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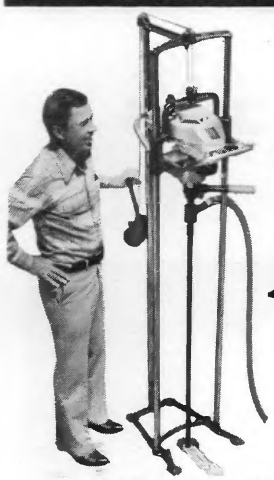

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# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311


*Some 700 persons attended the meeting*

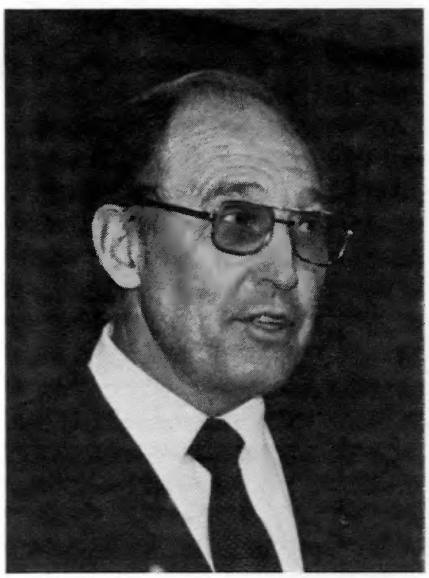
# Load management programs attracting considerable attention

Participation by members of Jo-Carroll Electric Cooperative in load management programs indicates widespread interest in achieving increased electric energy efficiency throughout the 3,800-member electric system.

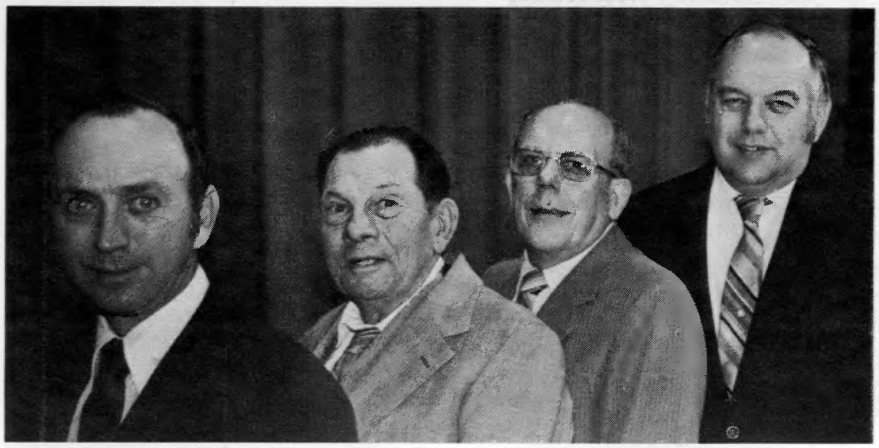
Annual reports of officers and the manager of the Elizabeth-based electric cooperative show that more than 1,500 electric water heater controls have been installed and several large users have approved an interruptable rate schedule.

Speaking to some 700 members and guests attending the cooperative's annual meeting Dec. 3 in Hanover, manager Gary Stuva said, "Your Cooperative continues to promote the efficient use of electrical energy through both conservation and load management. We are working in a joint effort with Dairyland Power Cooperative (our wholesale power supplier) to install a load management system capable of turning off water heaters, dual-fuel furnaces and interruptable large-power loads by using a radio signal."

Water heaters of members in the control program are turned off briefly during peak demand periods. The dual-fuel program involves a combination of electric heat and a secondary heating system. During periods of peak demand the electric system is automatically switched off by radio control and the back-up unit provides heat. "We feel that the 3.3 cents per-

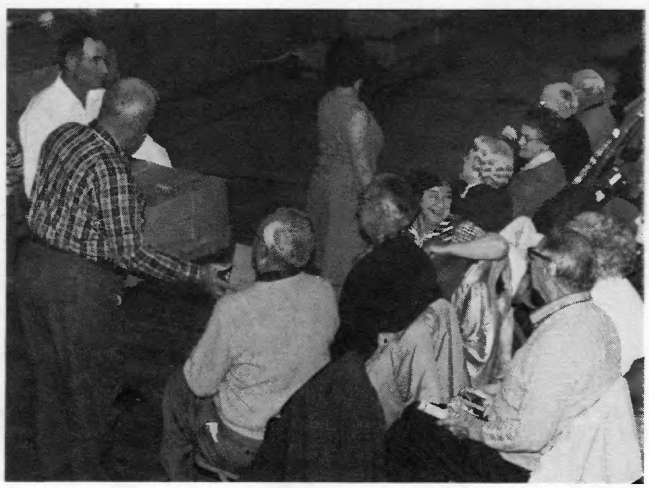


*Stanley Greathouse*



Jo-Ca

*Above left: three members of Jo-Carroll Electric Cooperative have been reelected to three-year terms on the board of directors. From left, they are, John Janssen of Chadwick, Ward Dangel of Savanna, and Elmer Malon of Apple River. At the right is manager Gary E. Stuva. Above right: The group "Delta" provided entertainment.*

*In the photo at the left, James Sherwood of Dairyland Power Cooperative, explains costs related to peak demand. In the photo at the right, members of the Jacobstown Community Club distributed lunches to those at the meeting.*

kilowatt-hour charge with no power cost adjustment clause add-on, coupled with five-percent financing available to qualified members for a period of five years, makes dual fuel very appealing," Stuva added.

"The potential savings resulting from this program will be determined by member participation and will affect your future electric rates," he added.

Board president Vernon Law, Savanna, described the load management program as "taking the bull by the horns." By implementing this program, he added, "Dairyland can eliminate the need to build more capacity. We feel the load management program will be an essential tool in holding rate increases to a minimum in the future."

Law also explained that the board approved payment of capital credits for members who received service in 1959 from Jo-Carroll. Checks for those members were distributed during the meeting. Law said the board plans to continue future distribution of capital credits as financial conditions permit.

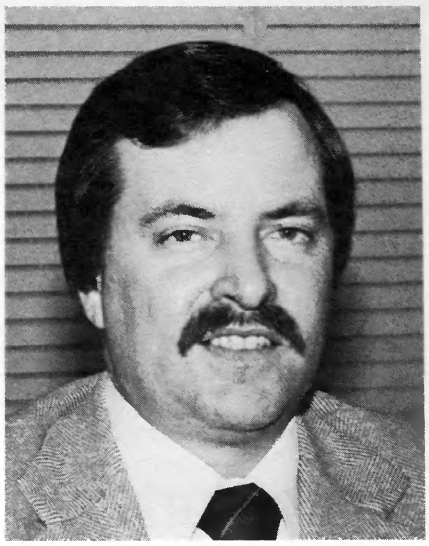
"Capital credits," Stuva noted, "are monies left over on a year-to-year basis after all cooperative expenses have been paid, including debt retirement and interest on long-term loans. They cannot be refunded on a current basis as this would cut into the cooperative's operating capital. Capital credits are paid based on the percentage of margins for that year and the member's total bills for service during the same time."

Treasurer Elmer Malon, Apple River, reported that wholesale power costs continue to claim an increasing percentage of total cooperative revenue. In 1982, Malon said, Jo-Carroll had total revenue of $3,636,503 and power costs were $2,485,586, or more than 68 percent of revenue. That compares to less than 60 percent in 1977 and less than 38 percent in 1957. The Cooperative continues to grow, he said, noting that the increase in total number of members connected between 1977 and 1982 was about 15 percent.

During the meeting, results of the mail voting for the three directors' positions were announced. Elected to three-year terms on the governing board were: Ward Dangel of Savanna; John Janssen of Chadwick; and Malon.

Guest speaker was Stanley E. Greathouse, Johnsonville, a director of Wayne-White Counties Electric Cooperative and Illinois delegate on the board of directors of the National Rural Electric Cooperative Association. Also on the program was James Sherwood, Dairyland assistant general manager for administrative services.

# Champion replaces Smith as manager of Illini



*Wm. David Champion*

Wm. David Champion Jr., an employee of Illini Electric Cooperative since 1973, has been named manager of the cooperative by the board of directors. He replaces the retiring Walter R. Smith.

Champion, a native of rural Gays (Moultrie County), began work part time for Illini while he was a senior at the University of Illinois. After receiving a B.S. degree in accountancy in 1974, he became office manager. He was named assistant manager in 1979. Champion has completed a special management training program at the University of Nebraska, is a participant in an advanced management course at the same university and has studied budgeting and financial planning at the University of Wisconsin. He has also completed the Dale Carnegie course.

The new manager, his wife, Deborah, and daughters Becky (7) and Teri (5) live near Ogden. Among their activities are the raising, training, breeding, selling and showing of quarterhorses.

A 1965 graduate of Windsor High School (Shelby County), Champion spent four years in the Air Force. During his service, he received two Air Force Commendation Medals, one during duty in Thailand and another while stationed in Guam. He served as an electronic warfare technician during the Vietnam conflict.

Smith is a 1947 graduate of the University of Illinois with a degree in electrical engineering and he began his career with Illini that year as system engineer. From 1952 until 1958 he was operating superintendent, became assistant manager in 1958 and was appointed manager in 1960.

A native of New Canton (Pike County), Smith served in the Army during World War II, including service in the South Pacific.

Smith was prominent in numerous activities involving electric cooperatives, including being an original incorporator of Soyland Power Cooperative. He served as president of that 15-cooperative federation for nearly 20 years.

# energy efficiency

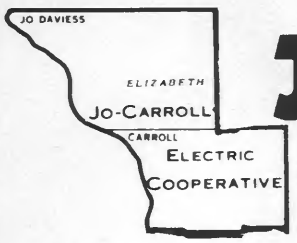
not cut off the power. Many people have the mistaken belief that the safeguards built into their house wiring will protect them from problems with extension cords, but this is not true. Fuses and circuit breakers are designed to protect the house wiring, and that is all they do.

Assuming you must have an extension cord to get your little space heater where you need it, make sure the one you get is up to the job. Look for a cord with a UL label, and beware of such generic statements as "heavy-duty extension cord," or "recommended for use with power tools." Also, the extension cord should be at least as large as the power cord attached to the tool or appliance.

Packages containing cords many times show what size cord you will need to serve tools or appliances at different distances from an outlet. If you cannot find the exact size you need, get the next larger size, and try not to buy a longer cord than you absolutely have to have. Not only are long cords awkward to work with, they lose energy, but less than an undersized cord would.

Since extension cords are somewhat unsightly and often pose a tripping hazard, it is often tempting to conceal them under a rug or carpet. This is an unsafe practice! It causes the cord to heat up, and friction will wear a cord surprisingly quickly, too.

It is safer to replace a worn cord than to attempt to repair it. If the outer jacket is worn or damaged, or if there is damage within the outer jacket, the cord presents a shock and fire hazard, and should be discarded immediately. On the other hand, if just the plug itself is damaged, and the cord sound, repairs would be in order. Properly sized and well maintained cords, used only when necessary, can be very useful around a house or farm. Misused, they are a safety threat and energy wasters.




# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

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

## Manager's Report

*by Gary Stuva*

With sub-zero temperatures staring us in the face, it seems appropriate to talk once again about Jo-Carroll's load management program. From Jo-Carroll's viewpoint, load management is merely an attempt to utilize generating, transmission and distribution facilities at maximum potential 24 hours a day, 365 days a year.

Two basic concepts have been implemented at Jo-Carroll and other REC's within the Dairyland Power Cooperative service area to help accomplish a workable load management program:

**No. 1** — Electric water heater controlling. To date, well over 1,500 Jo-Carroll members have voluntarily accepted to have their water heaters controlled via central computerized radio signals sent during high peak periods from Dairyland Power Cooperative.

If you have NOT requested a control to be installed, please do so today. You will begin getting a $3 per month credit on your electric bill after the control has been installed.

**No. 2** — Dual fuel heating system. This is designed to utilize facilities at times when electricity is in abundance and yet can be interrupted without any discomfort or noticeable change in your house.

Incentive rate of 3.3 cents per kilowatt-hour is offered for this type of heating system and most any present oil, gas, or wood home heating equipment can be quite easily retrofitted to a dual fuel system. Besides cutting your heating bill, several other benefits have been realized through retrofitting or installing dual fuel. They include gained humidity, a cleaner and quicker heat, the security of two fuels and the patriotic feeling of helping to lessen dependency on foreign oil.

Through one of the two options offered to Jo-Carroll's members in its effort to level the electrical load a highly efficient utility can develop. This would mean enjoying reasonable costs for electricity for many years ahead. Please give us a call if you would like any information on any of these programs.

## Jo-Carroll and Dairyland offer incentives

Jo-Carroll Electric Cooperative and Dairyland Power Cooperative are offering an incentive program for consumer-members who participate in the dual fuel heating program.

During certain periods of the day, members require considerably more electricity than at other times. These high use times are referred to as "peak periods." Most of the facilities of Jo-Carroll Electric Cooperative and its power supplier, Dairyland Power, are built to meet these peaks.

There are also periods of low electric demand. It is costly for your Cooperative to have facilities ready for peak use, but used inefficiently during periods of low use. This is why Jo-Carroll is trying to level the electrical usage load.

One of these methods is dual fuel. With a dual fuel installation, members can combine electric heating (at off-peak times) with a wood or fossil fuel (LP or oil) system for use during those relatively few hours of peak electric use. With a dual fuel system, you receive electricity for heating at a very attractive economy rate (3.3 cents per kwh). Jo-Carroll encourages the efficient use of electricity during off peaks.

If you decide to participate in the dual fuel program, Dairyland Power and your Cooperative offer you a choice of the following incentives.

1. **A $200 cash rebate**
2. **A $200 credit on your electric heating bill**
3. **A free 10-inch General Electric color television set**
4. **A free microwave oven**
5. **A free Electromate 20-kw dual fuel plenum heater**

This offer is valid until April 1, 1984. Contact Dennis Wurster at Jo-Carroll's office (858-3311) if you are interested or have any questions.

### Amendment to rules and regulations

We, the Board of Directors of Jo-Carroll Electric Cooperative, Inc., hereby propose to establish a charge of $35 to the member when it is necessary for our service men to be called out after regular working hours for service — trouble calls when the trouble lies on the member's side of the meter.

Also, we propose to change the fee for disconnecting and reconnecting a meter on member request to $15, and to change the fee for our service men to collect on a delinquent account to $15.

Also, we propose to establish a charge of $10 for returned checks.

# Save in winter

Winter's icy blasts can mean high expenses unless you manage your energy use wisely.

Sure, it takes a little energy to use energy wisely, but you'll appreciate the added comfort, and the savings.

We've put some tips for wise energy use together so that you can have a more comfortable winter and save a little in the bargain.

### ABOUT FIREPLACES

By all means, use your fireplace to stay warm and cozy this winter. But, you should also be aware that there are some things you need to do to make it more efficient.

- Make sure your fireplace uses cold, outside air for combustion instead of expensive heated air from inside the house.
- Make sure your damper works and use it to make sure heated air doesn't escape up the chimney when the fireplace is not working.
- Install a glass door to increase the efficiency of your fireplace.
- Be sure your chimney is clean and free of flammable deposits such as creosote and soot. Have it cleaned by a competent chimney sweep.

### SPACE HEATERS

Using space heaters to warm the rooms you're using can allow you to keep the central heating thermostat lower. However, there are some precautions you should take to make sure your space heater is used safely.

- Use only space heaters with UL approval and verified as safe by technical experts.
- Never move a kerosene space heater while it is lighted, and never attempt to refill a kerosene heater while it is either lighted or hot, or in the house.
- Keep small children and pets away from space heaters.

# 1984 Illinois Home Energy Assistance Program

by Judy Williams, Office Manager

Due to the large interest in the Illinois Home Energy Assistance Program, Jo-Carroll Electric Cooperative considers this information very important to a number of members.

The Illinois Home Energy Assistance Program helps income eligible households pay home energy bills.

Applicants will be helped on a first-come, first-served basis.

All ages are eligible to apply.

An overdue bill or a cut-off notice is NOT required.

### TO APPLY

When you apply for assistance, bring with you:

- Proof of your household's income for the past 90 days.
- A copy of your current energy bill (if you pay for your home energy directly).
- Social Security number of all persons in household.

### ELIGIBILITY

| Size of Household | Gross Income For 90 Days Prior to Application Date |
|---|---|
| 1 | $ 1519 |
| 2 | 2044 |
| 3 | 2439 |
| 4 | 2970 |
| 5 | 3276 |
| 6 | 3582 |
| 7 | 3768 |
| 8 | 3966 |
| Over 8 | Add $180 for each additional family member |

If special accommodations are required to assist you in applying, please explain your need to your local agency.

### GUIDELINES

The guidelines for the program are much the same as the 1983 program. All offices will be open four days a week Monday through Thursday with Friday being processing day for the "IHEAP" centers.

Upon making application be sure to take copies of your income for the past 90 days to the IHEAP office with you. Acceptable form of income records would be your employee check stubs, your unemployment records or employer verification for the past 90 days. If you are self employed, bring your bookkeeping records for the past 90 days. If you are on welfare you must have your green card with you.

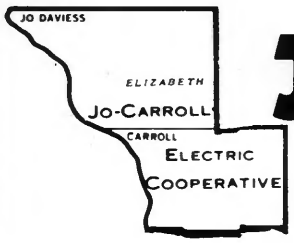
If your utility bills are included in your rent and you qualify, IHEAP payments will be paid on your account. For those centers in which utilities are included in your rent there is now a form for your landlord to sign. You must ask for this form from your IHEAP office.

If any of our members think that they may be eligible for IHEAP payment, please call the number in the county in which you live or the IHEAP toll free emergency hot line at 800-252-8643.

### CONTACT

Tri-County Opportunities Council
405 Emmons Ave., P.O. Box 610
Rock Falls, Illinois 61071
Area Code 815-625-7830
Serves: Bureau, Carroll, LaSalle, Lee, Ogle, Marshall, Putnam, Stark and Whiteside counties.

Northwestern Illinois Community Action Agency
Community Action Program for Stephenson and Jo Daviess counties
103-109 N. Chicago Ave., Post Office Bldg.
Freeport, Illinois 61032
Area Code 815-232-3141




# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311


## Manager's Report

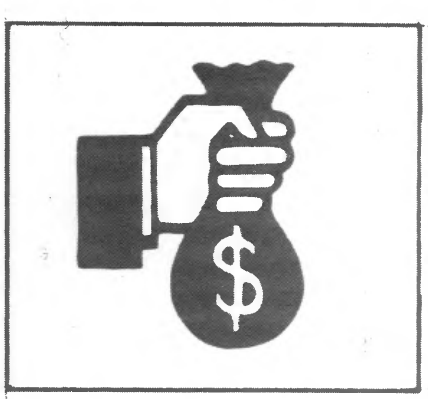
*by Gary Stuva*

## THE COST OF POWER

As a rural electric cooperative member, you realize that the price you pay for electric energy is made up of the cost of generating, transmitting, and distributing that energy and the cost of administering the system that accomplishes those purposes.

Your rural electric cooperative is one of 29 members of Dairyland Power Cooperative. For members of most of these rural electric cooperatives, Dairyland's charges for energy represent 65 to 75 percent of the final electric bill. There is good reason for the member to learn more about Dairyland's power cost.

Any discussion of wholesale power cost in the Dairyland system must consider the cost of coal. Half of Dairyland's expense in a typical year is fuel cost, most of it coal to fuel the boilers that supply steam for the giant turbo-generators. Thus, about one-third of the consumer's electric bill goes to pay for fuel for Dairyland. It is appropriate that we should learn how those dollars are spent, and where.



Coal is one of the world's major energy sources and the United States is a major user of this resource. From its earliest years, Dairyland has relied on coal to operate its steam plants. Despite the emergence of other types of electric generation technology, coal will remain Dairyland's prime source of energy for many years.

Let's look at where this fuel is found and how it's transported to Dairyland's power plants. We'll also look at the trends in the price and availability of coal.

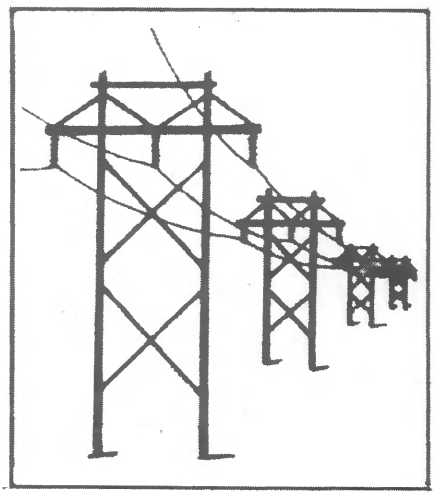
In the United States, there are three major coal-producing areas. They are the eastern or Appalachian area, the midwestern area, and the western area. There are other areas which have some coal resources, but these are of much lower economic significance. In the Dairyland region, there are no coal resources. We have to look elsewhere for coal. Until the early 1970s, that somewhere else had always been the midwestern coal fields in southern Illinois, western Kentucky, and Indiana. These areas have produced large quantities of bituminous coal for over 100 years, and there are still massive reserves of the coal.

## COAL TRANSPORTATION

This bituminous coal has a heat value of about 10,000 BTUs per pound. This coal is partially mined in underground mines and partially by surface or strip mines. For Dairyland, the use of midwestern coal is advantageous because it can be delivered by barge on the upper Mississippi River.

Although the river is closed to navigation for four winter months and a large quantity of coal must be stockpiled, the economies of barged transportation over rail hauling make this method of delivery the most economical. Coal delivered by barge is moved upriver in a tow of up to 15 individual barges, each with a capacity of 1500 tons.

The barges are pushed by a diesel-powered towboat operated by a towing company. Dairyland actually owns its own fleet of coal barges. Often the same barges are rented out for hauling grain on the return trip downriver. Rental earned by the Dairyland barge fleet is used to reduce fuel expenses. When used for grain hauling, the barges must be thoroughly cleaned after being emptied of coal.



However, with the growing regulation for air quality improvement in the 1970s, utilities were forced to purchase low-sulfur western coal as a method of reducing emissions of sulfur dioxide. Much of the coal from the western area has a significantly lower sulfur content than midwestern coal, even allowing for its normally lower BTU content. Dairyland signed contracts for delivery of Montana subbituminous coal for use at its existing power plants.

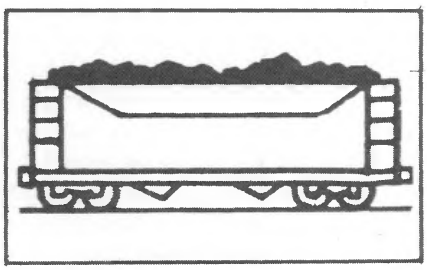
The Montana coal used at those plants is delivered by rail to the Minneapolis area and barge transport to the plant sites. One of the reasons for

this system is because the older plants are not equipped with rail unloading facilities. At the plant site, the western coal is blended with midwestern coal before burning.

## EMISSION REQUIREMENTS

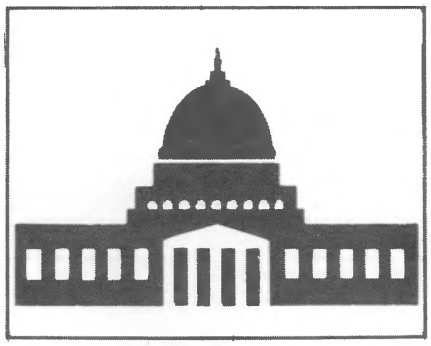
In the planning for the 365-megawatt J.P. Madgett Station, it was decided to use an ultra-low sulfur Wyoming coal to limit emissions from the plant to meet the standard for new plants without the need to install a scrubber system. The Madgett station was built with a unit train unloading facility. The station receives its fuel supply directly by rail via the Burlington Northern Railroad. The unit trains used for coal delivery are trains of 110 cars which remain coupled during unloading. Each individual car is swiveled upside-down in a giant rotary unloader. The entire train containing 11,000 tons of coal can be unloaded in about three and one-half hours.

As with barges, Dairyland owns its fleet of rail cars which are normally in use from the Wyoming mine to the Madgett plant. Despite the economies achieved by owning our own equipment, transportation of coal for fuel represents a major part of the total fuel cost. This is particularly true of rail transportation. The coal for the Madgett station itself only costs about $11 per ton. But an additional $20 per ton is required to move that coal from the mine in Wyoming to Alma.



The delivered cost of Dairyland's coal has escalated dramatically in the past years. In 1969, Dairyland paid less than $6 per delivered ton for coal: Today we pay nearly $30 per ton. Both the coal cost itself and the transportation are responsible for the increase.

Coal costs have gone up for a variety of reasons. Wage increases for miners and the cost of mining equipment and supplies have, like everything else, been affected by inflation. For a period of time, competitive pressures brought on by the effects of the OPEC oil embargo drove up all fossil fuel prices.



But governmental actions have probably had the greatest influence on prices. The enactment of strict mining and reclamation laws and the passage of federal excise and reclamation taxes and state severance taxes have driven coal prices far beyond the normal rate of inflation over the past ten years. In the case of the Montana coal bought by Dairyland, for example, the state and federal taxes account for 32 percent of the price.

## 'HAULER'S MARKET'

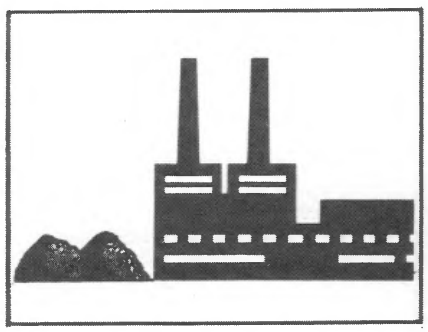
Transportation costs have also increased dramatically. With the simultaneous boom in western coal caused by the oil embargo and environmental regulations, the coal-hauling railroads with access to western fields could virtually name their price for coal freight rates. This has been particularly true since the passage of the Staggers Rail Act which deregulated railroads. There is now little to prevent the few western coal-hauling railroads from raising rates despite a leveling off in demand for western coal. And because it is such a "hauler's market," most rail contracts are written to give users very little protection from rate escalation.

One other development of the 1970s was the requirement imposed by such agencies as the Rural Electrification Administration for very long-term fuel contracts. The reason for such contracts was agency concern that a power plant have an assured long-term supply of air-quality compliance fuel. Today, it appears that such concerns were unwarranted. Considerable money might have been saved if utilities had been allowed to negotiate shorter term contracts at more attractive rates rather than being bound to a single supplier. Nonetheless, we were required to execute such a long-term contract for the Madgett Plant.

Dairyland has a fuels department which has the responsibility for procuring coal and diesel fuels for our plants, arranging delivery schedules, and assuring that we are receiving full delivery of the best quality fuel at the best price available. According to Doug Peterson, Dairyland's director of fuels management, during 1983, Dairyland's delivered coal costs increased about four percent over 1982. He points out that this was the lowest rate of increase since 1979. He indicates that Dairyland anticipates similar or slightly higher increases in 1984.

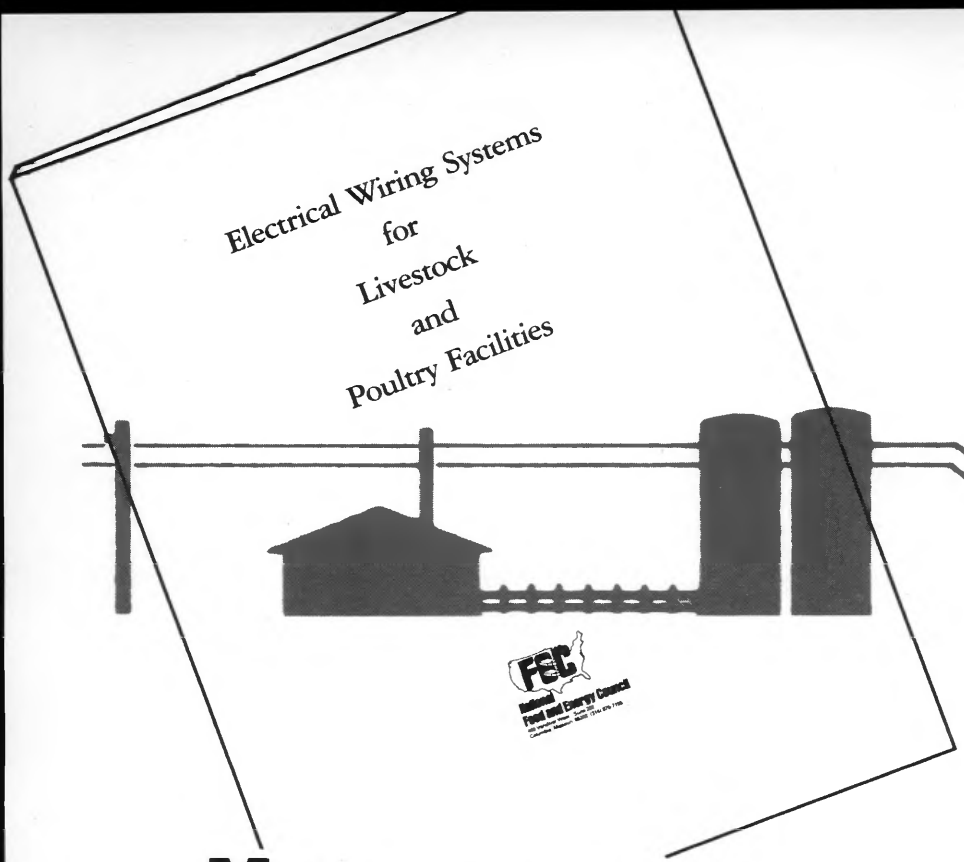
Peterson suggests that the years ahead will probably show continued challenges in fuel purchasing and management. Possibly the greatest of these would be proposed additional measures to further reduce sulfur emissions. He indicates that if Dairyland is required to burn more low-sulfur coal, fuel costs will significantly increase.

Another issue related to coal supplies and costs are proposed increases in waterway users' taxes. One current administration proposal could increase the rate of taxation tenfold. This would, in turn, substantially



increase our barge transportation rates.

These are a few of the many areas which might affect Dairyland fuel costs and, in turn, would influence your electric bill. When you read in your newspaper of developments in the way coal can be mined, transported, or used by electric utilities, you can be sure that it is a pocketbook issue that will directly affect us all.




# Moisture and dust create problem for wiring in animal buildings

Selection and installation of electrical wiring and equipment in livestock or poultry production buildings call for considerations relating to safety and cost.

While grain storage, feed grinding and handling, and some farm shop facilities can create severe dust problems, there is also a need to protect wiring and equipment from corrosive vapors, moisture and dust common to livestock and poultry buildings.

In agriculture buildings, there is a need to guard wiring and electrical equipment from damage by livestock or machinery. Such damage can be reduced or avoided by location or mechanical protection. Historically, metal conduit and boxes have been used to provide mechanical protection for conductors. But, the environment in livestock or poultry buildings will usually cause metalic conduit and boxes to corrode rapidly.

Concern for methods of improving the safety and controlling the costs of electrical service in animal buildings prompted the National Food and Energy Council to organize a task force of persons familiar with the problems and to produce a publication on the subject, "Electrical Wiring Systems for Livestock and Poultry Facilities."

Dr. David Currence of the University of Missouri's Department of Agricultural Engineering coordinated the project. During the publication development, the Environmental Control Committee of the Illinois Farm Electrification Council conducted a workshop to create further understanding of presently and potentially available equipment. In addition, eight Illinoisans participated as task force members: Paul Benson, University of Illinois; Andy Bird, Tri-County Electric Cooperative; Doug Carolus, Illinois Power Company; Don Davis, Country Mutual Insurance; Roland Espenschied, University of Illinois; William Fletcher, National Safety Council; Richard Hiatt, Association of Illinois Electric Cooperatives; and Ray Weiss, Illini Electric Cooperative.

The booklet is divided into seven sections: protecting your electrical system, wiring materials, wiring methods, electrical supply service, electrical grounding, electric motors and controls, and standby power.

The booklets are available from most electric cooperatives in Illinois, or you may order a copy by completing the coupon on this page and sending $1 to cover cost of the publication, postage and handling.

**To:** A.I.E.C. Publications
P.O. Box 3787
Springfield, Illinois 62708

**Please mail me** _____ **copies of the publication "Electrical Wiring Systems for Livestock and Poultry Facilities"**
**(For each copy, enclose $1.00 to cover the cost of the book and pay postage and handling.)**

**Please Print Name** _____

**Mailing Address** _____

**City** _____ **State** _____ **Zip** _____


- No. 9179 is cut in sizes 10½, 12½, 14½, 16½, 18½, 20½. See pattern for yardages.
- No. 7067 – official birds and flowers for 50 states for quilt about 68 x 110 inches.
- No. 9172 is cut in sizes (10½, 12½, 14½), (16½, 18½, 20½), (22½, 24½, 26½). Order your regular size.
- No. 4744 is cut in sizes 8, 10, 12, 14, 16, 18. Size 12 (bust 34) top takes 1 yard 45-inch; pants 1-3/4 yards.
- No. 847 is knitting directions in worsted-weight yarn, sizes 38-44 included.
- No. 4852 is cut in sizes 10½, 12½, 14½, 16½, 18½, 20½, 22½, 24½, 26½. Size 14½ (bust 37) takes 2-5/8 yards 60-inch.
- No. 9258 is cut in Women's sizes 34, 36, 38, 40, 42, 44, 46, 48, 50. Yardages given with pattern.
- No. 7255 is transfer of motifs for candlewicking pillows 11 inches across (not including eyelet ruffle).
- No. 4976 is cut in Women's sizes 34, 36, 38, 40, 42, 44, 46, 48, 50. See pattern for yardages.
- No. 7212 is patch pattern pieces for quilt 62 x 93 or 77 x 93 inches using prints and polka dots.
- No. 4822 is cut in sizes 8, 10, 12, 14, 16, 18. Size 12 (bust 34) takes 2-3/4 yards 45-inch fabric.
- No. 9000 is cut in sizes 8, 10, 12, 14, 16, 18, 20. Size 12 (bust 34) takes 2-3/4 yards 60-inch fabric.

TO: PATTERNS
Illinois Rural Electric News
P.O. Box 3787
Springfield, IL 62708

I have enclosed $_____($2.50 per pattern – cash, check or money order accepted) for the following patterns (please allow four weeks for delivery):

| Pattern No. | Size | Pattern No. | Size |
|---|---|---|---|
| _____ | ___ | _____ | ___ |
| _____ | ___ | _____ | ___ |
| _____ | ___ | _____ | ___ |

Print Name _____

Address _____

City _____

State _____ Zip _____

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# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311

## Manager's Report

*by Gary Stuva*

*Load management equipment for the system is located in Dairyland Power's dispatch center. The map shows the locations of the 73 radio transmitters. In the right of the photo is the alarm matrix which monitors transmitter activity. Next to the alarm matrix are two load management computers which are programmed to control load. The cathode ray tube to the left displays load control program activities. Dispatchers monitor the alarm matrix and initiate control by entering commands on the CRT keyboard.*

Consumer-members of the 29 cooperatives supplied with electricity by Dairyland Power Cooperative have heard much the past three years about "load management." They've heard that it has the potential to hold down future electric bills. They've heard that it can save money for them as electric users right now. That is probably all that many care to know. "Just tell me what to do to save money and I'll do it" is a common reaction.

But if you are a little more curious as to what it is, how it works, and how it saves money for both the cooperative and the consumer, here are some details. First, you probably know that Dairyland Power Cooperative provides wholesale electric power to your REC and 28 others. Dairyland is owned and controlled by these 29 RECs.

The power which Dairyland supplies is generated at eight plants. Most of the energy is produced by burning coal to generate steam which operates giant turbo-generators. These generators push electric energy over a network of transmission lines and substations.

Typically, two-thirds of the consumer's electric bill is made up of charges from Dairyland. A large part of this expense is demand charges, or the charges to that REC for fixed costs of Dairyland's operation. These fixed costs inlcude depreciation, interest, taxes, and some of the labor charges required to operate the Dairyland system.

These are the costs which occur regardless of the number of kilowatt-hours delivered. They are allocated to each REC based on that REC's contribution to Dairyland's peak electrical demand. This is calculated using a formula which applies to all Dairyland member systems.

Because all Dairyland member RECs have individual peak demands in the winter, Dairyland, as a group, also peaks in its energy needs during the winter months. This winter-peaking characteristic is typical of rural utilities in the northern states.

In the past 15 years the cost of building electric generating plants has increased fivefold with a corresponding huge impact on electric rates when a new facility is included in the rates. Worst of all, these costs are often incrurred for power plants which are only needed a small proportion of the time — during daily and seasonal periods of peak use.

It became apparent to Dairyland's board of directors and management years ago that steps had to be taken to delay the need to build generating plants. If we could avoid such construction for even one year, the rewards to REC members would be tremendous because of avoided increases in demand charges. To accomplish this goal of avoiding construction of new facilities, Dairyland's staff began studying possible methods of controlling growth of consumer electrical demand.

After a thorough review of various methods of controlling load it was determined that the most effective system for Dairyland would be radio-

controlled central load management. In 1982, Dairyland began distributing load management radio receivers to RECs for their installation at member services. At the same time, Dairyland began installing radio transmitters on 73 towers throughout its sprawling service area.

In December 1982, the load management system became fully operational. Distribution of the load management receivers is continuing on a very active basis. At this writing, a total of 25,000 receivers have been placed at member's homes and farms. These receivers control major energy using devices including water heaters, electric space heaters, and other applications. In numbers, the most-widely controlled appliance is the water heater. The receiver is capable of simultaneously controlling different loads on different control strategies.

**DUAL FUEL**

In terms of the potential impact on power use patterns, another important controllable load is space heat. Most consumer-members are aware that the RECs have been promoting dual fuel heating in recent years.

This system uses the central load management system to shift the space-heating requirement off of the electric system only during times of peak system demand. There must be an alternative heating system for the relatively few on-peak hours. But typically over 95 percent of the space heating is accomplished with off-peak electric. Dual fuel heating assures that the heating demand will not occur during hours when the Dairyland system is experiencing its greatest seasonal demand and it improves the utilization of existing power plants during all other hours.

The flexibility provided by the radio receiver enables the cooperative to control different loads at different times and for varying lengths of time. A single radio receiver can control both water heating and dual fuel space heating. While water heaters may be off for only a few hours, dual fuel heating systems may operate on the alternate fuel for longer periods of extreme cold weather.

**Next month:**
**Managing the load**

# Patronage credits due

The following is a list of former members of your Cooperative who have money due them for their patronage credits during the year 1959. If the former members are deceased, the money can be paid to their heirs.

If you recognize any of the names below — please do the family (and your cooperative) a favor and pass the word to them to get in touch with Jo-Carroll Electric Cooperative, Incorporated; P.O. Box 390; Elizabeth, IL 61028; phone 815-858-2207.

**Chadwick, IL**
Carlson, Edward
Evans, Fred
Friederick, Mary
Jones, Sam
Larson, Charles
Miller, W. F.
Olson, Ed A.
**Chicago, IL**
Zewiski, Sadie
**Davenport, IA**
Manning, George
**East Dubuque, IL**
Bresee, Richard
Elsbury, Wallace
Haupt, Laurence
Kelley, Emmett
Kelley, Gene
Roling, Merlin
**Elizabeth, IL**
Brown, Charlotte
Dinderman, Howard G.
Durham, Russell
Edwards, Mary
**Freeport, IL**
Fredericks, Harry
**Galena, IL**
Buck, Norman
Ivey, Emma
Lannon, Wm.
Merchuck, Frank
Rauwolf, Mary E.
Raynold, Henry
Wullweber, LaVerne
Zaroff, Wm.
**Hanover, IL**
Barnes, Field
Beaver, Elkanah
Geraghty, M.P.
Picha, Glenn
Smith, Ivor L.
Weber, Earl
**Lanark, IL**
Browning, James
**Mt. Carroll, IL**
Haskens, Wm.
Kaufman, LeRoy
Kipnis, Morris
Massa, Howard
Hill, P. P.
Sharpe, Edward
Smith, Harry D.
Stakemiller, Charles W.
Stricker, Earl
Wolbers, D. L.
**Oak Lawn, IL**
Boens, Maurice
**Savanna, IL**
DeBord, John
Fitzpatrick, Donald
Haas, Otto R.
Johnson, De Verne
Kramer, Frank
Law, Fred
Pascoe, Frank
Reed, Wm. F.
Reynolds, F. D.
Shriner, Charles
Williams, Joseph
Yeager, John
**Scales Mound, IL**
Babler, Fred E.
**Seattle, WA**
Burton, Clara
**Sterling, IL**
Moore, Kenneth W.
**Stockton, IL**
Beach, Edgar
**Wheeling, IL**
Tatge, Herman

# Life-support registry

While Jo-Carroll 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 be current and accurate. We will make every effort to give priority to restore service 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** _____

**Address** _____

**Phone no.** _____ **Map location no.** _____

**Type of support equipment** _____

**Days of use** _____ **Time of use** _____

**Do you have an emergency stand-by generator to operate this equipment?**

_____ **Yes** _____ **No**

*Larry Hall*

# Hall family has mini-zoo

For Larry Hall, a son's FFA project at school was the beginning of a hobby-business that reflects a long-time dream. "When my son, Larry, was getting interested in FFA," the elder Larry says, "he was kind of looking around for a project that was a little different from others. I'd always wanted a deer, ever since I was a kid, so I suggested that."

The Halls, who live in Cumberland County near Montrose, are members of Norris Electric Cooperative. They decided on a fallow deer, which is of Asian origin. Since fallow deer are not native to the U.S., the Halls could sidestep the problems involved in dealing with game animals.

They got their buck at Rockome Gardens in Arcola, while they later bought two does from a breeder in Evansville. They've had two sets of fawns since then, and all were bucks. "I'd like to have the buck and four does and sell the rest," Larry says.

Larry has since branched into other activities, too, with several cages of coons and foxes, in addition to the more mundane chickens and ducks you'd expect to find around a farm. Some two dozen foxes – some red and others silver – are part of the Hall menagerie.

"I'm crazy about animals," Larry says, "and I get a lot of pleasure out of the ones I have. I like to talk to people, too, and anybody's welcome to come and see the animals."

*Milo Thurston, front row center, of Pulaski, an SIPC director who retired after 18 years on the board, talks with A. C. Hayer, left, of Sparta and Richard Moss of Tamms prior to the start of the meeting.*

about 3 percent, he said, and the average cost of coal burned dropped from $23.17 to $20.93 per ton.

Four new directors were elected to the 12-person board of directors: George R. Inman of Grand Chain, W. B. Pulliam of Galatia, Kenneth R. Webb of Tunnel Hill and Lawrence Wilke of Karnak. Reelected were: Bill Cadle of Marion, Guy Casper of Cypress, Harold Dycus of Carbondale, Archie Hamilton of Ava, Harry W. Kuhn of Steeleville, Timothy W. Reeves of Dongola, Dale A. Smith of Cutler and Robert Tiberend of Benton. All will serve one-year terms.

The four newly elected directors replaced three who retired from the SIPC board and a fourth, Roger C. Lentz of Eldorado, who died suddenly March 5. Lentz, who was manager of Southeastern for 24 years, served on the SIPC board for 21 years and was president of the SIPC board from 1975-77 and 1981-83. The three retiring directors — Orrie Spivey of Elizabethtown, Milo Thurston of Pulaski and Bob J. Ury of Jonesboro — received plaques in appreciation for their years of service to SIPC. Spivey served on the board 13 years, Thurston, 18, and Ury, two. Thurston served as president of the board twice, 1973-75 and 1979-81.

Following the annual meeting, the board reelected officers: Hamilton, president; Casper, vice president, and Tiberend, secretary-treasurer.

SIPC is a generation and transmission cooperative made up of three Southern Illinois distribution electric cooperatives: Egyptian Electric Cooperative Association, Steeleville; Southeastern Illinois Electric Cooperative, Eldorado, and Southern Illinois Electric Cooperative, Dongola. SIPC serves approximately 37,000 meters in a 19-county area. Present generating capacity of SIPC's plant is 272 megawatts.

*There are four new directors on the board of Southern Illinois Power Co-operative. From left are: Kenneth R. Webb of Tunnel Hill, W. B. Pulliam of Galatia, Lawrence Wilke of Karnak and George R. Inman of Grand Chain.*

JO DAVIESS
ELIZABETH
JO-CARROLL
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## Manager's Report

*by Gary Stuva*

Last month we began an explanation of the Dairyland Power Cooperative load management system. This month we will discuss how the system is put into action.

Let's follow the path of the decision to operate the load management system to control load during times of anticipated peak system demand. First, the decision to control all types of load on the system is made by Dairyland's staff. That decision is based on an evaluation that weather conditions are such that demand will be high.

This year, the deciding factor was weather forecasts for sub-zero weather throughout the Dairyland system. On these days a decision was made in advance and information disseminated to the cooperatives to allow them to notify members for voluntary load reduction at peak hours and to allow industrial facilities to plan production on the basis of controlled load on key equipment.

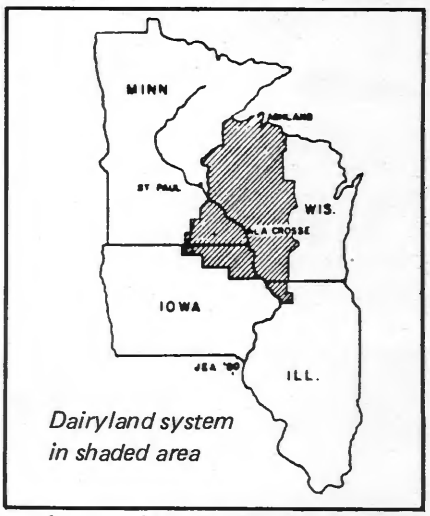
The radio message to control load begins at Dairyland's operations center in La Crosse where a small computer initiates operation of the transmitter network at the appropriate times. This year, and for years into the future, the most frequent time of operation for the load management system for full load control is during the evening hours. This is the time of Dairyland's normal daily system peak because of the combined influence of domestic energy use, dairy chore time, and other agricultural uses.

The load control message travels first over a microwave link to a number of regional retransmission centers where it is converted to a radio signal and then broadcast over the 73 local transmitters to the radio receivers at the member's service entrance.

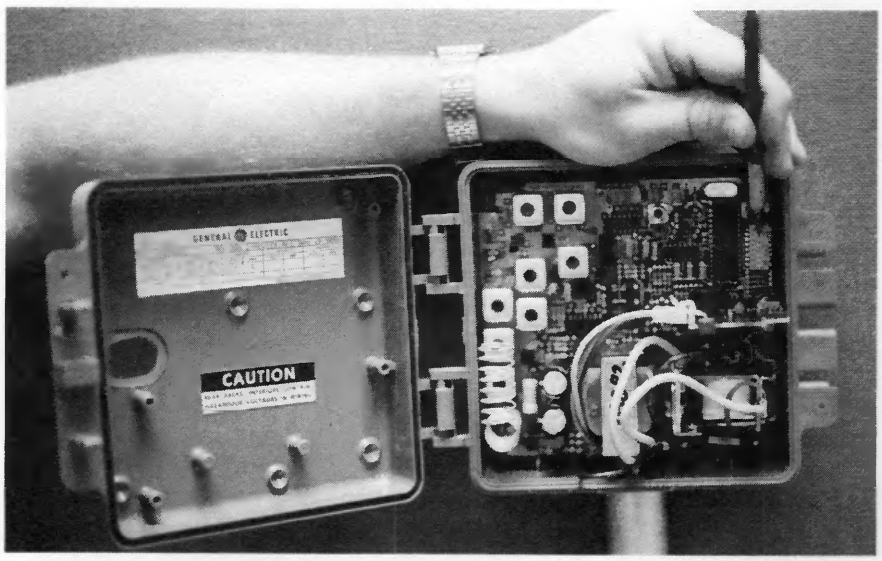
Another situation where load management may be activated is to utilize what Dairyland calls "economic dispatch." The purpose of load management for economic dispatch is to permit Dairyland to operate its generating units in the most economic manner by deferring loads that otherwise might require the starting of a generating unit for a short period or purchasing higher cost energy.

During the daily operation of a generating system, a variety of conditions may occur which may make use of load management for economic dispatch desirable. These conditions include a full or partial outage of a generating unit due to equipment failure or fuel quality problems. They might also include opportunities to sell energy to other utilities at an attractive margin or eliminate purchase of energy at a high rate.

In these cases, control of consumer water heaters only with no inconvenience to the consumer can result in significant savings which are passed on to the member. During the 1983-84 winter, economic dispatch was utilized 11 times with savings of about $1,000 each time. As more controls are




*Dairyland system in shaded area*




*View of a typical load management receiver. The access is normally closed and sealed. Pen points to the switch for coding the receiver address. Just below this area are the small colored lamps visible through the small window in the front panel.*

# Notice: rate increase

Jo-Carroll Electric Cooperative has not had a raise in rates since August 1, 1981. Since that rate increase our power supplier, Dairyland Power, has taken a 3.2 percent raise May 1, 1982 and May 1, 1983. We are now looking at a 4.6 percent raise in the cost of power, which will go into effect May 1, 1984. We assumed the 1982-83 increase in the Power Cost Adjustment, but with the 4.6 percent increase for 1984, we must raise our energy charge to accomodate the increase. Our cost from our power supplier will be 11 percent, taking into consideration the 1982-83 and 1984 increases.

The Association of Illinois Electric Cooperatives and our engineer, Dale Kelly, just completed a very thorough study of our present rate structure. Their proposal is to raise our energy charge from the present $.063 per kilowatt-hour to $.077 per kilowatt-hour or a $.014 per kilowatt-hour increase.

When the AIEC did the rate study, it put together a cost-of-service study which showed our present facility charge of $5.75 was not sufficient. So the new proposed facility charge will be $10, no kilowatt-hours included, a raise of $4.25 per month. This constitutes the actual cost of service per month to the Cooperative to serve each residential consumer.

Our own operating costs have increased substantially coupled with the 11 percent raise in wholesale power over the past three years, plus the fact that we must maintain in our margins one and one-half times the ratio to our debt service coverage to comply with REA's rules. This has made the rate increase inevitable. When you look at the rate increase, it would be easy to put the blame on our new headquarters facilities and say "that is the cause."

However, this is not true. When we borrow money from REA, you pay no interest or principal back on the loan until after three years. We will not make any payments to REA on the headquarters loan until September of 1986. Should you have any questions please feel free to contact us.

The Power Cost Adjustment will either be added to or subtracted from the proposed new rate. A 5 percent Utility Tax was added to the old rate and will also be added to the new rate. The new rate increase will become effective May 20.

Rural residential single-phase rate costs according to kilowatt-hours used will compare as follows:

**PRESENT RATE**
**$.063 per K.W.H. Energy Charge**
**P.C. above $.042 per K.W.H.**

| K.W.H. | Cost | P.C.A. | Facility Chg. | Total |
|---|---|---|---|---|
| 100 | $6.30 | $.61 | $5.75 | $12.66 |
| 200 | 12.60 | 1.22 | 5.75 | 19.57 |
| 300 | 18.90 | 1.83 | 5.75 | 26.48 |
| 400 | 25.20 | 2.44 | 5.75 | 33.39 |
| 500 | 31.50 | 3.05 | 5.75 | 40.30 |
| 700 | 44.10 | 4.27 | 5.75 | 54.12 |
| 1000 | 63.00 | 6.10 | 5.75 | 74.85 |
| 1500 | 94.50 | 9.15 | 5.75 | 109.40 |
| 2000 | 126.00 | 12.20 | 5.75 | 143.95 |

**NEW RATE**
**$10.00 Facility Chg. $.077 per K.W.H. Energy Chg.**
**P.C. above $.048 per K.W.H.**

| K.W.H. | Cost | P.C.A. | Facility Chg. | Total |
|---|---|---|---|---|
| 100 | $7.70 | Unknown | $10.00 | $17.70 |
| 200 | 15.40 | Unknown | 10.00 | 25.40 |
| 300 | 23.10 | Unknown | 10.00 | 33.10 |
| 400 | 30.80 | Unknown | 10.00 | 40.80 |
| 500 | 38.50 | Unknown | 10.00 | 48.50 |
| 700 | 53.90 | Unknown | 10.00 | 63.90 |
| 1000 | 77.00 | Unknown | 10.00 | 87.00 |
| 1500 | 115.50 | Unknown | 10.00 | 125.50 |
| 2000 | 154.00 | Unknown | 10.00 | 164.00 |

installed on water heaters these savings will increase.

Because of the short duration of control and the fact that space heating systems are not involved, the consumer-member will normally not even be aware that the control period was in effect. Because Dairyland and the RECs are actually owned by the consumers, the economic benefits of making capacity sales to other utilities are reflected in lower electric rates than had the sales not taken place.

**UNDERSTANDING THE RECEIVER**

If you have a receiver and are curious about its status, you can learn what's happening by observing the colored indicator lamps through the small window in the front of the receiver. This is what these lamps mean if lighted:

Green — Indicates receiver has power and is receiving radio signals. This light will normally be on daily from 5:30 a.m. to 9:30 p.m.

Red — Indicates receiver has received a radio signal to control your water heater.

Amber — Indicates receiver has received a radio signal to control electric space heating.

Some members have asked whether the special economy rates being offered by cooperatives with their load management programs might not change significantly in the future. We don't know how much they might change. However, Dairyland believes that the basic patterns of power use in its service area are very strongly ingrained. The dairy power use peak in particular will probably continue to be a major influence on power use far into the future.

The widespread adoption of load management controlled equipment will certainly tend to smooth out daily and seasonal power use patterns. That after all is the reason for its adoption. But the need for and the economic rewards for participating in load management will be around for a long, long time. For many consumers, the payback is so short that regardless what the distant future brings, it is to their advantage to choose to participate right now. With participation by REC members at planned levels the net long-term savings to cooperative members could exceed $35 million.

# Craftsmanship

*(Continued from page 5)*

this one to three-fourths scale. "Many of the pickup trucks you see going around pulling gooseneck trailers shouldn't be," he says, "and I built the third rig just for that purpose. Like the two little trucks, it's all handmade from metal, from the ground up. We didn't use cut-down car frames, chopped car bodies or anything like that."

The larger rig is powered by a 427 Chevrolet engine with a Fuller 13-speed transmission, and the cab is fully upholstered. In keeping with the quality you would expect from a third generation shop, the big truck has some finer touches that are missing from the shrink-fit units. It boasts dual highback air-ride bucket seats, has a walk-in sleeper, and a beautifully grained hardwood dashboard. The truck also sports air conditioning, electric windows, and power steering and brakes. Like its shrunken siblings, it has a gleaming stainless steel grille, radiator shell and front bumper, as well as chrome dual exhausts. All are equipped with sliding fifth wheel and movable rear duals.

Tom often uses the truck and its specially built gooseneck trailer to take the TomBilts to parades and exhibits, where the trio can be counted on to draw admiring crowds in no time flat.

The trucks are about to be joined by yet another, this time in two-thirds scale. "We're building it for a man in California and it'll be a replica of the Model 359 Peterbilt. When we get done with it, you will not" Tom says with emphaiss, "be able to find anything different from the full-scale one except size. We're putting a 3208 turbocharged Caterpillar diesel engine in it, and it's going to be a fantastic truck. I expect it to do really well in shows."

While the trucks started out as kids' playthings, they serve somewhat of a different purpose now. Tom's business, O.B. Dell and Son, deals primarily in ag repairs and grain handling and storage equipment, and is sensitive to the farm economy.

"We hope to build and sell these trucks on a regular basis," Tom says, "to keep us going when the farm economy is flat. The little trucks are great for parades and other promotions, and the bigger ones are good for hauling, as well as being 'way up there in show competition. They're all super attention getters. We build quality into them that I'll compare with anybody's, too."

American agriculture. And here, too, people of great vision imagined how life could be made better through agricultural research, education and public service.

"In 1850," Campbell reminded his audience, "another farsighted pioneer, Jonathan Baldwin Turner, told an audience, 'Before you send your scholars soaring off to Athens and Rome, be sure they first know how to plant beans and harness horses.' Mr. Turner's counsel was to put priorities in proper perspective: to feed the people first."

Turner, who had lobbied for years for a land-grant college in Illinois, finally struck a responsive chord in another forward-looking Illinois man, Abraham Lincoln, who signed such legislation in 1862.

Campbell noted that George Morrow, the first dean of the college, had established 10 small plots of land for agricultural experimentation. These plots, set out in 1876, were the first such test plots in the United States. They enabled early day students to study the effects of soil fertilization and crop rotation, and experiments in plant breeding could be watched carefully.

"Nearly 65 years ago," Campbell noted, Professor E. W. Lehmann began his pioneering efforts here to bring electricity to rural America.

"Today," Campbell said, "we have come together to dedicate an Agricultural Engineering Sciences Building constructed on some of the original Morrow test plots. It is most right that our newest facility for agricultural research and education has its foundations in our oldest beginning."

Campbell suggested that the new structure is as much a bridge as a building — a bridge to twenty-first century agriculture, spanning the gap between present day farming and high-technology agriculture.

"Now we stand at another frontier," he said, "and our aim remains the same as it has been — an abundant, safe, economical food supply. But now we use research techniques such as lasers and microprocessor controls, computer modeling, and genetic engineering. And because we have become more aware lately of the delicate balances that exist in Nature, and of the limits of our resources, we are developing programs to reclaim waste products and reduce our dependence on fossil fuels."

A first class building, the dean added, does more than just house laboratories and span eras, as important as those functions are. "Just as surely as bees are attracted to succulent flowers, scholarly students and faculty are attracted to well-equipped laboratories and classrooms. The Agricultural Engineering Sciences Building will enhance our efforts to attract and retain talented, future-oriented, top-of-the-line human resources," he said.

The dollar per citizen investment Illinoisans have put into the structure will be repaid handsomely, if history is any indication, Campbell said.

"Post-harvest technology holds great promise for Illinois agriculture and the state's economy in general — in the form of value-added products," he explained, adding, "the countries of the European Common Market are wiser than us in this respect. While we export raw agricultural products, they process, then export them, keeping jobs at home. We need to be doing more of that here.

"While the economic benefits of exporting raw agricultural commodities have been enormous, a still greater potential exists for the export of processed products. A recent study by the U.S. Department of Agriculture estimated that $1 million worth of corn generates $44 million in total sales if the product is exported as dressed poultry. The conversion of that corn to poultry was also estimated to generate more than 1,150 jobs and provide $9.3 million in additional income. Clearly, the development of export markets for value-added products has substantial economic significance for Illinois."

*Left: Many alumni and well-wishers attended the dedication and open house. Here, Wm. David Champion, manager of Illini Electric Cooperative, left, and Roger R. Yoerger, center, head of the Department of Agricultural Engineering, visit with an unidentified participant in the ceremony. Right: Several dignitaries were on hand to cut the ribbon at the new building's entryway. From left are: Stanley O. Ikenberry, U of I president; Governor James R. Thompson; John E. Cribbet, chancellor, U of I at Urbana-Champaign; John R. Campbell, dean, U of I College of Agriculture; Larry Werries, Illinois Director of Agriculture, and Orville Bentley, assistant secretary for science and education, USDA. William S. Forsyth, Jr., president of the U of I board of trustees, is directly behind Ikenberry.*

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# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311

## Manager's Report

*by Gary Stuva*

It's time to talk once again about Jo-Carroll's load management program. From Jo-Carroll's viewpoint, load management is merely an attempt to utilize generating, transmission and distribution facilities at maximum potential 24 hours a day, 365 days a year.

Two basic concepts have been implemented at Jo-Carroll and other REC'c within the Dairyland Power Cooperative service area to help accomplish a workable load management program:

No. 1 — Electric water heater controlling. To date, well over 1,500 Jo-Carroll members have voluntarily agreed to have their water heaters controlled via central computerized radio signals sent during high peak periods from Dairyland Power Cooperative.

If you have NOT requested a control to be installed, please do so today. You will begin getting a $3 per month credit on your electric bill after the control has been installed.

No. 2 — Dual fuel heating system. This is designed to utilize facilities at times when electricity is in abundance and yet can be interrupted without any discomfort or noticeable change in your house.

Incentive rate of 3.3 cents per kilowatt-hour is offered for this type of heating system and most any present oil, gas, or wood home heating equipment can be quite easily retrofitted to a dual fuel system. Besides cutting your heating bill, several other benefits have been realized through retrofitting or installing dual fuel. They include increased humidity, a cleaner and quicker heat, the security of two fuels and the patriotic feeling of helping to lessen dependency on foreign oil. It may be summer but now is the time to plan ahead for dual fuel.

Through one of the two options offered to Jo-Carroll's members in its effort to level the electrical load, a highly efficient utility can develop. This would mean enjoying reasonable costs for electricity for many years ahead.

Jo-Carroll and Dairyland offer an incentive program for consumer-members who participate in the dual fuel heating program.

During certain periods of the day, members require considerably more electricity than at other times. These high use times are referred to as "peak periods." Most of the facilities of Jo-Carroll and Dairyland are built to meet these peaks.

There are also periods of low electric demand. It is costly for your Cooperative to have facilities ready for peak use, but used inefficiently during periods of low use. This is why Jo-Carroll is trying to level the electrical usage load.

One of these methods is dual fuel. With a dual fuel installation, members can combine electric heating (at off-peak times) with a wood or fossil fuel (LP or oil) system for use during those relatively few hours of peak electric use. With a dual fuel system, you receive electricity for heating at a very attractive and economical rate (3.3 cents per kwh). Jo-Carroll encourages the efficient use of electricity during off peaks.

If you decide to participate in the

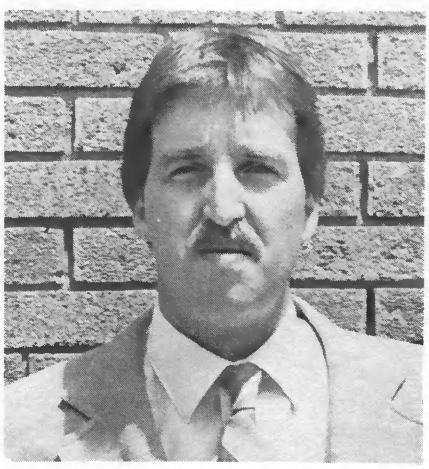
## Selleck selected Jo-Carroll Member Service Director

John W. Selleck, a native of Mattoon, has assumed the position of Member Service Director at Jo-Carroll Electric Cooperative.

A 1976 graduate of Eastern Illinois University, Charleston, John had has an extensive background with rural electric cooperatives. As a meter technician for Electric Laboratories in Mattoon, he conducted on-site meter testing for nine electric cooperatives in Illinois and Indiana, and most recently was employed by Illinois Valley Electric Cooperative, in Princeton. John will assist in the further development of Jo-Carroll's load management program, advertising and installing controls for electric water heaters and electric space heating.

John's duties will also include meter testing, performing energy audits, supervising the Cooperatives's meter readers, and directing the member and public relations for Jo-Carroll.

John, his wife Theresa, and their three daughters will make their home in Elizabeth.



*John W. Selleck*

# Think ahead

Electricity is one of the few things we use before we pay for it. We pay for a loaf of bread before we make sandwiches; we buy clothes before we wear them. On some things we make installment payments while we use them, but we know how much and how long payments will be.

Electricity is different. When the bill comes, the power has already been used. If we bought more than we meant to, it's too late to do anything about it – we can't put some back.

We all need electricity to maintain our homes and lifestyles. It's a necessity, but it is almost too convenient. It works for us even while we're away from home – keeping the house comfortably warm or cool, heating water, and cooling food. It is so convenient, so automatic that we may forget all those kilowatt-hours necessary to keep this quiet, efficient servant working.

The key to using electricity efficiently is awareness: that we are using electricity constantly and sometimes needlessly, that the meter is diligently measuring our energy usage, whether it is used wisely or wasted, and that today's usage will show up on next month's electric bill.

---

dual fuel program, Dairyland and your Cooperative offer you a choice of the following incentives.

1. A $200 cash rebate
2. A $200 credit on your electric heating bill
3. A free 10-inch General Electric color television set
4. A free microwave oven
5. A free electromate 20-kw dual fuel plenum heater

Contact John Selleck at Jo-Carroll's office (858-3311) if you are interested or have any questions.

*Harry Ehrler, left, receives congratulations for 37 years of service to Jo-Carroll from Gary Stuva, manager.*

Jo-Ca

# Harry Ehrler

## 37 years service to Jo-Carroll

Harry Ehrler, an employee of Jo-Carroll for 37 years retired recently and reminisced about the many changes that have taken place at Jo-Carroll after 37 years:

"When I first started work in 1947, Mr. F. I. Ruble was manager. In 1948, Mr. Ruble resigned and Chuck Youtzy was named acting manager. There was only one substation, which was located north of Hanover. There was one three-phase line feeding south to Chadwick and another three-phase line going northwest to East Dubuque.

"When we worked on the lines in those days, we would shut off the power in the morning first thing for repairs and then turn it back on at 11 a.m. until 1 p.m. for the ladies to cook dinner.

"Holes were dug by hand and the poles were also set with pike poles which was definitely the hard way!

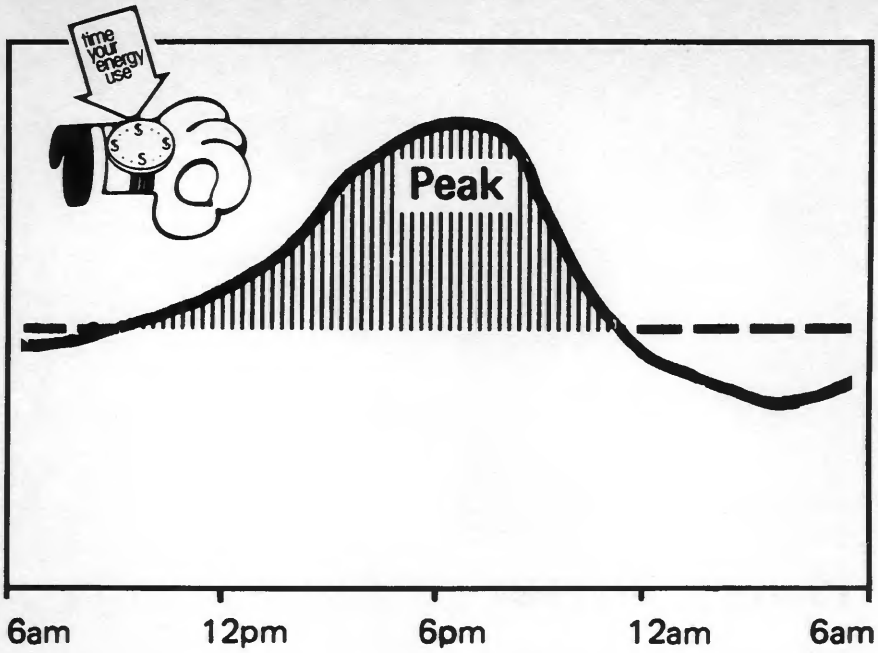
"There is still three of the old original line crew left, Hiko Simmons of Galena, Chuck Youtzy of Elizabeth, and myself. We came a long way!

"In the early 60's, Chestnut Mountain Resort came into being. By 1966, Jo-Carroll bought its first hydraulic digger-derrick truck. Oh my! What a blessing! Apple Canyon Lake started in 1969 and Jo-Carroll started burying underground which was a whole new ballgame. Then came AT and T, The Galena Territory and terrific growth for Jo-Carroll.

"The early 80's brought a new job my way. It was power use advisor, a job that I thoroughly enjoyed my last three years. The meter reading program was my last big challenge at Jo-Carroll.

"I have enjoyed my 37 years at Jo-Carroll and am looking forward to my retirement, and traveling the USA."

*Your cooperative burned a paid-in-full note recently, marking the end of 35 years of payments on the $310,000 loan issued Feb. 1, 1949. From left are Charles Flikkema, Lanark, vice president of the Jo-Carroll board; Elmer Malon, Apple River, treasurer; Vernon Law, Savanna, president; and Leonard Ricke, East Dubuque, secretary. The interest rate was 2 percent, a thing of the past for Jo-Carroll.*




# It's 'peak alert' time

Most consumers are familiar with the term "peak demand" and have some general idea that it affects the cost of electric service. But just what is peak demand and how does it work to drive up the cost of providing electric service today?

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 for electric power stays fairly constant.

But sometimes, especially during hot summer afternoons and evenings, peak demand skyrockets. That's when it becomes a concern.

The concern isn't in 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. Because different kinds of generating plants, using different kinds of fuel, are used for different needs.

For instance, there are some large generating plants which 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, efficient generating stations on a system.

During times when base-load generation isn't quite enough to satisfy electric demand, "intermediate" plants are put into service. These are often older generating plants which once served as base-load capacity, but through age and technological 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.

When demand becomes very high, "peaking plants" are put into service. These units usually operate on expensive oil or diesel fuel. They rarely generate large quantities of power, but they have one great advantage over intermediate and base-load plants due to the fuels used, they can go "on line," or begin generating, almost at a moment's notice.

Getting the generating equipment operating and producing electricity quickly is a very important factor in meeting peak demand, because sometimes demand increases very rapidly, and failing to meet it could cause an entire system to go into blackout. But it can also be a very expensive element in the cost of producing electricity, especially operating oil or diesel units.

These peaking plants are used only during times of excessive demand, or when another major unit fails. But, much like an automobile that is only driven on Sundays, that unit still has to be paid for, in full. And those fuels – oil and diesel fuel – which allow quick start-up at critical times are also the most expensive fuels to use in generating electricity.

Peak demand also makes it necessary for transmission lines and substations to be able to deliver enormous amounts of electricity when necessary, although that ability isn't always needed. Allowing for that added capacity makes the planning, design and construction of these facilities more expensive.

It's all reflected in power costs. Until the past decade, the cost of meeting peak demand was not as high because the fuels used were much less expensive, and the demand itself was not as great.

But every year demand, and costs, increase. These costs will continue to grow as oil-based fuels become less available and more expensive. Fuel costs ordinarily make up as much as 50 percent of a utility's operating expense; when those fuels include natural gas and oil, that percentage can increase drastically.

You can help avoid contributing to peak demand and help your cooperative control costs by controlling electric use throughout the day. What happens between 10 a.m. and 10 p.m. on hot days this summer could greatly affect your electric rates next year. Controlling your own use of electricity by using only one major appliance at a time during those hours is one contribution you can make.

A little effort now during warm weather can make a big difference in your future power costs.

ship is to promote student interest in household equipment and energy consumption in preparation for careers in general home economics, consumer economics, home economics education and Cooperative Extension.

Undergraduates at the University enrolled in the School of Human Resources and Family Studies who have at least 60 hours of credit and who have a professional interest in the area of studies stipulated by the Mamer family are eligible to receive the scholarship. Marilyn M. Dunsing, acting head, Department of Family and Consumer Activities, says that second-year students at the University are encouraged to apply, and that transfer students from junior and community college or other four-year institutions are eligible to apply.

Selection is based on three principal criteria: academic aptitude, potential for contribution to the home economics profession, and enrollment in or completion of specified courses or participation in the activities of the Association of Illinois Electric Cooperatives.

Persons interested in applying for the scholarship should write to: Director, School of Human Resources and Family Studies, 274 Bevier Hall, 905 South Goodwin Avenue, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801.

Louisan Mamer eventually took on the job of showing rural homemakers how to get the most out of the new electrical appliances that were going out into the countryside behind the crews who were stringing line and wiring houses. She spent 45 years at REA, and retired in April 1981.

During her career with REA, thousands of people from throughout the Midwest learned about the efficient use of electricity at "REA circuses."

The "circuses," which were more properly known by the less colorful term "REA Farm Show," consisted of a traveling appliance and farm equipment show carried in a 28-foot trailer and a truck. Louisan pulled the trailer across Iowa, Illinois and Nebraska with her dark blue 1936 Ford convertible, convoying along with the truck, which carried the farm equipment side of the "circus."

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# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

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

## Manager's Report

*by Gary Stuva*

More than two-thirds of the cost of electric energy for a member-consumer is for production of the electricity and, because of this, controlling generating expenses is a primary mission for the rural electric power supplier. This responsibility rests with both Jo-Carroll Electric Cooperative and Dairyland Power Cooperative, our wholesale supplier.

A diminishing load growth for Dairyland the last few years has eliminated the situation whereby increased energy sales helped absorb rising expenses and therefore it is increasingly important that we improve the operating efficiency of our generating plants and extend their useful lives.

Dairyland has been a leader in maximizing efficiency and plant life. During 1983, Dairyland continued to rebuild or replace components of many of its older generating facilities. Sixteen of Dairyland's 21 generating units are more than 30 years old and rehabilitation of these older units also makes good sense when considering the astronomically high cost of new power plants.

Furthermore, a load management program, which became a reality in 1983, is forestalling the need for additional capacity. Dairyland now directly controls approximately 39,000 water heaters, nearly 2,100 dual fuel space heating installations and over 900 heat storage units.

These controlled loads accounted for a reduction in 1983-84 winter peak demand of 42,000 kilowatts. This reduction means that this amount of new generating capacity will never have to be constructed; 42,000 kilowatts of generation would cost at least $42 million to build at today's prices, compared to the $6 million that Dairyland Power has invested in its load control program.

Because no other electric utility in the country is as strongly influenced by the dairy industry, Dairyland is collecting data from 30 dairy farms throughout its four-state service area to determine by a monitoring study if the load control concept is applicable to dairy farm operations.

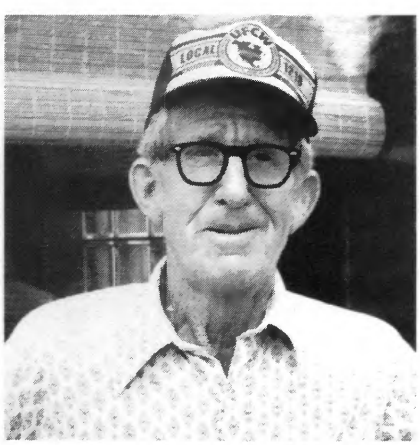
Jo-Carroll members have been most responsive to these load management programs of Dairyland. I am sure there are those of you who would like to participate but have not contacted us for information.

We offer a $3 per month incentive for water heater radio controls on qualifying equipment and Dairyland offers a substantial bonus for dual fuel program participation. Contact John Selleck, Jo-Carroll member service director, at 858-3311 for details.

## *Your meter reader*

## Chris Goldhagen

Chris Goldhagen has been a meter reader for Jo-Carroll since the program was started in January 1983. He is a member of the Cooperative, as are all of Jo-Carroll's meter readers.



*Chris Goldhagen*

His route takes him alongside the Mississippi River, from the Carroll County line, north to near Chestnut Mountain. This includes some nice countryside in the river valley and around Blanding. Chris is retired from a supervisory position at the U.S. Army Depot at Savanna, where he was employed in various capacities for nearly 30 years. Chris enjoys reading meters, "especially in nice weather." If you see him along the route, or at one of his 251 meters, give him a wave and a toot of the horn, for he's a friendly guy performing a valuable service for his cooperative.

## Standby generators good insurance

Have you considered the installation of a stand-by generator? We believe that a stand-by generator is a good investment, particularly if you are a large user of electricity, have a livestock operation, or find that should an outage occur, you would suffer severe inconvenience.

Stand-by generators should be selected based on the amount of watts needed to operate the necessary equipment for you. In addition the National Electrical Code and your Cooperative requires that a double-throw safety switch be installed on the member's system to provide a permanent positive safety needed when stand-by equipment is being used.

Jo-Ca

*Two employees of Jo-Carroll who are familiar to those who visit our office are Kathy Arnold (left) and Helen Spencer. Kathy is a cashier-clerk and has worked for your Cooperative since December 1982. She and husband Terry have a young son, Jason, and she enjoys sewing, camping and photography. Helen has been a Jo-Carroll employee for about one year. She and husband Ralph are the parents of three children and they have three grandchildren. They live on a small farm southeast of Elizabeth and raise beef cattle and quarterhorses. Helen's interests include flowers, EMT work and teaching CPR.*

# 'Mac' McClave retirement closes 36-year J-C career

Charles D. "Mac" McClave has ended his 36-year career with Jo-Carrol Electric Cooperative.

A lifelong resident of Hanover, Mac came to work for the cooperative on March 9, 1948, as the work order clerk. In February 1963 McClave was promoted to assistant manager, a position he held until his retirement June 1, 1984.

*'Mac' McClave*

Mac has seen many changes in Jo-Carroll, and notes the rapid growth as remarkable, "In the late 1960's and into the 1970's everything exploded with the several new developments in the area. The building we are in now has come a long way since I came in the door. "The Elizabeth Times and the post office were here. Our share of the building included the manager's office, a meter room, and a very small warehouse. Now, of course, the cooperative is looking forward to moving into its new, efficient headquarters at the west edge of the village."

Although Mac knew that he was to be honored at a retirement party, the "roast" that was planned for him came as a complete surprise. More than 75 co-employees, directors, friends and relatives were at the Black Angus supper club to "roast" Mac.

McClave says he hasn't outlined plans for his retirement, he'll "take it as it comes." He intends to spend a great deal of time at his camper at Timber Lake near Mount Carroll and will travel later this summer.

# Remember the convenience at bill time

Electricity is one of the few things we use before we pay for it. We pay for a loaf of bread before we make sandwiches; we buy clothes before we wear them. On some things we make installment payments while we use them, but we know how much and how long payments will be.

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building. Also, install enough light switches and motor controls for convenient operation.

No matter how carefully you plan, there are always changes in technology or changes in the operation that make it necessary to expand and revise an electrical system. For this reason, do not begin by installing circuit distribution panels that are only large enough for present electrical loads. Allow some room for expansion.

Design electrical systems for easy maintenance. For example, locate lampholders so that bulbs can be easily changed; and locate motors and fans so that they can be easily disconnected for repair and maintenance.

Finally, install the electrical system carefully so that the appearance of the finished work is a credit to the farming operation as well as to the person who installed it.

Most rural areas have no electrical inspection of either new construction or remodeled buildings. In most cases the only inspection is by a representative of the insurance company after the work is done. Before hiring an electrician discuss his workmanship with other producers and your insurance man. Sometimes the lowest bidder is the most expensive over the long run. All too often, the individual who wires a confinement building is either unfamiliar with the type of equipment needed or does not know where to purchase the proper wiring materials. Be sure that the electrician you choose has skills that match your needs.

Electrical installations and equipment should be in accordance with the National Electrical Code and any local codes. Particular attention must be paid to Article 547 in the code concerning agricultural buildings. Although there are five environments listed in Article 547 that create unique problems for electrical installers, the environments of primary concern have a high dust level from litter, feed or feathers as well as a high moisture level and a corrosive atmosphere brought about by vapor from manure.

The equipment used in environmentally controlled livestock buildings presents a new set of problems to most electrical installers. These buildings are classified as "damp" or "wet" locations. To be suitable for use in these locations, wiring must seal out dust and moisture.

The recommended practice today is to use type UF (underground feeder) cable rather than type NM cable in wet areas. UF cable is approved for use in wet locations while NM is not. Mount the cable on the surface for ease of maintenance and inspection rather than enclose it in attics or inside walls. Secure the cable within eight inches of each box and at two-foot intervals on horizontal surfaces and three-foot intervals on vertical surfaces. Use nonmetallic cable straps with stainless steel nails to secure the cable, and mount the cable so that it follows the surfaces of structural members such as studs and trusses.

Table I. Support Spacing for Rigid, Nonmetallic Conduit

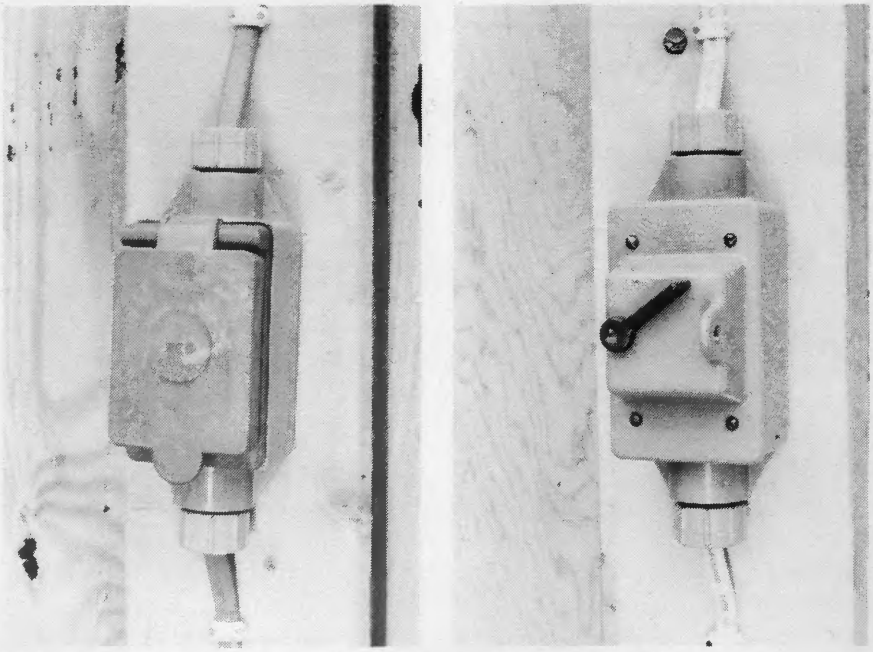
| Diameter | Maximum Support Spacing |
|---|---|
| .50-1 inch | 3 feet |
| 1.25-2 inch | 5 feet |
| 2.50-3 inch | 6 feet |
| 3.50-5 inch | 7 feet |

Locate the cables so that they are not subject to contact by animals or exposed to mechanical damage. Also, be sure not to make sharp bends in cables. In fact, the radius of the bend should be at least five times the diameter of the cable. Install switches so that they open the ungrounded (hot) conductors. Use care when removing the outer covering from the UF cable so you do not slit the insulation on the wires. Be sure all splices are properly insulated and enclosed in boxes. Use approved, moisture-tight, non-corrosive boxes with gasketed covers and connectors that seal tightly to prevent moisture, dust, insects and rodents from entering.

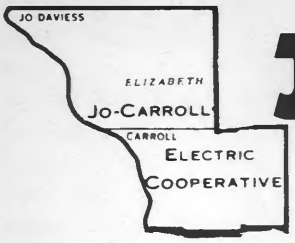
In some cases, conduit must be used for mechanical protection or where multiple wires are needed, as in motor control systems. However, do not use metal conduit and boxes because they will corrode in the wet environment of a livestock confinement building. Instead, use Schedule 80 rigid, nonmetallic conduit and nonmetallic boxes.

Rigid, nonmetallic conduit and nonmetallic boxes eliminate the corrosion problem. There have been some problems, however, with sagging of nonmetallic conduit. The data in Table I indicates the maximum support spacing for use of Schedule 80 rigid nonmetallic conduit.

Several brands of corrosion-resistant, watertight boxes and cord and cable connectors that will seal out moisture and dust are available. These items may be difficult to locate in electrical stores but can be purchased through electrical wholesalers.



*UF cable entering dust- and water-tight, nonmetallic boxes in corrosive environments must be secured to structure within eight inches of box.*




# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311

## Manager's Report

*by Gary Stuva*

### AFTER-HOURS CALLS

The office hours for Jo-Carroll Electric Cooperative are 7:30 a.m. to 4 p.m., Monday through Friday.

When the office closes each day the telephone is switched to a diverter that shifts all calls to the Sheriff's Department in Galena.

Personnel there are supplied with a list of our linemen who are on call and, through a beeper system, are able to contact our employees at home to respond to emergencies. Jo-Carroll employees are on call and will respond to any power outage or emergency situation 24 hours a day, 365 days a year.

The Galena Sheriff's office is the communication center for this area. In their dispatch center are 23 phone lines, a statewide computer tie, a nationwide police computer tie, a weather emergency system, all the radio equipment for all the local fire districts, ambulance service, the hospitals, the area police stations, and many local utilities, including Jo-Carroll.

Can you imagine the responsibilities for a dispatcher involved with operating such an arrangement? Then imagine receiving a call and having someone ask a question about an electric bill or a meter reading.

Jo-Carroll has a fine staff of qualified people on hand each work day to assist any of our members. We enjoy your phone calls and are eager to hear from you, but please limit the after-hours phone line to outages or emergencies.

A helpful hint to remember when reporting outages: give the dispatcher the service location number from your bill stub. This will be helpful in restoring your service as fast as possible. And always remember to check your fuses or breakers before you call.

### DUAL FUEL

The initiation of a dual fuel purchase incentive program in the fall of 1983 has resulted in over 335 dual fuel installations across the Dairyland Power Cooperative system through April of 1984.

The program became so popular that it will be continued through March of 1985, to add to the nearly 2,100 homes now benefiting from this low-cost heating concept.

All of the 29 RECs in the Dairyland Power system are active in a dual fuel program in varying degrees and Jo-Carroll members have been among the most participators.

Twenty-one rural electric cooperatives have reported completion of dual fuel installations for the past heating season. Jo-Carroll ranks in the top third of the 21 in number of installations.

This presents a considerable savings for concerned consumer-members. At the same time, participating RECs benefit because of increased energy sales, especially during off-peak hours, lower peak demand rate, and increased efficiency of their distribution facilities."

Dairyland benefits by increased energy sales, additional use of coal supplies during off peak periods, additional wholesale energy sales and much more efficient use of generating facilities.

As more participation is realized in the dual fuel program, ever increasing benefits will become reality for the consumer-member, the RECs and Dairyland Power.

Contact John Selleck at 858-3311 for more information about this and other energy management programs.

## *Your meter readers:*

## Ed Troyke

Ed Troyke reads 382 of Jo-Carroll's meters each month on route No. 62, which covers most of Apple Canyon Lake. He retired from the lumber business in the Chicago area two years ago, and moved to his home at the lake. When the notice that Jo-Carroll was taking applications for meter readers appeared in the Illinois Rural Electric News, Ed thought that it sounded interesting, and sent in an application. The next thing he knew he was out tramping through yards in all kinds of weather, reading meters. He says he still finds it interesting: "I got the cream of the crop as far as routes go – no fences, gates, or livestock yards to go through to get to my meters." Ed and his wife, Mae, have three children,

*Ed Troyke*

a son in the Marines in Hawaii and two daughters who live in Chicago. His hobbies include playing golf, talking about golf, and golfing. If you're in the Apple Canyon Lake area and see Ed, ask him about his latest score, but don't hold him up to long – he has meters to read!

Jo-Ca

*Morris Birkbeck (in left photo at his home) has closed out a 44-year career of service to Jo-Carroll Electric Cooperative and Dairyland Power Cooperative. He served 34 years as a Jo-Carroll director and 35 as a director of Dairyland. He was elected to the Jo-Carroll board in 1940. In the right photo, Jo-Carroll president Vernon Law, right, congratulates Birkbeck for his service.*

### *To Jo-Carroll and Dairyland*

# Morris Birkbeck: 44 years of service

Morris Birkbeck, who was elected to the Jo-Carroll Electric Cooperative board in November 1940 and served continuously either as a director of Jo-Carroll or Dairyland Power Cooperative until June of this year, has been honored by the board.

During a special recognition dinner at Eagle Ridge Inn July 18, Birkbeck and his wife, Stella, were special guests of the board and Morris was cited for his 44 years of service to rural electrification.

He began his career in rural electrification in the late 1930s, working to get electricity to the rural areas in Jo-Daviess County. He was elected to the Jo-Carroll board in 1940 and served as a director of your local cooperative unti 1974.

In 1942, he was elected to serve on the board of Dairyland Power Cooperative until 1960, when he was elected to serve as a director on the board of the Association of Illinois Electric Cooperatives, the statewide service organization of the state's rural electric cooperatives. In 1967 he returned to the Dairyland board and served until his retirement in June.

Leonare Ricke of East Dubuque has been elected to replace Birkbeck on the Dairyland board.

## QUOTABLE

*" . . . there is no other activity that Dairyland and its member cooperatives can undertake in the years ahead that will do more to reduce rate increases and benefit consumers."* —Frank Linder, general manager of Dairyland Power Cooperative referring to the load management program.

*" . . . The light switch on the wall in your house right now is the most reliable light switch in the world. Most of the rest of the world has no light switch at all, and most of the part that does expects blackouts or brownouts almost daily. Your light switch is far and away the most reliable in the world. When you see those highlines strung across the horizon, salute."* — Paul Harvey, in a radio broadcast April 20.

*"As far as energy inducement programs to maximize the use of domestically produced energy, this (rural electrification) is one of the best, one of the lowest net cost programs to the government."* —Sen. Mark Andrews (R.—N.D.). *"The need for REA still exists and I believe its programs should be continued."* —Sen. Slade Gorton (R. — Wash.) (Quoted concerning the proposed S.R. 1300 REA bill)

# Congress will not approve acid rain controls this year

Congress has killed, for another year, attempts to control acid rain.

The end of months of emotional debate, political maneuvering and intense lobbying came when the House Subcommittee on Health and the Environment voted 10-9 against the leading acid rain bill. Other proposals have been introduced, but with little time left in this campaign-shortened legislative year, further action is unlikely.

Now the sponsor of the bill, Rep. Henry Waxman of California, and his supporters will have to wait until the 99th Congress convenes in January to reintroduce their proposals to reduce the amount of sulfur oxides in the air.

And Waxman, who chairs the Health and Environment subcommittee, promises he will revive the issue next session. "Acid rain," he says, "is not an issue that will go away."

But proposals such as Waxman's to finance regional pollution control with a nationwide tax on electricity are bound to face stiff opposition next year.

"I'm not implacably opposed to acid rain legislation," said Rep. John Dingell of Michigan, the chairman of the Energy and Commerce Committee, which oversees the Waxman subcommittee. But in voting against Waxman's bill, he called the proposal intolerable, saying, "It is a nationwide financing bill, but not a nationwide control bill."

Central to the acid rain controversy is whether cleanup efforts will work, and who should pay. It has pitted regions of the country against each other, and even has supporters of acid rain control bickering among themselves.

New England contends that the chief culprits are smokestacks in the industrial Midwest where coal is burned by utilities, steel plants, paper mills and other industries.

According to the U.S. Environmental Protection Agency, the four states with the highest sulfur oxide emissions in 1980 were Ohio, with 2.4 million tons, Pennsylvania and Indiana, with 1.8 million tons each, and Illinois, with 1.3 million tons.

Some Midwesterners say that the astronomical expense of controlling that pollution — possibly as much as $6 billion a year — outweighs the uncertain effects on fish and trees. New Englanders disagree, saying their multi-billion dollar recreation industry is being threatened, and that the Midwest should pay for the cleanup.

Some researchers say that lowering industrial and vehicle emissions would reduce acid rain, but they don't know enough about the chemical action in the atmosphere to predict where the controls would take effect. In other words, no one knows whether curbing sulfur emissions in the Midwest would reduce acid rain in New England.

For that reason the utility industry, and the Reagan Administration, have called for more research before mandating expensive emission controls.

The nation's 1,000 rural electric cooperatives have urged a go-slow approach. A resolution adopted this year at the annual meeting of the National Rural Electric Cooperative Association notes that a nationwide program could greatly increase the cost of electricity to consumers, and that, "There is no validated scientific basis for assuring that further reductions in emission from coal-fired generating plants will result in meaningful reductions of acidic deposition anywhere in North America."

Meanwhile, the South, which apparently neither creates nor suffers from acid rain, does not want to help pay for the cleanup. And the West doesn't want to share the cost, arguing that the lower-sulfur coal in that part of the country doesn't contribute to the problem.

Greater use of Western coal has been suggested as a way to lower sulfur emissions, but that could threaten the economy in the Eastern coal-mining region where higher-sulfur coal is mined. United Mine Workers President Richard Trumka says a switch to Western coal would eliminate the jobs of 26,000 coal miners and 61,000 other industrial workers in the four states with the highest emissions.

Most of this year's acid rain control bills reflected at least some of the Midwest's concerns.

Waxman's bill, which attracted the most attention, called for the 50 electric utilities with the highest sulfur emissions to reduce those emissions by six million tons by 1990. This would be achieved by installing filtering devices called scrubbers. All coal-fired power plants built since 1978 have scrubbers, which can account for more than 25 percent of a plant's construction and operating costs.

Under Waxman's bill, 90 percent of the cost of installing scrubbers would have been paid from a $1 billion trust fund, supported by a tax of one mill (one-tenth of one cent) per kilowatt-hour on all nonnuclear electricity. That tax would have cost the average household about 75 cents a month.

Another bill, sponsored by Reps.

JO DAVIESS
ELIZABETH
JO-CARROLL
CARROLL
ELECTRIC
COOPERATIVE

# Jo-Carroll Hi-Lines

"Serving a Fast Growing Recreation Area"

Jo-Carroll Electric Cooperative, Inc. Elizabeth, Illinois

815 858-3311

## Manager's Report

*by Gary Stuva*

It is important to make the distinction between terms relating to an investor-owned utility (IOU) and at an electric cooperative. The IOU provides electricity to its customers, and its primary goal is to make a profit. These profits are returned to the stockholders.

For those of us working in rural electric cooperatives, we seldom refer to you as a customer. While we have a business relationship with you, our business is conducted ever mindful of the fact that it is owned and operated by the users, or members. Members join together to provide electric service to themselves that would be unprofitable if provided by any other means. Any return or savings are remitted to members as capital credits and in proportion to the use each member makes of the cooperative.

When we refer to you as a member, it is not a contrivance. The word "member" has real meaning. You are more than a customer and have a part ownership in a democratically controlled business.

In becoming a member of an electric cooperative, you make an implied pledge to fellow members to "cooperate" in advancing the business. Fundamental to the pledge is paying your electric bill on time, granting needed rights-of-way, supporting cooperative legislative aims, participating in activities and business sessions, especially the annual meeting, and, perhaps, serving on the board of directors.

In becoming a member, you agree to share in the responsibility for the volume of business and the capital needed to maintain and expand the system. In turn, you have a limited liability up to and including the amount of your "investment" in the cooperative (accrued capital credits).

While only a few members can participate in the policy decisions of the cooperative, they can help by following our activities through the Illinois Rural Electric News and by participating in the manner described previously.

When we consider that this affiliation of some 3,900 members and their families living on 950 miles of Jo-Carroll line enables them to provide themselves with electricity at reasonable costs seemingly against all business sense, the strength of the cooperative business is demonstrated. This invention, has served farmers and rural people well.

## Your meter readers:

## Thelma Law

Thelma Law reads route 80, which is east of Savanna on both sides of State Highway 64. Her route includes some 160-170 meters each month.

In addition to reading her route, she is one of four Jo-Carroll meter readers that deliver and pick-up the meter sheets. When she picks up her meter sheets in Elizabeth each month, she also gets the sheets for seven other routes. These she delivers to the other meter readers, then progresses to her route. Upon completion of her readings, she picks up the sheets from the other routes, and delivers them to our office.

She and her husband, Vernon, have two children, a daughter in college, and a son who is still at home. Her hobbies include reading, sewing, and embroidering, although life on the farm doesn't allow much time for hobbies. Thelma enjoyes reading meters, "it gives me the opportunity to get out – keep in touch with people."

*Thelma Law*

## Access to meters is very important

We often get reports from our meter readers about conditions at certain locations which make it difficult (if not impossible) to read the meter.

Such things as dogs chained within reach of the meter, loose livestock, locked gates, vehicles or junk hiding the meter from view, motorcycles blocking the path to the meter and overgrown weeds or brush around the meter are real hindrances to your meter reader.

Take a look around your meter and make sure none of these, or similar, conditions exist.

## Seals tested each month

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

So, if you see your meter reader tugging on your meter seal, don't worry. He or she is just doing this for your protection.

# "Tell it like it is."

Sportscaster Howard Cosell made a name for himself for "telling it like it is."

We like to tell it like it is, too, when we talk about the nation's 1,000 rural electric systems and our unparalleled record of loan repayments to the federal government.

We've collectively repaid the government nearly $17 billion, and we're currently paying off loans — principal and interest — at a rate of about $3 billion a year.

In the history of our program, there have been only two defaults. They totaled $44,478 — less than one one-hundred-millionth of one percent of total loans — and neither was an operating rural electric system.

We're proud of the best repayment record on the books in Washington, D.C. That's why we like to tell it like it is.

# Expanded communications

In the October issue of the Illinois Rural Electric News, the Jo-Carroll center section will be expanded to four pages. The "High Lines" will be printed on bright yellow stock, and filled with information of interest to all members.

- local features
- board report
- load management information
- managers corner
- energy tips
- coop news
- stories about members
- $25.00 prize

## SPOT YOUR NUMBER

### MONTHLY PRIZE $25.00

To encourage better readership, we will be printing the name of a member-owner in the Jo-Carroll "High Lines" each month. If you spot your name, and it's not part of a story, then contact the office by the 15th of the current month, and we will apply a $25.00 credit to your account.

A number will be selected at random by drawing from a container, and matched to the computer sheets to arrive at each month's winner.

If the prize is not claimed in any month, that amount will be added to the next month's prize.

Be sure to read the "High Lines," and watch for your name.

*Howard and Jane Koltz of rural Elizabeth have installed a dual fuel heating system and received a $200 incentive check as part of Jo-Carroll's program. Presenting the check is John Selleck of Jo-Carroll. Howard says he is very happy with the dual fuel heat: "We saved $600 in the first year on our electric bill."*

# LIVESTOCK BUILDINGS

## Moisture and dust protection important consideration for the service entrance

Locate the service entrance equipment, the conduit, fittings, service disconnect box, and the electrical distribution panels in a dry and preferably dust-free location outside the area where the livestock is confined. Use an entry way, office or separate room for this equipment. If the service entrance equipment is located inside the livestock confinement area, then the service panel must have a weatherproof enclosure.

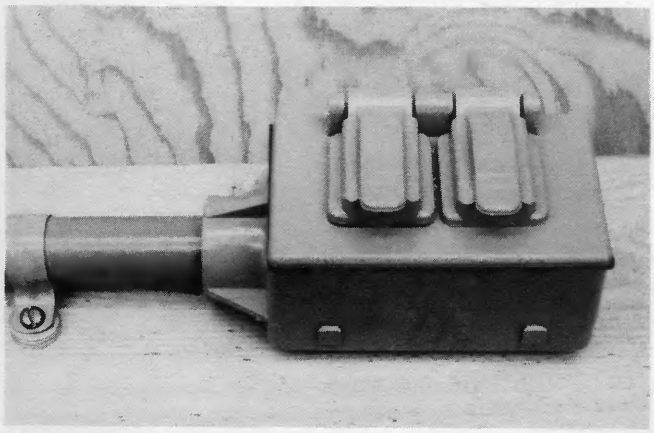
Mount fire-resistant material such as cement-asbestos board behind the service entrance panel. In addition, use spacers to provide a one-inch air space between the service panel and the building wall. This prevents condensation on the walls from running into the box. The air space also keeps the panel nearer to the room temperature, reducing the possibility of condensing water inside the panel.

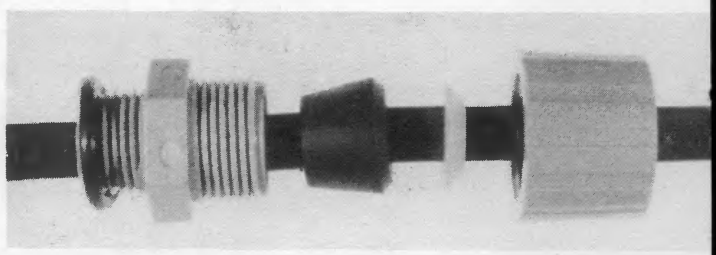
**(This article is the second of two parts reprinted from an Illinois Farm Electrification Council fact sheet and was written by Roland Espenschied, Professor of Agricultural-Engineering at the University of Illinois. The first article appeared in August.)**

When metal raceways are used to enclose the service entrance conductors, pack both ends with a sealing compound to fill all of the voids between the conductors and the sides of the metal raceways. This prevents condensation caused by circulation of warm moist air to a cold area.

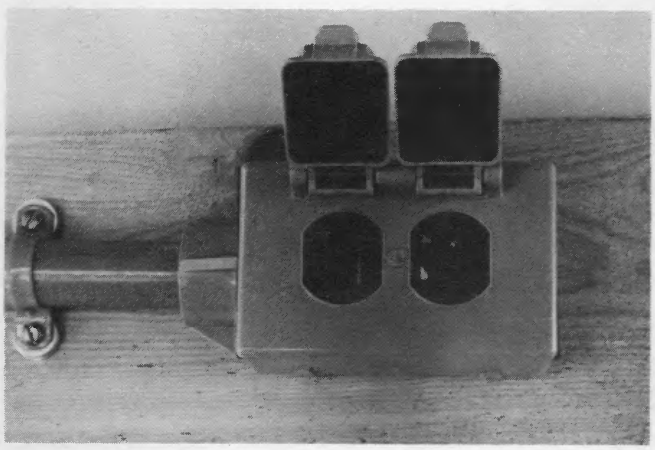
Protect each circuit with its own fuse or circuit breaker. Select the size of the devices so that they are in accordance with the size of the conductors used in the circuit and do not load the circuits to more than 80 percent of the circuit rating listed in Table II. This sort of load control is especially important for applications in which electrical loads continue for long periods of time, as is the case with the use of heat lamps and exhaust fans.

Install type UF cable for all electric circuits in these buildings, and mount

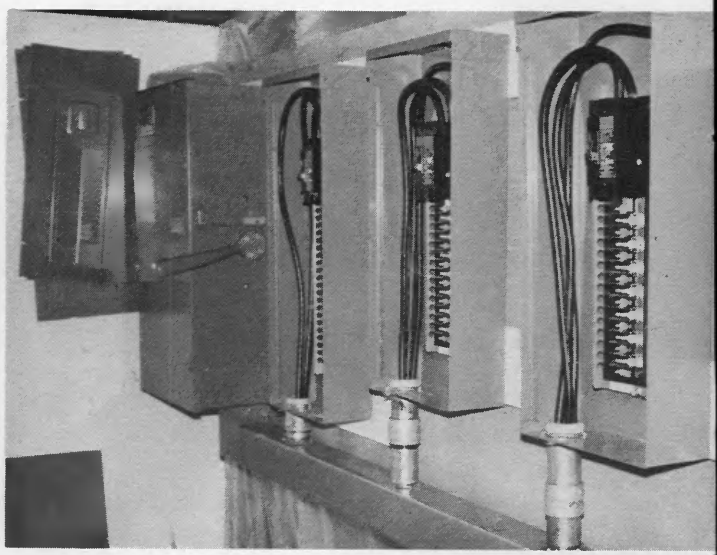




*Nonmetallic cable connectors assure dust- and watertight fit of cable into nonmetallic enclosures.*



*Switches and/or receptacles mounted in dust- and watertight, gasketed enclosures should be positioned with hinge at top when possible. Keep covers closed when not in use.*



*When standard metal service equipment is used, locate it in a cle dry room adjacent to livestock rearing area. Conduit should en side or bottom with ends sealed.*

Jo-Ca

# Jo-Carroll Hi-Lines

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

## Electric power for 3.3 cents?

Jo-Carroll is having a sale — electricity at 57 percent off the regular price.

This offer is available to any of our members who participate in the dual fuel program. Tremendous savings in demand charges to JC are realized when we are able to control the amount of power used at peak times. All cooperative members save when homes are converted to this method of heating, but those who have dual fuel homes save the most. Normally the charge is 7.7 cents per kilowatt-hour, but the dual fuel kilowatt-hour cost is only 3.3 cents.

How are we able to do this?

Dairyland Power Cooperative of La Crosse, Wis. generates and transmits electrical energy for 29 cooperatives in four states. The entire amount of demand-related costs incurred in the Dairyland operation is divided among the member co-ops. What is the fairest way to divide this enormous amount of money? Not 29 ways, because while JC has nearly 4,000 meters, some of the Dairyland co-ops have well over 10,000 meters. They should pay more than we do; they are obviously using more electricity. Then should they divide by the number of meters? No, this will not work because not all meters use the same amount.

### Demand measured at each substation

The fairest method to divide the demand costs is to measure the kilowatt demand at each substation. JC has nine. Some co-ops have 15 or more. Regardless of the number of meters or stations, the amount of energy used, measured in kilowatts (1,000 watts), is the most equitable unit of measurement for division of costs. Another important point is that all the co-ops must measure at the same time. If one co-op was measured at 5 p.m. and another co-op at 5 a.m., the amounts would be vastly different. All the co-ops are measured in kw at the same time, normally on the coldest of winter days.

In order to control the rising costs, Dairyland has offered a method of reducing the kw peaks. Radio-controlled load management devices are operated during the time of the measuring.

This means that when Dairyland is going to measure the kw demand to establish a method to divide the cost of producing the peak power, they will first turn the controls off. If a water heater is on a control, it will not appear on the measurement. These usually are rated at 4.5 kw. JC offers a $3 credit per month to its members who have a control installed because we know our measurement will be 4.5 kw less than it normally would have been, because that water heater is off.

### Dual fuel users reap big savings

In the case of a dual fuel home, the amount of kw under control may be as much as 20 to 50 kw. Forty kw of power that can be turned off at the time of measurement represents a substantial dollar savings when the wholesale power bill comes in, and we pass this savings along to the qualifying members in the form of the 3.3 cents rate.

When a water heater control or a dual fuel home is added to the system, all of the members of JC save. Without the load management program electric rates would be higher, and this program is the best method we have on controlling rate increases.

# MANAGER'S REPORT by Gary E. Stuva

Modern farming requires the use of large, efficient and complex machinery. Each year a tragic number of accidents are caused by careless handling of farm equipment around power lines. Jo-Carroll Electric Cooperative urges you to use caution at all times. Watch for overhead power lines and utility poles and avoid contact with this potentially lethal equipment.

Insist that hired hands and family members learn to survey their working areas carefully before engaging farm equipment in work activities. Have every worker assure himself that the equipment he is using will not come into contact with power lines or power support equipment.

**Take measures to avoid contact**

Although you may have no power lines whatsoever in your crop field, you certainly have them present in equipment storage areas and grain storage areas. Be sure the paths are safe routes. There should be ample clearance for combines, pickers, balers, end loaders, augers, or any other equipment you're moving about your farm. If there is some question about whether equipment will clear a power conductor, assume that it won't and take measures to avoid contact.

More often than not, power lines follow property lines. You may be lulled into a false sense of security when you're in the middle of your field, not realizing the danger when you reach the end of the field and begin turning your machinery around. There's a very good chance power lines will be near the edge of the field so always be alert and check for them. Power lines can be hidden by brush or trees, so you must take precautions to make sure your equipment does not make contact.

Grain augers and bins are often used along property lines too. Since such placement makes the best use of the land, again, be sure that the augers don't come into contact with overhead lines.

**One mistake can cause a tragedy**

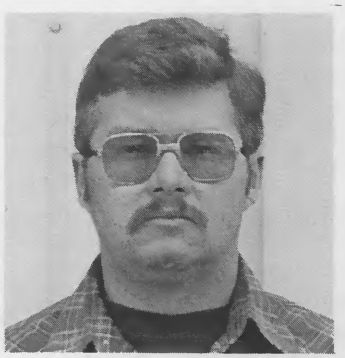
Crop storage equipment such as augers, balers and stackers can be extended in height to exceed electric code clearances for power lines. When you're working to store hay, alfalfa or baled straw, make sure your stacking equipment won't reach the power lines. It only takes one mistake to bring tragedy to your harvest.

If you're planning the construction of any new storage bins, be sure to take the placement of existing power lines into account. For the best use of your farm space, storage bins are often erected along property lines. Again, that's just where the power lines usually are.

If you simply can't find adequate space to construct those bins away from power lines, call us to discuss the problem. We will send someone to your farm to survey your potential building sites and work with you in order to come to the best possible results. Your complete safety and comfort are prime concerns to us. We'll be happy to assist you in developing a safer farm.

## New co-op employee

Neil Bailey, formerly of Storm Lake, Iowa, has taken the position of line superintendent at Jo-Carroll. The line superintendent position is one of great importance in an electric cooperative, having supervisory responsibility for all the outside personnel. In this respect Neil has 17 years experience in line constuction, having worked as foreman for various contractors on rural electric systems throughout the Midwest. Neil and his wife, Katherine, have two sons, Jeffery, age 8, and Christopher, age 5, and will make their home in Elizabeth.



*Neil Bailey*

# Monthly board report

Your board of directors met at the Cooperative headquarters Aug. 17, 1984. Chairman Law called the meeting to order at 8 p.m. with the following items for consideration and discussion:

1. The July Board Minutes were approved.
2. The July expenditures in the amount of $332,252.27 were presented by Treasurer Malon with an explanation from Manager Stuva.
3. A list of membership applications were read by administrative assistant Dorothy Young and discussed by the board, it being established that these persons desired to become members of the Cooperative and each paid a membership fee of five dollars to the Cooperative to meet the qualifications.
4. Three requests for refund of memberships in the Cooperative were read by Dorothy Young. A motion was made by Glasker, seconded by Janssen and passed to approve the requests.
5. Manager Stuva presented the manager's report consisting of the following:
   A. Rules and regulations passed by the resolution committee for annual AIEC were discussed. The manager stated that the directors would receive copies at the next board meeting.
   B. The Region V meeting to be held in Des Moines, Iowa Sept. 11-13. John Janssen made a motion to nominate Leonard Ricke as the delegate and Clarence Glasker as the alternate.
   C. Manager Stuva handed out different articles that had appeared in the newspapers last month, with a discussion to follow.
   D. The manager discussed the operation report from Dairyland Power pointing out that because of the demand generated in the winter, Jo-Carroll is paying one of the highest costs per kilowatt-hour in the Dairyland system.
   E. Stuva informed the directors that the storms in July had resulted in 23 line and 20 individual outages.
6. Ricke informed the board of the items of business that were taken care of at the Aug. 9 meeting of the building committee, plus he informed the board of the monthly Dairyland Power meeting held at La Crosse.
7. As there was no further business to come before the board, a motion was made by Flikkema and seconded by Schlichting and passed that the meeting be adjourned.

*Mr. and Mrs. Loyal Siedenburg of rural Mount Carroll chose the Amana microwave oven as the bonus for converting to dual fuel. The other choices could have been a 10-inch color television, an electric furnace insert or $200 cash or credit on their electric bill. In 1959 when Siedenburgs built their home, they had radiant heating panels installed. Mr. Siedenburg enjoys the electric, but "when the dual fuel offer came about, I had a small gas heater installed in the attic. I only use it for a back-up. This seems so simple to me, when you can get your heat for less than one-half price, I wonder why more people don't do the same."*

# Reader prize offered

A $25 prize is awarded each month to one of our members as a promotion to encourage readership in the Jo-Carroll Hi-Lines portion of the Illinois Rural Electric News. In order to have a random selection from our current membership, the monthly computer listing will be used.

The first member to come into the office to pay their bill each month will be asked to pick a number between one and 94. This will refer to the page number of the print-out of the members. Next a number between one and 57 will be chosen. This will correspond to the line number of the computer list. The name on the page and line number chosen will appear at random in a story or article in the following month's IREN. Beginning in November, the member who sees his or her name in the center section, and is not part of the story, should then call the office to claim the prize. This month's winner is Mrs. Jessie McIntyre. Subsequent winner's names will be placed in or around articles of future issues.

Directors or employees of Jo-Carroll are not eligible for the contest, and can be eliminated by looking up the line and page number while the individual whom has picked the numbers is still in the office, and can pick again. In the same manner, repeat winners can be avoided.

*Sixty-five exhibitors demonstrated equipment at the show.*

# Show turnout large

In spite of the hot August weather, more than 2,200 area farmers and residents attended the Tri-State Forage Days held at the Merkle/Kopper farm in Jo-Daviess County. Farmers and dealers gathered to see demonstrations of the latest in forage equipment, and to hear university and extension experts discuss forage production.

Sixty-five commercial exhibitors were present for the event. One of the most popular demonstrations was the near infrared (NIR) forage testing van from the University of Wisconsin. Many samples of local forage were tested by the mobile laboratory.

Forage Days is an event held because of the large number of dairy and beef cattle farms in the tri-state area. Forage is an important crop for the nutrition of these animals, and are a deterrent to soil loss. Also there have been many changes in forage equipment and methods of management in the past several years.

The farm hosting the event is served by Jo-Carroll, and we were called on to provide an additional temporary service to satisfy the electrical needs of the forage days.

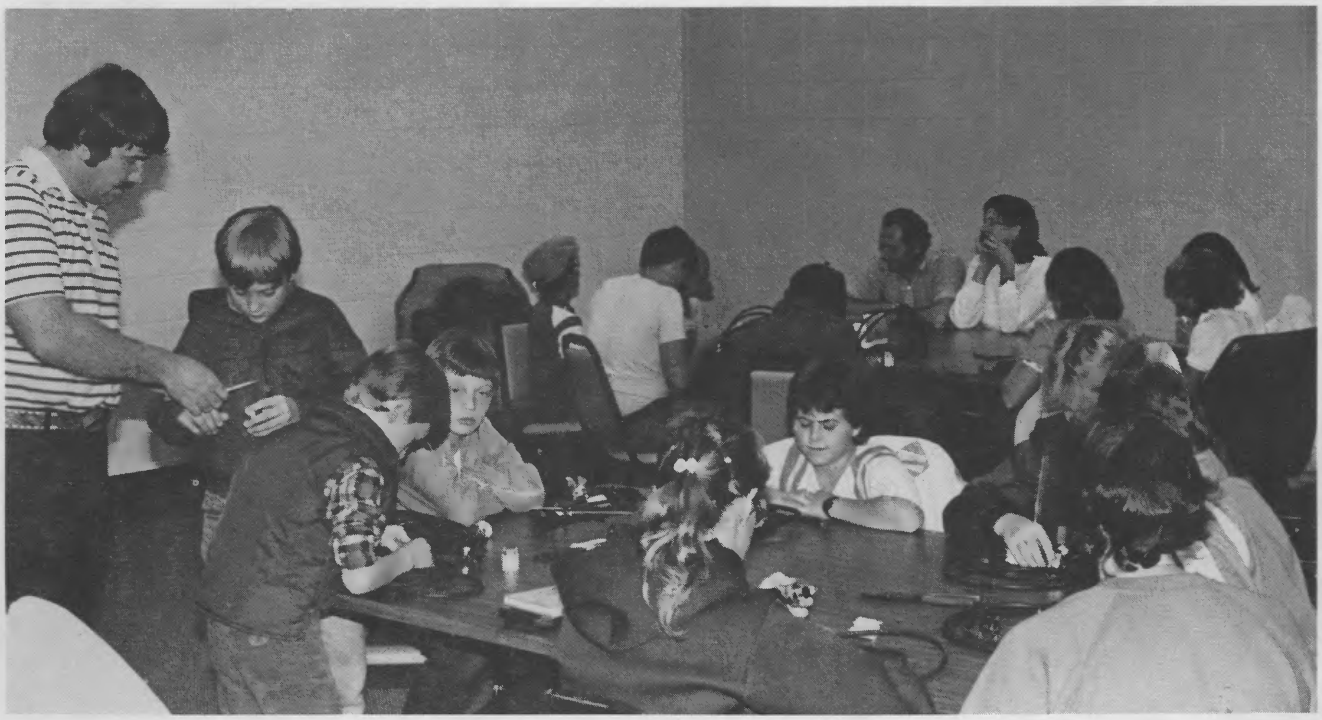
## *Meter readers: Joyce Krohmer*

Joyce Krohmer has been a meter reader with Jo-Carroll since the program began in 1983. She reads route 72 each month, which is south of Elizabeth and in the Derinda area. She and her husband farmed in Jo-Daviess County for 31 years and are life-long residents of this area. Joyce, like four of Jo-Carroll's meter readers, does double duty by picking up and delivering the meter sheets to other readers, as well as reading her route. The Krohmers have three children and six grandchildren and Joyce's hobbies include raising house plants and gardening — and reading electric meters.

*Joyce Krohmer*

# Jo-Carroll Hi-Lines

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



*Many enthusiastic children took part in the electrical school.*

## 4-H school

Jo-Carroll sponsored an electrical school for the Jo Daviess County 4-H'ers at the new Jo-Carroll headquarters building. Wayne Wubbena, county 4-H advisor, and 19 students received a brief presentation on the basic principles of electricity and electrical safety. Following a discussion period, the students had the opportunity to gain hands-on experience by constructing an extension cord. A similar school is being planned for Carroll County 4-H members.

## Dual fuel

Evelyn Nemeck, owner of the Bellaire Guest House in Galena, had dual fuel installed in her home in the country. She received a $200 rebate check from John Selleck, Member Service Director at Jo-Carroll. "I think it's great when the electric co-op offers a program like this that helps people save money. I really enjoy the savings with dual fuel," she said.

*Evelyn Nemeck receives her $200 check from John Selleck.*

# MANAGER'S REPORT by Gary E. Stuva

*Stuva*

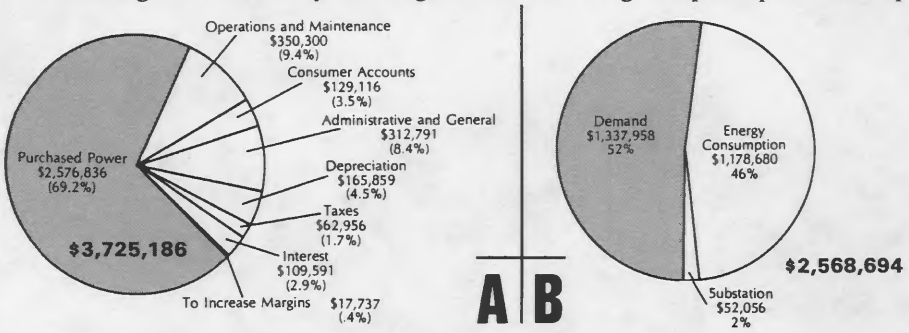
## Demand charges

I'm sure that all of our members by now are aware of Jo-Carroll's involvement with Dairyland Power Cooperative's load management program. We have radio-controlled switches installed on water heaters, dual fuel homes, and our industrial peak alert system. These turn off the electricity to the appliances (or loads) during peak periods. These "controlled loads" represent the extent of Jo-Carroll's ability to "manage" our wholesale power costs.

As can be seen on Chart A, 69 percent of Jo-Carroll's revenue is spent to purchase power to satisfy (supply) our member's electrical needs.

Over half of our wholesale power expenses are for demand charges, as indicated by Chart B. Dairyland's load management program offers Jo-Carroll and its members an opportunity to directly reduce our demand costs.

We manage our loads by turning them off during the peak periods. A peak




period is the time when readings are taken that establish our demand cost for the entire year. Historically, the peak or demand measuring periods have occurred between 5 p.m. and 9 p.m. on the coldest of winter days.

Therefore, any appliance usage between 5 and 9 p.m. on cold winter days contributes to our demand costs. These costs are very much a part of Jo-Carroll's rate base. The way in which a controlled water heater saves money for ALL of Jo-Carroll's members is apparent.

A voluntary program, similar to the Condition 90 alert used by investor-owned utilities during the summer months, could save money for the members of Jo-Carroll. This wouldn't mean the use of radio switches; rather it would involve voluntary avoidance of electrical usage between 5 and 9 p.m. on very cold days. Of course, many electrical appliances such as lighting are essential and cannot be avoided. The shifting of activities such as washing and drying clothes away from the hours of 5 to 9 p.m. on cold winter days would be a good example of voluntary load management. Shifting usage to times other than 5 to 9 p.m. will keep that load away from reading period and help keep demand-related dollars out of the rate base.

## Meter readers: Delores Arnold

*Delores Arnold*

Delores Arnold reads Jo-Carroll's largest route, Rt. 51. This route is in the East Dubuque area, and takes in Pioneer and Kennedy Acres. These are residential communities and Delores' route more closely resembles a meter reader's job in the city than our normal rural readers "I had a lot of trouble learning this route at first. It's a congested area with many fences and dogs. I've got it down to a science now – I know my way through gates and past threatening dogs," she says, although her meter reading jacket does bear the teethmarks of a dog from one close call. Delores drops off several of the meter reading sheets to the other meter readers. "This is the best part of the job. I enjoy the drive in the country and looking for wildlife. I have seen hawks, deer and wild turkeys," she says. Delores is married and has six children and four grandchildren. We at Jo-Carroll are glad that Delores can find time to read our meters, too.

# Monthly board report

Your board of directors met at the Cooperative headquarters Oct. 16, 1984. Chairman Law called the meeting to order at 8 p.m. with the following items for consideration and discussion:

1. The September Board Minutes were approved.

2. The September expenditures in the amount of $369,901.71 were presented by Treasurer Malon with an explanation from Manager Stuva.

3. A list of 30 membership applications were read by executive secretary Dorothy Young and discussed by the board, it being established that these persons desired to become members of the Cooperative and each paid a membership fee of five dollars to the Cooperative to meet the qualifications.

4. Eight requests for refund of memberships in the Cooperative were read by Dorothy Young.

5. Manager Stuva gave the manager's report consisting of the following:

A. The manager read a letter from CFC asking the board of directors to approve our $500,000 short-term credit. Janssen made a motion, seconded by Schlichting and passed to apply for the line of credit.

B. The manager discussed the final payment that is to be made to Maryville Construction Company on the new headquarters building. It was the consensus of the board to wait until the final punch list was completed, then discuss the payment.

C. The manager discussed with the board plans for the annual meeting and the grand opening. Vernon Law informed the board that Jacobstown would prepare the box lunches and that a four-piece band, "Sounds of Gold," would provide the music. Richard Reusch informed the board that the Rev. Greta McDonald and Mayor Miles Kahl would be on the program.

D. The manager read the budget payment plan that will be available Jan. 1, 1985. Dangel made a motion, seconded by Malon and passed, to accept this budget payment plan.

E. The manager discussed the new telephone system and the change in the bid price. The board felt that this should be handled by our attorney.

F. The manager discussed some of the rules and regulations for renting the multi-purpose room, it was his feeling that the finance committee do a study on this, and make proposals to the entire board.

G. The manager discussed at great length the proposed URD project at Apple Canyon Lake, Galena Territory, Chestnut, Pioneer Acres and AT&T. Malon made a motion, seconded by Schlichting and passed to proceed with the proposed URD project.

6. The NRECA annual meeting was discussed.

7. A wage committee was appointed for union negotiations on Nov. 15: Clarence Glasker, Richard Reusch, Leonard Ricke, and Vernon Law.

8. Elmer Malon was reminded he would be the director attending the October safety meeting.

9. Janssen made a motion, seconded by Reusch and passed to approve the new office manager-accountant to sign checks after he becomes bondable.

10. The delinquent list was reviewed for the last year by the board of directors. Dangel made a motion, seconded by Glasker and passed to approve the delinquent list and write off said accounts.

11. The list of nominations for directors was given by Robert Bush:

District 5: William Hatfield, Robert Patterson, and Richard Reusch

District 7: Charles Flikkema, Glen Bork, and Keith Heiser

District 8: Vernon Law, Leroy Nickels, and Charles Bales

12. A $25 donation for the 4-H foundation was approved with Elmer Malon making the motion, John Janssen seconded the motion.

13. Dorothy Young read a letter from the Iowa State University extending their thanks for making Tri-State Forage Days a great success.

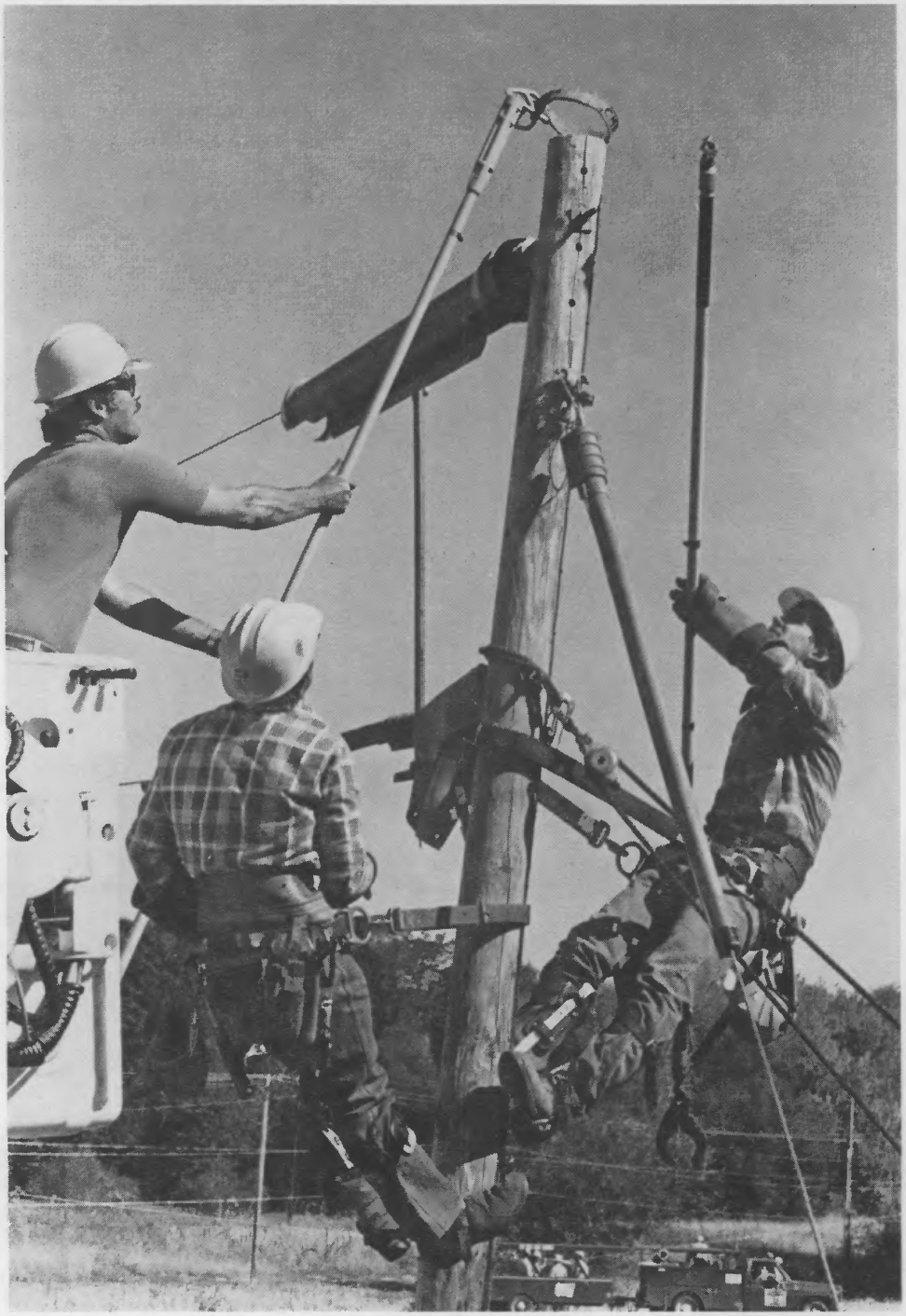
14. A short discussion was held regarding the progress of new employees.

15. Leonard Ricke gave his report on Dairyland Power and Vernon Law gave his report on the meeting in Springfield.

16. As there was no further business to come before the board, a motion by Malon, seconded by Glasker, passed that the meeting be adjourned.

## Reader prize

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



*The Hot Line School draws line personnel from throughout the state.*

# Hot line training

Each fall the Association of Illinois Electric Cooperatives conducts a school for linemen. All 27 of the co-ops in Illinois and many municipal electric suppliers send line personnel to these training sessions. This year Jo-Carroll was honored to have three of our linemen act as instructors for the school. (Robert Kruszynski)

Neil Bailey, our line superintendent, taught a class in overhead line construction. Bill Allen, who is Jo-Carroll's underground crew foreman, demonstrated for one of the groups the complex procedure for proper installation of underground cable. Another of Jo-Carroll's foremen, Rick Tippett, also served as an instructor for the school.

It is very important to continually upgrade the education of all cooperative personnel, particularly those working with high voltages. Jo-Carroll is very proud of these employees for their high degree of professional skill.