being offered is the most energy-efficient that can be found. Its energy-saving features alone will save over $60 per year in water heating costs. Member response has been good, the sales campaign is successful and is continuing.

The second phase of the water heater program centers around controlling the hours of its operation with a time switch. The benefits of this program come from switching off the water heater during the Cooperative's system-wide peak. Any reduction of the peak load at the substation will lower the cost of wholesale power.

The savings realized by the Cooperative will be returned to those participants as an $8 credit on their bill each month. To accomplish this savings, the water heater must be off each day between 5 p.m. and 9 p.m.

Advertising from some of the time switch companies states that with use of the timer the cost of water heating can be lowered. It's true and you may in fact want to have the water heater off for longer than four hours. The important thing to remember is that it must be off during the Cooperative's peak in order to make this program a success.

MUST I PURCHASE A NEW WATER HEATER TO QUALIFY FOR THE TIMER CREDIT?

No, any electric water heater will qualify providing it is continuously operated. It's important to remember that the water heater sales and timer program are related but are really two separate programs.

WILL I RUN OUT OF HOT WATER?

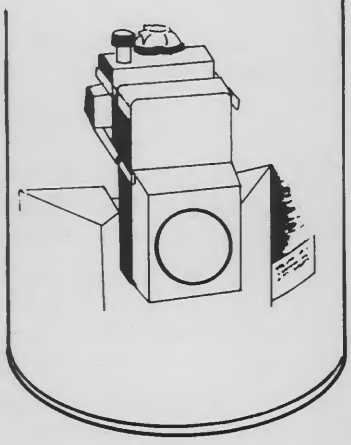
No, in most cases, the storage tank will supply all the needed hot water during the four-hour off-period. If your family would happen to run low on hot water, you may want to install the larger, 80-gallon, energy-efficient SEPCO water heater being offered, at the special price of just $125 plus tax.

HOW MUCH DOES THE TIMER COST?

Because of the accuracy required, only the timer being sold by Illini Electric is acceptable for this program. For just $46.50 plus tax, a total of $49.29, Illini will deliver or mail a timer to you.

WHAT IF I DO NOT HAVE AN ELECTRIC WATER HEATER TO CONTROL?

You have an excellent opportunity to help your Cooperative control electric rates by installing an energy-efficient electric water heater with a time switch, to replace that existing gas water heater. By better utilizing your Cooperative's electrical system, as well as helping spread the Cooperative's fixed operating costs over a larger number of kilowatt-hours, you are helping hold the line on electric cost for you and your neighbors.



IF I WISH TO PARTICIPATE, WHAT IS THE NEXT STEP?

Fill out and return the attached form. Further information on this program will be sent to you. Also enclosed will be an agreement that must be signed and returned, along with your check for $46.50, plus 2.79 tax, for a total of $49.29. The timer will then be delivered or mailed to you.

Once installation is complete, you must arrange for an Illini representative to inspect the installation to see that it is indeed controlling the water heater and whether the off-period is correctly set. Then, with the next billing cycle, you will begin to earn an $8 per month credit.

****

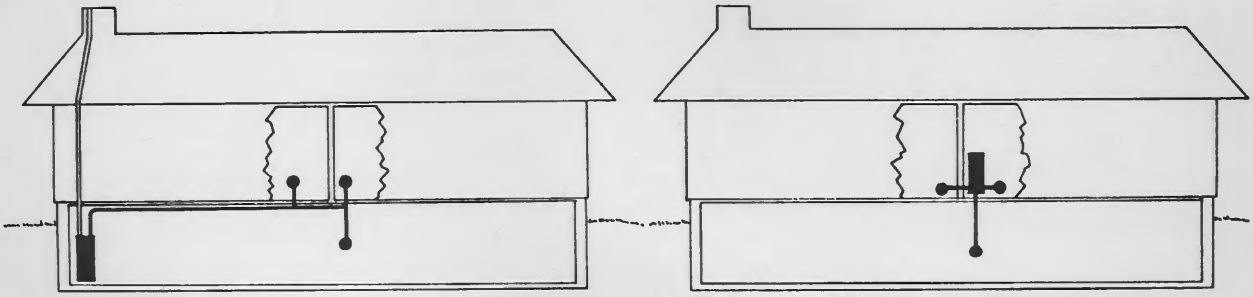
For more information, please fill out and return this form.

Name _____

Address _____

City _____ State _____ Zip _____ Phone _____

Mail to: ILLINI ELECTRIC COOPERATIVE
P. O. Box 637
Champaign, IL 61820
352-5241



THE WRONG WAY — Long, heat-wasting pipe runs — A gas flame water heater doesn't have location flexibility, because of the need to vent to the outside if no convenient chimney flue is available.

THE RIGHT WAY — At point of greatest hot water use — A flameless electric water heater presents no location problems because it does not require a vent or flue. It can always be installed closest to the point of maximum hot water use.

Water heater location

Ask any homemaker what she wants from a water heater, and her answer will be: ". . . no wait . . . no worry . . . lots of hot water in a hurry."

One can't imagine a modern home without a plentiful supply of hot water. The uses for hot water by today's housewife are endless — laundry, dishwashing, food preparation, personal cleanliness, house cleaning. Almost every time the housewife reaches for the faucet, she's using hot water — lots of it.

While being useful, hot water can be wasted, which in turn will waste the energy used to produce it. One of the major losses occurs when the water heater is improperly located in the house.

Water heaters should be centrally located in the home to give the maximum amount of efficiency with the least amount of waste. Electric water heaters have much more flexibility than do gas models in this respect.

The two contrasting drawings on this page emphasize the importance of the location of the water heater. An electric water heater can be placed nearer the point of greatest hot water use, eliminating the extra long runs of hot water pipes. Insulating the pipes will help. However, the longer the hot water pipes the greater the heat loss, causing extra loss of energy to heat the water.

Gas water heater locations are chosen more for their access to chimneys than the hot water use. Often this will cause extra long runs of hot water pipes and extra loss of energy that an electric water heater could save. With no vent or flue and with several models available, an electric water heater can fit most anywhere.

Battery backup system

If you have a home computer and use it for more than fun and games, you should investigate what equipment is available to protect your data in the event of a sudden power failure.

We've had members with home computers call and ask to be placed on an "emergency" call list when scheduled work is to be performed that would interrupt their service. The truth is: we don't have the "people power" to call everyone who would prefer to be called.

A better approach would be to purchase a battery backup system. Such systems are available in many different sizes, depending on how long you want you computer to operate after the power is off. The purpose of such equipment is to give you time to store all the data in the volatile memory onto a disk.

Such systems can be described as a battery with a built-in charger. You plug your computer into this device so that at all times the computer is being run from the battery. Should the power fail, the computer continues to run until the battery is drained. When purchasing such a backup system, you must know the computer's wattage and the length of time the equipment is to be operated.

An optional feature protects your equipment from distant lightning surges entering the building wiring. Most electronic equipment is very sensitive to even small waves of current that otherwise would not even be noticed. Such surge protection can be built into the backup equipment or can be purchased separately.

For more information and prices, see your local computer equipment dealer.

MEMBER SERVICES by Ray Weiss

Pump problems can cause high bills

Does the pump on your pressure water system start almost every time a faucet is opened? If it does, then the pressure tank probably is suffering from a common ailment known as "waterlogging." In other words, it is too full of water.

In the tank it is necessary to have a cushion of air above the water. The air is compressed as water is pumped into the tank and expands as water is withdrawn. The larger the air cushion, the more water the tank can deliver between the on-off cycle of the pump.

Most farm water systems have pressure switches adjusted to start the pump when the pressure drops to 20 pounds and stop it when it reaches 40 pounds. A 42-gallon pressure tank, the size used in many farm water systems, can deliver about seven gallons of water between pressures of 40 and 20 pounds.

The size of the air cushion will not remain constant. Water absorbs the air, so eventually the air cushion becomes so small that by even drawing a very small amount of water, it will cause the pump motor to start and stop.

Manufacturers have devised various methods to solve this problem. One method is to have an air valve controlled by a float inside the pressure tank. When the water level in the tank rises too high, the float opens an air valve and permits the pump to "sniff" the air, which is carried into the tank with the water. Should the valve core begin to leak, do not replace it with an auto tire valve core. The auto valve core has a much stronger spring.

Another approach is to replace the tank with a newer style tank that has a flexible diaphragm or bag to separate the water from the air. In this case the air is never lost and the whole problem of waterlogging is gone forever

Leaving for winter?

The time when some of Illini Electric's member-owners leave for the winter is nearing. Those members should be sure they make arrangements for paying their bills in advance when planning to be away from home for an extended period of time.

Electric bills are mailed on or about the third of each month and payment must be in the office not later than the 24th of that month in order to take advantage of the net amount.

A member who is going to be away during this time period should make arrangements to have the electric bill forwarded. Members might also consider leaving money with a neighbor or relative who would consent to check the mail and pay the bill while the member is away.

Another way to take care of it would be for a member, before leaving, to send to Illini an estimated payment to be credited to his account.

If the estimate is too high, the remaining credit would be carried to the member's next bill. Members may send an estimated amount to cover more than one month if they plan to be away more than one month.

Extended vacations also will require that a neighbor or someone else read the meter each month. The Cooperative will not estimate the bill more than two months. Failure to have an accurate reading after that will cause the Cooperative to have a serviceman read the meter and charge that account $30.

Please help your Cooperative and yourself by making the necessary arrangements prior to leaving.

Have any questions about the new water heater timer program? Contact the Member Service Department

Champaign • Illini Electric Cooperative

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Tax change cuts costs

State tax law changes to be effective January 1, 1986, will mean significant savings to Illini Electric Cooperative members.

On that date, the method of calculating the state utilities tax will change. Instead of a 5 percent tax on the total amount of your electric bill each month, the revision calls for a tax rate of $.0032 on each kilowatt-hour.

This legislation was supported by the state's electric cooperatives and was recently signed by Governor Thompson.

The new tax will benefit rural residents because rural electric rates are generally higher than rates in town. Under the new method everyone in the state pays the same tax per kilowatt-hour. And as a safeguard the new law allows us to calculate the tax both ways and charge the lesser of the two calculations.

The electric cooperatives were instrumental in pushing this legislation through the system. We were the only electric suppliers to lobby in favor of the change. Governor Thompson, in signing the bill, said, "The Legislature has made the tax cut choice and I think it is the right one."

Total savings to Illini's members if this law had been in effect during 1984 would have been as follows:

1984 Revenue	$ 6,380,749	1984 kwh sales	56,951,843
Tax 5 percent	x .05	Tax .32 cents	.0032
Tax collected	$319,037.45	Tax collected	$182,245.89

1984 savings to Illini's members would have been: $136,791.56

More ways to save money

Don't forget that the "Fall Energy Special" will end very soon. I hope that you were able to take advantage of the attractive rate during that program.

Our "Water Heater Sales" program is well under way and we are delivering them as fast as we can.

The new "Water Heater Timer" program is in place and by the time you receive this publication I expect that many timers will have been installed.

A new "Dual Heat" heating program was approved by the board in October. If your heating costs are too high give us a call.

As you can see we are working very hard to serve you and to keep the bottom line on your electric bills as low as we possibly can. The tax law change and the Fall Energy Special affect all Illini members automatically, but if you want to take advantage of these other programs you will need to contact us. We will be glad to help in any way we can.

MEMBER SERVICES by Ray Weiss

Water heater timer

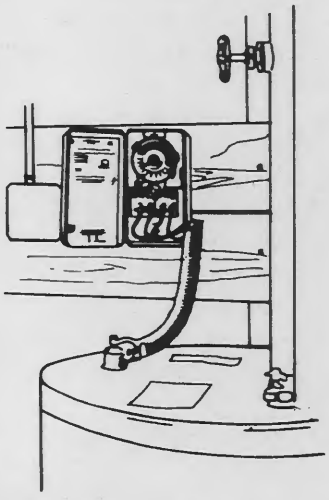
Exciting things are happening in your cooperative's Member Services Department, which is responsible for administering the new water heater sales and water heater timer program.

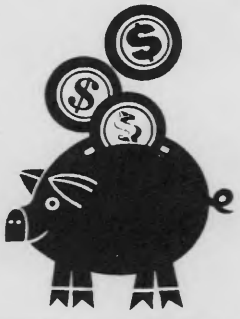
Both items are designed to help you, the member-owners of the cooperative, save money. Everyone wants to save money. To the cooperative, the important thing is the time of day you save kilowatt-hours. The water heater timers, for instance, are being sold with two thoughts in mind.

First, timing the water heater to be off from 5 p.m. to 9 p.m. each evening will reduce the peak demand on the cooperative's substations. Since the wholesale power cost is calculated according to the peak established, a lower peak will lower the cooperative's power cost.

$8 savings each month

Second, those members willing to purchase and install the timer will receive an $8 per month reduction of their bill. If the cooperative's peak should shift a little, the control period may need to be shifted slightly, however, we can promise you the "window" will be no more than four hours. Timers must be purchased from the cooperative at a cost of $49.29, including tax.





Water heater + **Timer** = **Savings**

Could the hot water run out?

When I first describe the timer program, I usually see some eyebrows raise. The most common concern is that 5-9 p.m. is the busiest time at many homes and some members fear running out of hot water. I'm positive there are some families who will not have a water heater big enough to carry them through the off-period. When someone requests to purchase a timer, we will attempt to take the family size into consideration.

If you are skeptical that your present water heater will carry you through the off-period, we come to one of the reasons the cooperative began selling the very efficient SEPCO water heater manufactured by Vaughn. This is an 80-gallon tank insulated with two inches of urethane foam. The heating elements are made of incalloy, a special alloy designed to withstand the punishment of the hard water we all have.

SEPCO heater features

In the search for a heater to provide for Illini members, we found several favorable engineering features, not the least of which is the stone lining, rather than fiberglass. The manufacturer is so confident the tank is superior to others that they warrant the tank against any leak for a full 10 years without any proration. All other manufacturers prorate the warranty. With the SEPCO, though, right up to the last day of the warranty, there is a 100 percent tank replacement. The 80-gallon size was chosen with the four-hour timer interruption in mind.

The cooperative is selling this heater for $125 plus tax. Some have wondered if the price reflects a "real cheap" heater. The answer is an emphatic NO. The cooperative is subsidizing a major portion of the cost to get a number of these units in the field.

Truck-load quantities give us a favorable break in price, plus it gives us the chance to customize the construction. Rather than cheapen the construction, we included the special hard water heating element at a slight premium. For the cooperative's benefit, a 3,000-watt heating element was specified in place of the standard 4,500 watt. The lower wattage has no effect on the cost of heating your water; however, it has the potential of holding down the cooperative's peak demand.

Timer also cuts consumption

The other reason for selling them is to get those of you with gas water heaters to switch to the super-insulated SEPCO. With the higher efficiency and the $8 per month timer credit, I feel certain we have a combination which will beat the cost of heating water with propane.

Electric to replace gas

The cooperative located to the north of us has been selling these water heaters since March. A resident near Buckley has reported savings measured after switching to the new heater and installing a time control switch. The following figures cannot be substantiated; I only wish to show what is possible.

Unit	*Control*	*Monthly KWH Use*
Old Heater	4 hour-off timer cycle	320
Old Heater	12 hour-off timer cycle	261
New Heater	4 hour-off timer cycle	250
New Heater	12 hour-off timer cycle	189

Naturally, it is impossible for us to promise that you will experience these same savings, because so much depends upon the amount of hot water you actually use on a year-around basis. However, we do feel that if your present water heater is eight years old or older, you can save money by switching to a new electric water heater regardless of the type of fuel you are presently using.

For more information on the efficient SEPCO water heater and the time switch control program, fill in and return the following form:

Name _____

Address _____

City _____ State _____ Zip _____ Phone _____

Peak demand and you

Peak Demand. It's a term widely used in recent years, one you've probably heard many times. You probably have a reasonable understanding of it.

But what exactly does it mean?

Peak demand is, very simply, the greatest use of electricity in any given period. Every day has a peak demand, every month, every year. In some cases, the peak demand doesn't get very high at all; demand stays fairly constant.

But sometimes, especially during hot summer afternoons and the extremely cold days of the winter, peak demand skyrockets. That's when it becomes a concern.

The concern isn't whether the demand can be supplied — usually a utility has enough generating capacity to meet the demands of its consumers. The real concern is in the cost of supplying peak demands.

For instance, there are some large generating plants that produce great quantities of electricity almost all the time. These are termed "base-load" plants. They are capable of operating on a 24-hour-per-day, seven-day-per-week basis, and can satisfy the typical demands for electricity. Because of the size of these plants, they are more expensive to construct. But they also use the lowest-cost fuels, such as coal and nuclear fuel, and thus are less expensive to operate on a day-to-day basis. These plants are also the most reliable and efficient generating stations on a system.

'Base load' power plants

During times when base-load generation isn't quite enough to satisfy electric demand, "intermediate" plants are put into sevice. These are often older generating plants that once served as base-load capacity, but through age and technology advancements are now less efficient than newer generating facilities. These intermediate plants often use fuels such as coal, oil, and gas. They are often run at half capacity, rather than at full production capability, just to make up the difference between demand and base-load production.

Generating plant 'mix'

Soyland, our generation and transmission cooperative, has such a mix of generating plants. Since the production cost of electricity varies with the load on the system, IEC is billed for this cost difference based on the peak demand established.

By controlling the peak, the wholesale cost of energy to the cooperative is lowered. Many of the programs you see the cooperative organizing are aimed directly at promoting energy sales that have little or no impact on our peak demand. Such off-peak sales are a benefit to the end-use consumer and cooperative membership as a whole.

Selling more kilowatt-hours during the off-peak period will help you and your neighbors.

Champaign •
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ELECTRIC COOPERATIVE

Illini Electric News

ILLINI ELECTRIC COOPERATIVE 217-352-5241 CHAMPAIGN, ILLINOIS

MANAGER'S COMMENTS by Wm. David Champion, Jr.

Champion

Accurate and timely meter readings have always been very important to ensure that we can produce a bill each month for you. If readings aren't received in time to use them for the bill calculation, then an estimated bill is produced. An estimated bill is calculated from the historical usage and can either overcharge or undercharge depending upon the season or time of year that it occurs.

Our office staff spends several hours each month answering questions that are caused by estimated bills.

The answer to saving the members and the staff from the grief of estimated bills is accurate meter readings received in the office before the bill calculation.

We're noticing that during these rough economic times in the rural community many of our members are delaying their bill payments until late in the month. This affects the Cooperative's cash flow and, since meter readings are mailed with the payment, we often don't get them in time for use in calculating the next bill. Thus another estimated bill is created.

Meter reading time critical

The meter reading is becoming even more important now that we are offering the new incentive programs to help our members save money. These new incentives rely very heavily on meter readings being recorded on the seventh of each month and reported to the Cooperative early in that month.

We estimate that your Cooperative saves approximately $50,000 each year because members read their own meters. We have considered hiring this job done, but it is the feeling of the board of directors, Member Advisory Committee and staff that we should not do this unless it becomes economically feasible.

Since we are not geared toward reading meters on a monthly basis, when we do have to read a meter the men usually must do so in a service truck, which is very expensive to operate for that purpose.

Help Illini save you money

Here's how you can help us save more of your money:

1. Read your meter on the seventh each month.
2. Call or send your reading to us early in the month even if you can't send your payment until later in the month.
3. Do this every month.

If you are already doing these three things we THANK YOU for helping us operate your Cooperative efficiently.

If you are not, we can sure use your help in this area.

MEMBER SERVICES by Ray Weiss

Dual heat: the affordable choice

During its October meeting, the Illini Electric Cooperative board established a new off-peak electric heat rate. Here is the big news. The much lower rate will mean reduced heating costs for everyone, regardless of what type of heat you presently have. The rate reduction is accomplished by incorporating an electric heating system along with a fossil fuel system, hence the name "dual heat."

Dual heat is a system that combines two energy sources — electricity as the primary source and an alternative fuel, such as gas or oil, as a secondary source. If you presently have an electric system, you can benefit by adding gas or oil. And conversely if you have a gas or oil system now, you can benefit by adding an electric system.

For example, if you presently have a propane-fired heating system and decide on dual heat, the air will be heated by electricity during most of the year. The propane system will only take over when the outdoor temperature falls below 15 degrees. The changeover from electric to gas, and vice versa, is automatic.

Using fossil fuel heat during the coldest part of the winter means the electricity used for heating above the 15 degree transfer point is off-peak, allowing the cooperative to establish the new off-peak, or dual heat rate.

Dual energy heating reflects Illini's determination to promote the wise use of energy by encouraging its members to benefit from the advantages of two sources of energy.

While the present rate is nearly nine cents at the lowest cost step, the new dual heat rate is only 3.2 cents.

As an added bonus, members with existing fossil-fuel heating systems converted to dual heat will get a special rate of 2.9 cents for the first three years plus receive a $200 cash rebate to help offset the cost of installing the electric heating system.

Combination of two systems

Dual heating is simply combining two different heating systems and taking advantage of energy cost savings of each. The fossil-fuel system could be either a gas or oil furnace or boiler and the electric system could be electric baseboards, ceiling cable, electric furnace, duct heater, air-source heat pump

Dual-energy heating system will help you and your neighbors

or the highly efficient water-source heat pump.

All consumers who use dual heat will be able to save on their heating costs. For example, a consumer presently using a propane furnace that costs $1,120 per year to heat can install a resistance duct heater or baseboard heat and save $196 per year, an 18 percent reduction in heating costs. Or that same consumer could install a high efficiency water-source heat pump and save $663 per year for a 60 percent reduction in heating costs. Don't forget the $200 cash rebate to help on the installation cost.

Compare dual heat to others

Another way to compare the savings of the dual heat rate would be against other fuel prices. The dual heat rate using a resistance duct heater would be comparable to heating your home with propane at 52 cents per gallon or oil at 69 cents a gallon. The same dual heat rate using the high efficiency water-source heat pump would be comparable to heating with propane at 18 cents or oil at 25 cents. Now we all know that propane and oil are much higher priced than that.

The concept of dual energy heating is new to this part of the country, thus I'm sure you may need more time to grasp the idea. We have prepared a brochure and have other literature which describes how it works and how much you can save based on the present fuel being used.

In a bold move, the board of directors has guaranteed the rate of 3.2 cents for dual heat customers until May 1, 1988. Can you get a guaranteed rate from your propane or oil dealer?

Control costs now and in the future

The escalating cost of fuel, new construction and inflation will continue to play a major role in our energy needs. But how fast and by how much costs will rise depends on each of us. By better insulating our homes, wiser personal use of energy and through programs like dual heat, we can help control our energy costs. Participate in the dual heat program and encourage your neighbors and friends to join you. Together, we can help control power costs for now and the future.

Contact me at Illini Electric Cooperative for a "no obligation" survey of how dual heat can be installed in your home. Learn first hand why dual heat is the affordable choice.

Clip and mail

YES, I am interested in Dual Heat:
_____ Please call on me to explain more about it.
_____ Please send additional literature explaining how I can benefit.
_____ Please send information on the SEPCO water heater and timer.

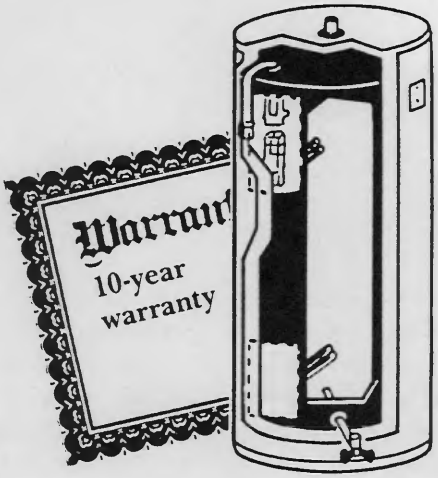
Name _____

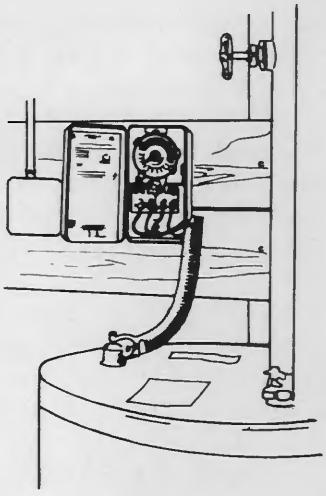
Address _____

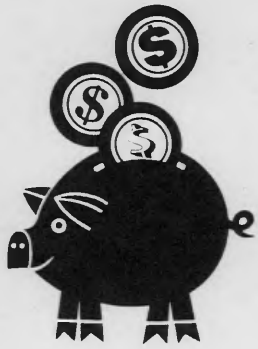
City _____ State _____ Zip _____

Phone _____

Note: due to the expected rush for information, please allow time for a representative to contact you.







Water heater + **Timer** = **Savings**

Heat water cheaper with electric? *Here's how*

The tank itself plays an important role. The SEPCO water heater being sold by IEC at $125 is super-insulated. The two-inch urethane insulation is the primary reason the tank alone will save $5 to $7 per month. The heat loss from the shell of the tank is drastically lower. No matter how a gas water heater is insulated, the uninsulated heat exchanger inside the tank is always robbing heat from the hot water. This loss will be 4 to 5 percent, whereas the electric unit will be less than 1 percent.

The water heater timer being sold by IEC for $49.29 is part of a program to reduce the Cooperative's peak demand cost. By setting it to have the water heater off between 5 and 9 each evening, an $8 per month credit will be awarded. In addition, kilowatt-hours can be saved by keeping the water heater off even more hours each day. By carefully controlling the hours of operation, it is possible to expect additional savings of $10 each month.

The average water heater will use 350-400 kilowatt-hours per month, costing $41-47. Now, let's add up all the savings:

The savings from installing the super insulated SEPCO water heater	$ 5-7
Credit for installing the timer with 4 hours off	$ 8
Additional kwh savings by carefully limiting the hours of operation	$ 8-10
Possible savings each month	$21-25

It appears that, with the installation of the SEPCO water heater, the timer for the credit and limiting the hours of operation, it is possible to cut the water heating costs nearly in half for many families.

Keep in mind these figures are averages and may or may not apply to your situation. For instance, water heaters have actually been metered ranging from 200 to 800 kilowatt-hours.

Whether or not your savings match the above figures, the Cooperative can now beat the cost of heating water with propane. It's to your advantage to ask for more details on the water heater and timer sales program. Fill out and return the coupon on the preceding page. The savings are real and can be yours. Call us.