Test Your E.Q.*

Take this quiz to check your knowledge and understanding of energy-environment issues. When you have marked your answers, look below to see how well you have done.

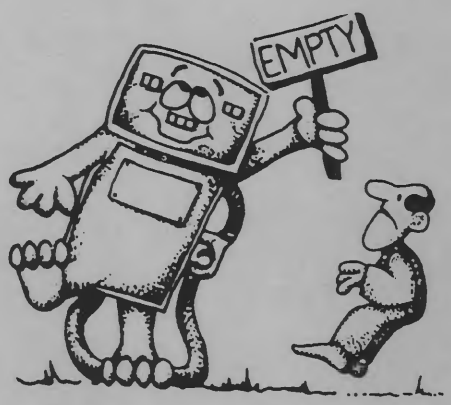
1. How much of the energy used in gas stoves supplies the pilot lights?
a. 10%
b. 25%
c. 50%

2. An incandescent lamp and a fluorescent lamp having the same light output: Which uses energy more efficiently?
a. fluorescent
b. incandescent
c. both about the same efficiency

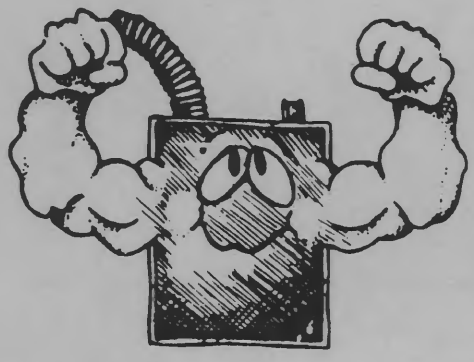
3. How many soft drink cans can be manufactured from recycled aluminum with the energy needed to make a single can from aluminum ore?
a. three
b. five
c. twenty

4. How long would a 100-watt light bulb burn on the energy needed to manufacture one throw-away soft-drink can or bottle?
a. 10 minutes
b. 5 hours
c. 20 hours

5. How much of the energy stored in crude petroleum is lost between the oil well and a moving car?
a. 20%
b. 60%
c. 90%



6. The heat energy of a gallon of gasoline is equivalent to
a. 5 man-days of labor
b. 15 man-days of labor
c. 25 man-days of labor



7. How much faster than their rate of production are we consuming our fossil fuels?
a. 10 times
b. 1,000 times
c. 1,000,000 times

8. What fraction of the world's energy consumption occurs in the U. S.?
a. over 10%
b. over 20%
c. over 30%

9. Which of the following fuel resources is in greatest danger of exhaustion?
a. coal
b. petroleum
c. natural gas

10. In the year 2000, American total energy demand will be:
a. the same as today
b. twice as much today
c. three times as much as today

Score 1 for each correct answer.
0-5 Poor, 6-7 Fair, 8-10 Good.

1. (c) Approximately half of the gas used in a gas stove is used to fuel the pilot lights because pilot lights burn continuously.
2. (a) Fluorescent lights give off three to four times as much light per watt of electricity used as incandescent lamps do. One 40-watt fluorescent light gives more light than three 60-watt incandescent bulbs (and the annual savings may be as much as $10).
3. (c) Aluminum is a very energy intensive material with the largest share of the energy going to process the ore. Recycling is a great energy saver. The nation's total throwaway containers equivalent energy waste is equal to the output of 10 large nuclear power plants.
4. (b) A 100-watt lamp could burn for 5 hours on the energy used to manufacture a disposable can or bottle.
5. (c) Ninety-four percent of the energy in the gasoline from crude petroleum is lost in making your car move. The efficiencies of the most important steps where energy is lost are:

producing the crude oil	96%
refining	87%
gasoline transport	97%
engine thermal efficiency	29%
engine mechanical efficiency	71%
rolling efficiency	30%

The total efficiency of the system is found by multiplying the six factors together: 6%.

6. (b) 15 man-days of labor. Said in another way, one barrel of oil contains heat energy equivalent to the energy of a man at hard labor for 2 years.
7. (c) In less than 500 years man will have consumed essentially all of the coal, oil and gas that nature started forming 500,000,000 years ago. By comparison, that same fraction of a calendar year is approximately 30 seconds.
8. (c) More than a third of the world's energy is consumed by the 6% of the world's population residing in the United States.
9. (c) Natural gas reserves in the U.S. are expected to be exhausted in about 40 years. Petroleum should last for a century. Coal, 500 years or so.
10. (b) For more than a century, American demand for energy has doubled, on the average, every 20-25 years.

*Energy Quotient

Far left: Jim Milligan, Raymond Smith and George Pyles put up paneling in the new community building at Carrier Mills. Center: Sandy Davis, District Director, and Fred Miller, Crew Foreman, inspect progress at a building being torn down for salvageable material to be used on weatherization projects in the Saline County area. Near left: Hobart Rollings and Charles Karnes begin disassembly of a building to salvage materials that will be used for weatherization projects.

retirees and their communities

museums, clerical help, and doing janitorial work.

"We're set up so our people have to work in nonprofit kinds of environments, but we're trying hard to place ten percent of our people in unsubsidized jobs. Part of our job is to persuade business people that a person can be a useful addition to his work force even if he's past the average retirement age."

One of the organization's main projects now centers around efforts to help senior citizens keep their heating bills within reason by helping them weatherize homes, using weather-stripping, caulking and insulation

"We don't supply the material," Horning emphasizes, "but often community action agencies will supply the material and we will install it, or the people may be able to purchase the material themselves.

"We do emergency home repairs for low-income senior citizens, too, provided they own the property. Recently we rebuilt a widow's porch, and we built a ramp for a man who's confined to a wheelchair," he says.

"The main thrust of our efforts is to place people, many of whom have never held a job outside their homes, into jobs where they can utilize the skills they've developed in the home or on the farm.

One job that required skills, determination and hard work was the reconstruction of the Green Thumb office in Eldorado which the organization leases from the local school district.

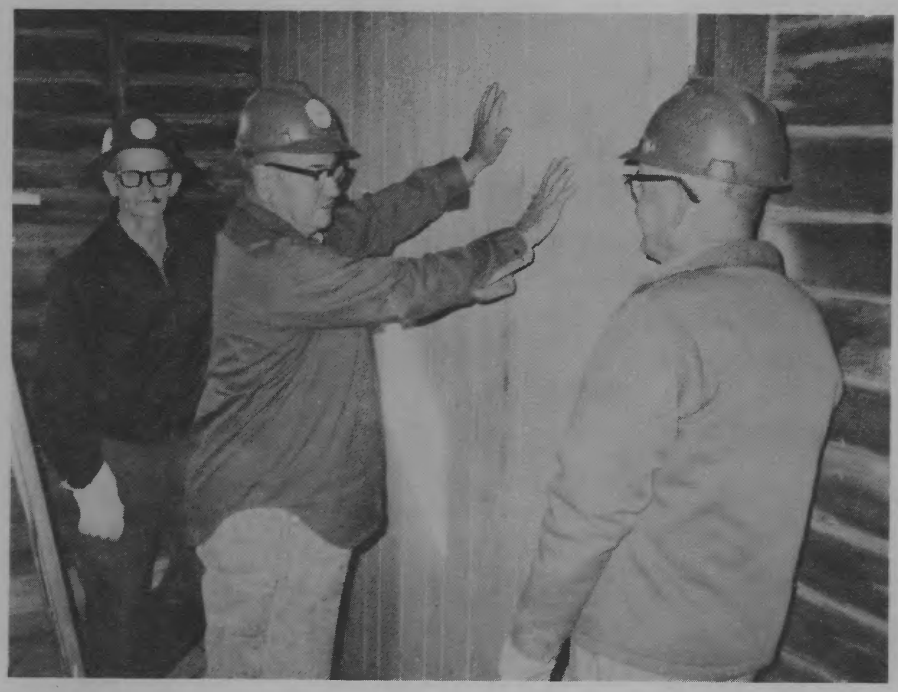
"The building, which is the old Beulah Heights School, had been abandoned for three years when we came down," Horning remarks, "and there wasn't a pane left in any of the windows. The plumbing was gone, there was no wiring, and there were big holes in the walls.

"I looked at it with my foreman and I remember saying, 'Do you think we can ever get this fixed up?' He was quiet for a little bit, then he looked at me and said, 'Well, we can try,' and we went at it from there."

It took 18 trips with pickup trucks before the broken glass and other debris was gone, and then the rebuilding began.

"We advertised in the paper for glass," Horning says, "and we got some, but not enough, so some of our men bricked over some of the windows, while others went to work on other areas. They put in new plumbing, wired the place, and put in paneling. The City of Eldorado gave us some carpeting and we put that down, too. They turned that broken down old school into a pretty nice building."

The reconstruction of the old school, long thought to be past its usefulness, is somewhat symbolic of what Green Thumb is all about: people thought to be "past their prime," are again leading productive, rewarding and useful lives, just like the "retired" school building.



Green Thumb program benefits

The town of Carrier Mills has a new municipal building, and Mayor Chester Starkey is enthusiastic in his praise of the local Green Thumb organization for the part it played in making the building possible.

"Boy, they really helped us," he says, "about a year ago they tore down an old building that belonged to the city and they cleaned all the brick, which we were able to sell for a sizable amount, and this helped pay for the new building." The old building site is now used as a parking lot.

And this is not the first of the group's civic projects, notes Jack Horning, regional representative. Horning, who operates out of the Green Thumb state office in Eldorado, works in Illinois, Indiana, Kentucky and Missouri.

"Green Thumb has done a lot of this kind of work in the last few years," Horning says, "from demolishing old buildings for salvage purposes to rebuilding old structures or relocating old log cabins to new areas to preserve the area's heritage."

The organization is designed to provide employment for retirement-age persons who still need to work, either for financial reasons, for morale, or both. "It helps a lot just to feel useful again," Horning says, "and many of the people we hire were farmers or tenant farmers back in the days when farmers weren't covered by Social Security, and they need a source of income."

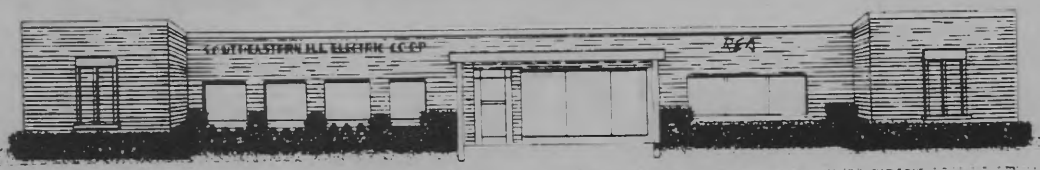
Green Thumbers work three eight-hour days a week, are paid $2.65 an hour, and are able to earn up to $3,400 a year without being disqualified for Social Security benefits. They also receive fringe benefits, including workers' compensation and liability insurance, paid vacation, sick leave and holidays. "Many only receive the minimum Social Security benefits," Horning relates, "and that amounts to $84.50 a month for a person who retired at 65, or $67.50 for one who chose to retire at 62.

"Green Thumb got its start in 1965 when some people from the National Farmers Union went to the Labor Department and urged that some of its programs should be expanded to cover rural areas," Horning says. "Then," he continues, "most of the money was being spent in the cities, and Farmers Union pointed out that there was plenty of poverty in the country's rural areas, too."

At that time, Lady Bird Johnson was promoting the idea of clean roadsides and parks, and the primary thrust of Green Thumb was in the direction of cleaning roadside areas and planting shrubs and flowers, hence the gardening-related name.

"Now, only about ten percent of our work is in that area, and our people are in a variety of jobs," Horning notes. "We have people working as cooks, crossing guards, library aides, teachers' aides, guides in

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

One of the joys of the holiday season is to extend to you our sincerest thanks for a very pleasant association.

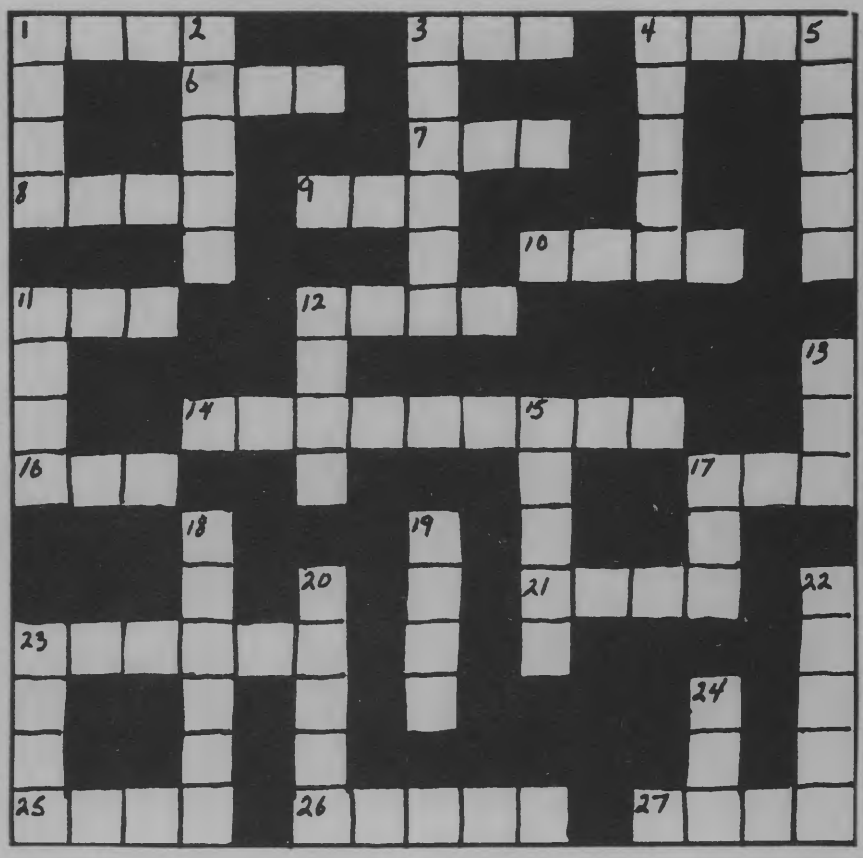
We wish you holiday happiness and all good things for the New Year.

(continued from page 12a)

efficiency. Install some kind of insulation under the floor if you can't find any there. Also, cut a louver in two opposite sides of the underpinning to allow for ventilation of moist air, and/or install a ground cover of polyethylene film or roll roofing covered with pea-sized gravel to keep it from tearing.

Many mobile home dealers stock some sizes of storm windows and doors. Weather-stripping and caulking should be in good repair. A good latex, silicone or butyl rubber caulking should be used to reduce air infiltration. Because of reduced space inside a mobile home and because it's possible to seal virtually every crack and hole, you should make sure that your fossil-fuel furnace has enough combustion air. Don't forget that a gas furnace requires 10 cubic feet of air for every cubic foot of gas burned! If you're unsure, get some competent advice.

If your home has "sealed combustion," your furnace is already supplied with OUTSIDE air. Just be sure that its fresh air intake is not blocked or obstructed at any time.



MEMBER CROSSWORD

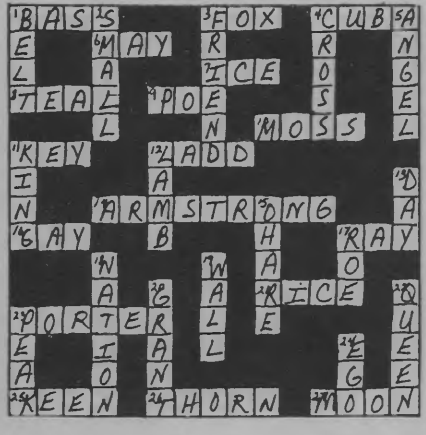
Try your hand at this crossword puzzle. You'll discover after you're through that each answer is really a member's name. The answer to the puzzle is below:

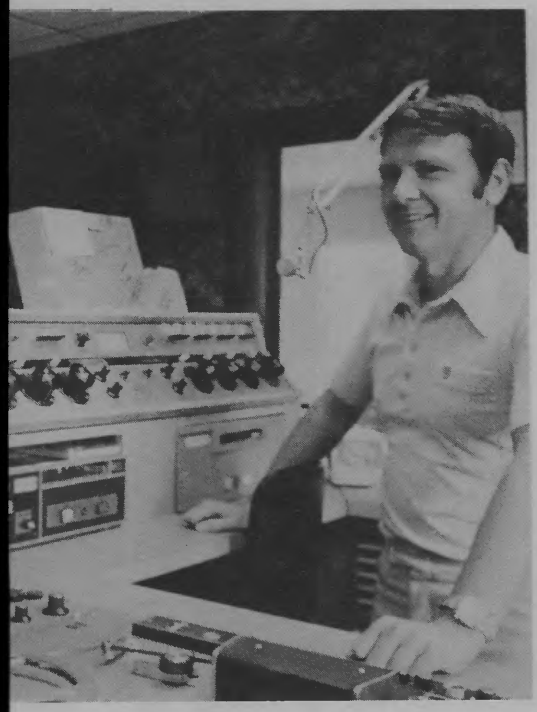
ACROSS

1. Deep singing voice
2. Sly animal
4. Nation island south of Florida
6. Merry month
7. Solid form of H_2O
8. Wild fresh-water duck
9. American writer of the supernatural
10. What a rolling stone doesn't gather
11. Lock opener
12. Star of Shane
14. First moon-walker
16. Happy; elated
17. A beam of light
21. Cereal grass
23. Baggage-carrier
25. Sharp; acute
26. Prickle on a rose
27. Earth's satellite

DOWN

1. A waist band
2. Antonymn of "large"
3. An American "ami"
4. Crucifix
5. Inhabitant of heaven
11. Male ruler
12. Fleecy animal
13. Antonymn of "night"
15. Busiest airport in the world
17. Fish eggs
18. Country under one government
19. What one is "often up against"
20. Famous Civil War general
22. Elizabeth is one
23. Summit
24. Self-esteem





weather

n 'takes off' in southern Illinois

low-power operation above a bank in Marion, and we had a 160-foot tower. We outgrew the building fairly quickly, and built this building in 1972," The present facility is located at the very edge of Marion on Route 37.

"We've outgrown a few towers along the way, too," Dutch notes, "After the 160-foot tower we went to 275 feet, then 300, then went to our present 500-foot job. Now, we're about to outgrow the building again. We really need to add on."

While all this was going on, W3-D's smooth blend of weather, news and country music was catching on rapidly, and a frequency change had to be made because of the 3,000-watt limitation the station was under. It took two years to get that done, and now country 107 blankets 67 counties in four states, with 50,000 watts of power day and night, and serves an area with 2.7 million people.

While W3-D is proud of its country sound, it does not ignore other facets. "We have a four-man news staff," Dutch says, "and they really scramble for the news, and we work very hard on our weather programs. And we have a backup generator, in case of power failure."

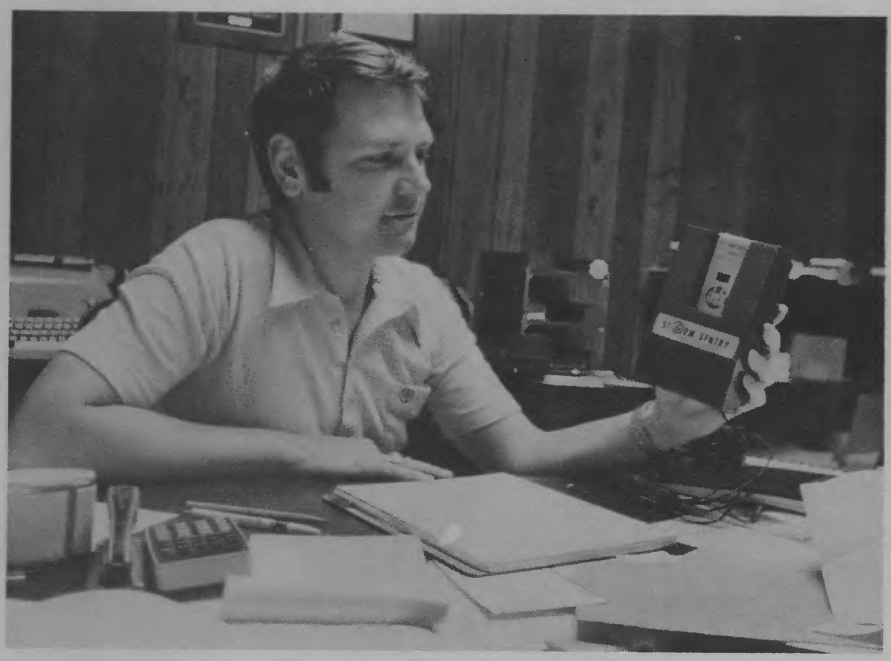
One of W3-D's weather services deals with the Storm Sentry System, an automatic setup that enables the station to alert its audience to severe weather. To take advantage of it, the listener buys a small radio set to the station's frequency. When rough weather threatens, the station sends out a tone that automatically turns the receiver on so the listener knows immediately that weather information of interest is coming.

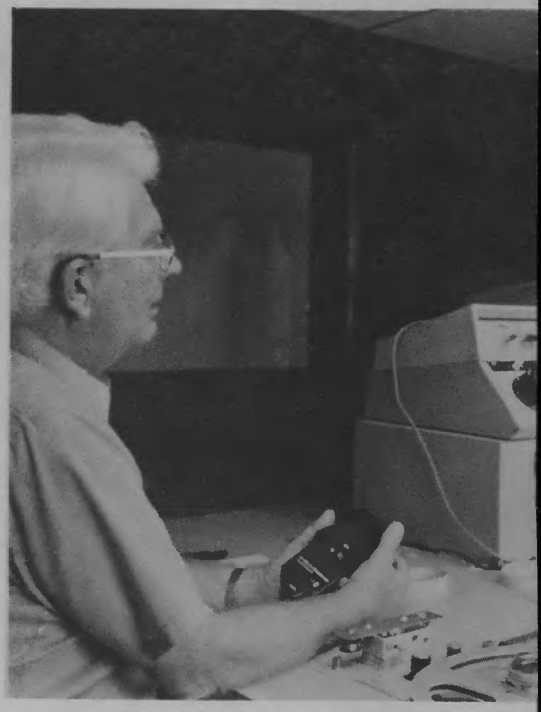
The station employs a total of 20 people, and boasts some automation. "We're considering doing our billing, logging and traffic by computer, too, "Dutch says.

A 50,000 watt radio station is sure to be a heavy electric user, and Doelitzsch tries to save money on his utilities by recirculating heat from the station's powerful transmitter through the building. "I'd like to figure out how I could use the waste heat in the summer to work the air conditioners too," he remarks, "but so far we haven't been able to."

Doelitzsch lives about half a mile down the road from the station with his wife, Joann, and daughters Dinah Jo and Deanna Beth. He keeps active in civic activities, and is vice president of his Rotary chapter, serves on the board of directors of the Illinois Broadcasters Association, as well as the board of the National Radio Broadcasters Association. He also serves as president of the Chamber of Commerce of Marion.

As if all those activities did not keep him busy enough, he has applied for a permit to operate an AM station and a television station, too. Before long, country sight and sound may blanket the W3-D area better than ever.





Clockwise from above: Roger Swan at the mike. Doelitzsch exhibits a Storm Sentry receiver, which is automatically activated by a tone from the station in times of severe weather. Expansion is part of the palns at W3-D, and Dutch shows a new studio to Otis Hickey, public relations superintendent for Southeastern Illinois Electric Cooperative. Dutch shows the station's automatic commercial cueing machine to Hickey.

Blends country, news

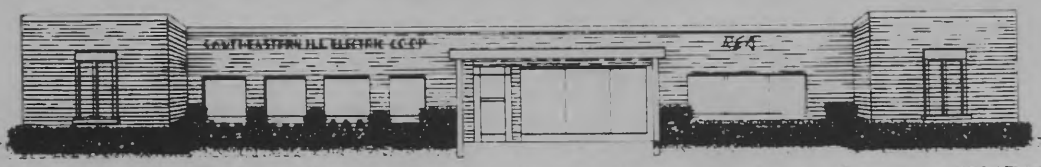
FM statio

Dennis "Dutch" Doelitzsch (pronounced day-lidge), is a youngish, successful radio station owner who attributes his success to "being in the right place at the right time." Those who know him know better, and know that the many hours he works and the skills he applies are also important.

"I started working toward my own station when I was about six months out of college and working for a radio station in Quincy," he says. "I'd majored in radio and TV at Southern Illinois University at Carbondale," he adds, "and I began putting my application together for my own station in March, 1970. I did all the application work myself, and got the permit the following September. That was pretty good, considering how long it usually takes."

"At that time," Dutch relates, "FM was a real 'burger in Southern Illinois, but it looked to me like the way to go, and I wanted to emphasize the country sound. We started it as a fairly

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Energy management in the mobile home

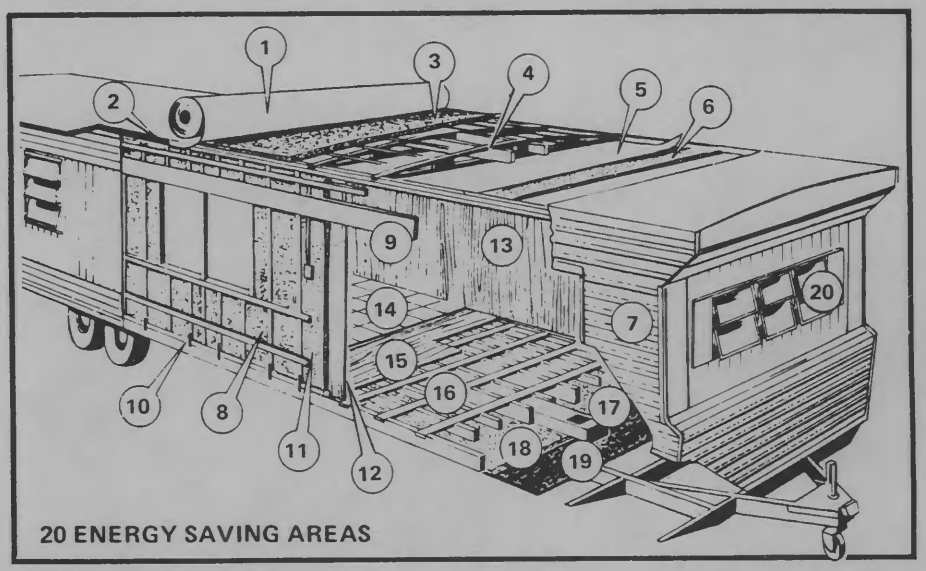
Mobile homes come in many shapes and sizes. Many of them can scarcely be recognized as mobile homes, especially when they have been completely set up on the owner's lot. However, others have retained more of the travel trailer look and some of the construction features that characterized mobile homes in years past. It is this kind of mobile home that we are primarily interested in here.

It's easier than you might think to prepare one of these older mobile homes for more efficient heating and cooling. The mobile home in the cutaway drawing shows typical construction details. The manufacturer of your unit can supply you with drawings also. Study them and familiarize yourself with each component from support frame to roof.

Mobile homes do not have attic space to help dissipate heat in the summer, so the heat from the sun goes all the way through to the ceiling, making it, in effect, a radiant heating panel. Ceiling insulation is very important.

On some older mobile homes, the under-roof area can be insulated by cutting holes near the top of each end of the home. After filling the attic with blowing wool, louvered vents should be installed in the holes. These vents will help keep the insulation dry. WET INSULATION does not insulate. Some homes have removable ceiling boards that allow access to the area you need to insulate.

Outer walls of mobile homes may not be very thick. In fact, many of the older homes had only a 1 5/8-inch wall cavity. Only a limited amount of insulation can be stuffed, blown or foamed into such a small space. Insulation of one and one-half to two inches thick is not readily available.



20 ENERGY SAVING AREAS

One recommended method of installing insulation is to remove a section of the siding, insulate that section and then move on to the next until the whole outer wall is completed.

Possibly, a sandwich-type, foamed sheathing board could be nailed to the frame before you reattach the siding. This board features a "sandwich" of rigid foam between waterproofed Kraft or aluminum sheets. Even though the total thickness of this sheathing is only one-fourth to one-half inch, its "R" value of one or two is equivalent to that of a one or two inch thickness of wood. It is also recommended for roof sheathing by the manufacturer who claims that its dampening effect ends annoying "roof rumble" when it rains or when the wind blows very hard. Since it comes in sheets, it also cuts down on infiltration of winter air and helps keep out moisture from leaks.

Preformed boards of foamed polystyrene or polyurethane (the fire-rated type) in one or 1½ inch thickness should be adaptable. These boards come in two by eight feet sheets and they are easy to cut. Care should be taken in recaulking at seams and around screw and nail heads. (It's a good idea to level the home and brace it well before you start removing its siding or roofing!)

Many owners think they've done an adequate job of keeping out cold winter drafts by installing underpinning, but the floor area is just as important as the ceiling when it comes to upgrading for energy

(continued on page 12d)

Ten Good ¢ents Home features

Perimeter Insulation
The Good ¢ents Home begins with better insulation. Perimeter insulation is placed around the foundation of the home to repel the flow of heat to the ground.

Wall Insulation
The walls are constructed with 2x6 lumber providing 2 extra inches of space for batt* insulation.

Ceiling Insulation
Two 6-in. batts* of insulation are installed in the attic by using a special truss for the roof. Better insulation is the first step in building an energy-saving Good ¢ents Home.

Vapor seal
Polyethylene Plastic (6 mils thick) does the best job of preventing unwanted moisture from entering the home. Another important benefit is realized, since the vapor seal holds air leakage to a minimum.

Double-pane windows
Double-pane windows or conventional windows equipped with storm sash provide an insulating airspace that is capable of reducing heat flow by as much as 50%. These windows have a tighter seal and therefore help to combat air leakage.

Special insulated doors
A special insulated door combined with a magnetized rubber gasket reduces the transfer of heat in the same way as your refrigerator door. These doors offer better resistance to the loss of heat than the doors that are normally used.

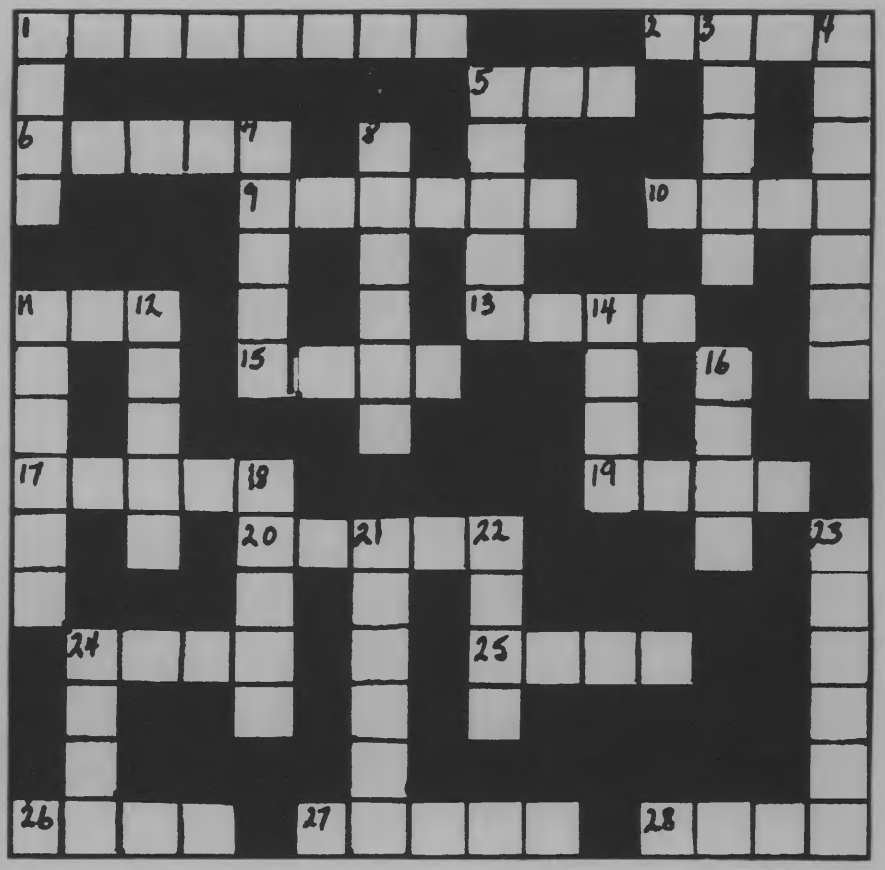
Attic ventilation
A thermostatically controlled power roof fan coupled with adequate soffit vents provide a dependable attic-ventilation system. Temperatures in the attic are reduced from as high as 140F to 100F. This reduces the burden on the air conditioning system in hot weather.

Protected air-distribution system
Care is taken to make sure the ductwork is completely surrounded by 12 in. of batt insulation.

¢entsible comfort control system
A control that lets you set the desired temperature as well as separate controls for outside fresh air and moisture removal.

Heat pump
The most efficient heating and cooling equipment available.

*Or the equivalent R value



MEMBER CROSSWORD

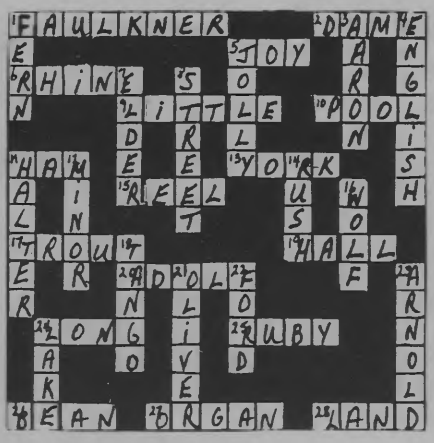
Try your hand at this crossword puzzle. You'll discover after you're through that each answer is really a member's name. The answer to the puzzle is below.

ACROSS

1. Famous 20th century American author of the South
2. British title given to ladies of nobility
5. Elation; happiness
6. Famous European river
9. Antonymn of "big"
10. Another name for billiards
11. An overzealous actor
13. A city in England
15. A lively country dance
17. Fresh water game fish
19. Corridor
20. _____ Hitler
24. Antonymn of "short"
25. A crimson gem
26. Head of a college faculty
27. Musical church instrument
28. To set ashore

DOWN

1. Plant with feathery fronds
3. _____ Burr
4. Language most widely used in America
5. Adjective for St. Nicholas
7. A church officer
8. Avenue
11. A rope designed to lead an animal
12. A person under 21 years of age
14. Hurry
16. Red Riding Hood's foe
18. Spanish American dance
21. Charles Dickens' _____ Twist
22. To cross by wading
23. Benedict _____
24. Small body of water

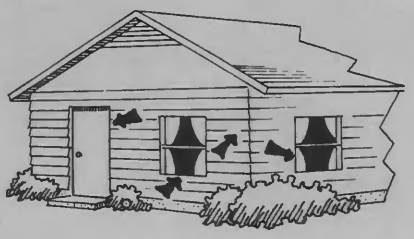


TYPE OF INSULATION

	BATTS OR BLANKETS		LOOSE FILL (POURED-IN)			
	glass fiber	rock wool	glass fiber	rock wool	cellulosic fiber	
R-11	3½"-4"	3"	5"	4"	3"	R-11
R-19	6"-6½"	5¼"	8"-9"	6"-7"	5"	R-19
R-22	6½"	6"	10"	7"-8"	6"	R-22
R-30	9½"-10½"*	9"*	13"-14"	10"-11"	8"	R-30
R-38	12"-13"*	10½"*	17"-18"	13"-14"	10"-11"	R-38

* two batts or blankets required.

Loose-fill insulation is often used for blowing or pouring over the ceiling and batts are used in the walls and under the floors.



Where the Heat Goes

In a completely uninsulated frame house, the following table gives the typical heat loss through various portions of the building. The table assumes that 15 percent of the outside wall area is made up of windows and doors, and that the infiltration rate is one air-change each hour. (Infiltration is unavoidable air leakage in a normal house, coming through cracks in walls, from around doors and windows, and through open doors and windows.)

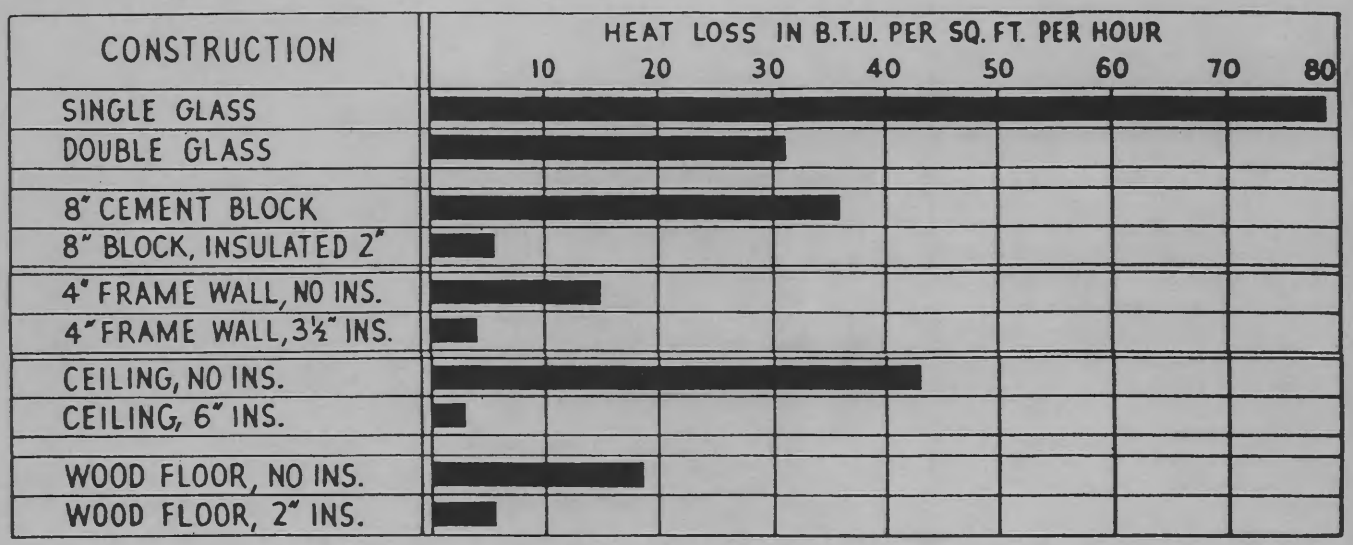
	Heat Loss
Ceiling Area	45%
Floor Area	20%
Windows and Doors	12%
Outside Walls	12%
Infiltration	11%
Total	100%

Although these percentages will vary with the amount of window area, floor plan, number of people in the family, age of the home, and other factors, they are average for the typical noninsulated 1,500 square foot house.

Other Ways to Weatherize

While proper insulation results in the most energy savings per dollar invested, consumers can achieve additional savings throughout their homes. Installation of storm doors and windows and caulking around doors and windows will plug up costly "heat leaks." Installation of attic vents or a thermostatically controlled attic fan will remove high-temperature air from above the living space and reduce the load on your air conditioner during the summer. For other ideas on home weatherization or help planning your weatherization program, contact your cooperative.

Remember, now is the time to insulate before fall is over and cold winter winds have begun to blow again. The insulation that could have conserved energy and saved you money on last summer's air conditioning bill can still save you money heating your home this winter. Weatherization will pay you dividends all year long.



This bar graph shows transfer of heat through common types of material. Next to glass, the big losers are concrete and uninsulated frame construction. Adequate insulation and double glass lower heat loss from 17 percent to 70 percent depending upon materials and location.

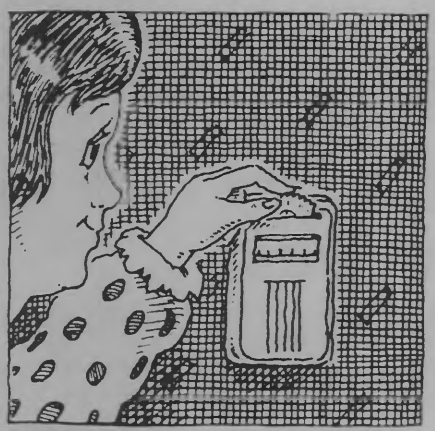
Weatherize to Conserve Energy ... And Save On Heating and Cooling

With the memory of last winter's extremely low temperatures and cold, blowing winds still fresh in our minds, now is a good time to think about trying to reduce our heating costs for the future. With fuel costs continuing to increase, proper home weatherization is an investment that will pay for itself many times over during the life of a home.

Why Insulate at All?

Insulation controls the flow of heat. It keeps heat INSIDE your home in the winter and OUTSIDE your home in the summer. This helps to reduce your heating bills in winter and your cooling bills in summer. It saves you money year-round and it helps conserve our nation's dwindling energy reserves.

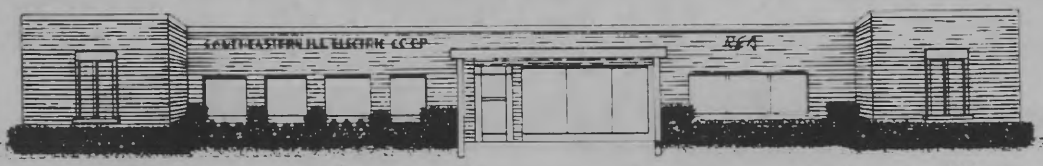
But, insulation is more than good economics. It also increases the comfort of your home. Uninsulated walls, ceilings and floors are cold. They actually draw heat away from your body. Proper insulation will increase the relative humidity and reduce heat loss from your body resulting in a more comfortable feeling, even with the thermostat at a lower setting.



How Insulation Works

Insulation is any material that provides a high resistance to the flow of heat from one area to another. Most commonly used in homes are the fibrous insulations (mineral wool, glass wool, or cellulose fiber), which are light and very porous. Containing millions of tiny air pockets, they are highly effective in slowing heat flow.

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Weather, Vandalism Cause Recent Outages

Recently, Southeastern Illinois Electric Cooperative has been experiencing numerous outages throughout our service area. Many of the interruptions have been caused by storms, lightning, and rains; however, some outages have originated from vandalism. If anyone should see a person or persons attempting to damage the cooperative's lines or service equipment, they should take down the license number and call our office (618) 273-2611 collect. We will then notify the proper authorities.

Following a lengthy drought, the recent rains presented many problems for our line crews. Dampness causes the damaged insulators to break down, resulting in the line becoming grounded and the opening of oil circuit breakers.

The Rosiclare area experienced a windstorm on the evening of August 25. Many limbs were blown across lines and heavy rains hampered service restoration. Again on the night of August 29, the consumers south of Equality experienced power outages. Much of the trouble in the Equality area was due to cracked and damaged insulators. Over twenty insulators had to be replaced before service could be restored.

We have four brush control crews that work five days per week to try and keep lines free of limbs and brush growth. We can not stress how important it is for our lines to have a clearance from brush and trees. Whenever our line crews and servicemen are trying to find the cause for trouble, it certainly makes their work easier and safer to have a line free of overhanging limbs and trees.

The work load this summer has been by far the busiest ever. The volume of new services is at an all time high; also we are replacing numerous poles and updating several single phase lines with three-phase. All new services are constructed in the same order as the jobs are received in our office and to aid in trying to stay ahead of the work load, we have engaged three electrical contractors.

We at Southeastern hope that you, the consumer, have not been inconvenienced too greatly due to our heavy work schedule and recent weather conditions.

Southeastern Illinois Electric Cooperative's Telephone System

The Southeastern Illinois Electric Cooperative's Eldorado office has four incoming lines. The switching of all lines is automatic; the only way a person can get a busy signal is for all four lines to be in use simultaneously. Perhaps the person receiving the busy signal when he calls the office feels that we are negligent in answering; however, I can assure you that all calls are handled as promptly as possible.

When a storm or an extensive outage situation occurs in our service area, we call in extra personnel to help with the incoming calls but the volume of outage calls becomes too great for our four-line switchboard.

We ask for your understanding in such situations and assure all consumers that our line personnel will be out on the job restoring your service as soon as possible.

COOPERATIVES
democracy in action

New Billing Cards Include Account Numbers

The new billing supplies being mailed out this fall have a few changes. In addition to including a new members' handbook, there is a new billing card containing the member's name.

Since these cards have the member's account number as well as the name we would like to caution you NOT to borrow cards from a neighbor. This will save you from the possibility of having your payment applied to the wrong account.

Watch your mail— new rate sheets are coming your way!

In October of this year, new rate sheets and new billing packets will be mailed to all members. The billing supplies being mailed will contain new member handbooks. These new handbooks will have up-to-date information concerning energy conservation, outage instructions and self-billing procedures.

New rate sheets will be mailed along with these billing supplies. The new rates will go into effect with your Novermber 1978 meter reading. In other words, when you read your meter in November of this year, be sure to calculate your bill using this new rate sheet.

As soon as you receive these supplies, please take time to read through the contents of your packet carefully, and remember, the new rates are effective with your November 1978 meter reading.

Mike Martin wins FFA degree

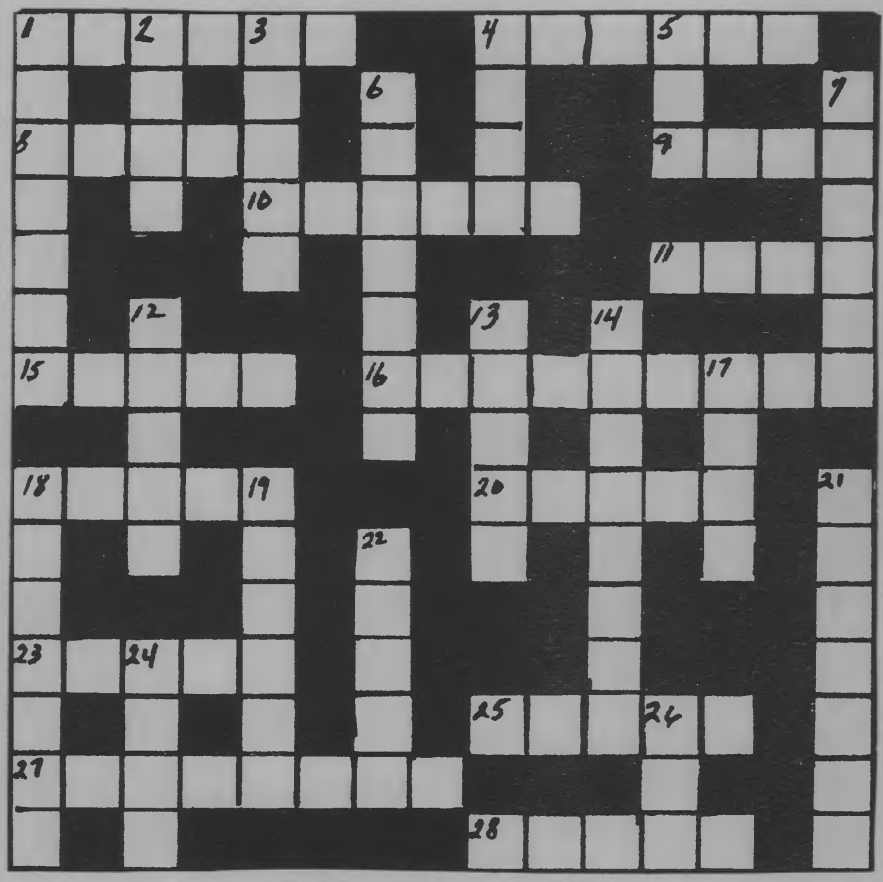
Mike Martin of the Harrisburg FFA Chapter received the State Farmer Degree at the state FFA convention held at the University of Illinois in June. He is the son of Bill and Shirley Martin, Route 1, Harrisburg.

His Supervisory Experience program consists of operating a 73-acre farm with his father, on which they raise registered Angus cattle and Yorkshire-Hampshire cross hogs.

Mike has been enrolled in agricultural education for three years at Harrisburg High School, and has held the office of FFA reporter and vice president. He has been on the livestock judging team, and has shown his Angus cattle the last six years at the Saline County Fair.

After graduating from high school in the spring of 1979, Mike plans to enroll at Southeastern Illinois College and study diesel mechanics.

His hobby is buying and restoring antique tractors.



MEMBER CROSSWORD

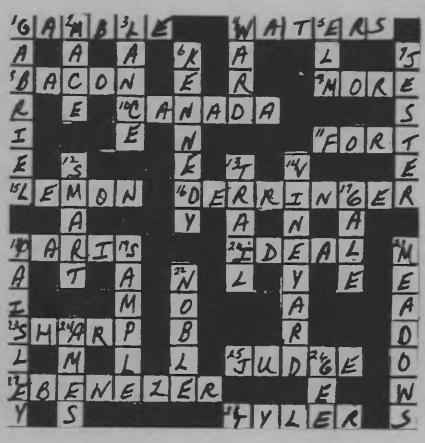
Try your hand at this crossword puzzle. You'll discover after you're through that each answer is really a member's name. The answer to the puzzle is below.

ACROSS

1 To bet
4 Seas, oceans
8 A product of a pig
9 Extra; additional
10 The U.S.'s northern neighbor
11 _____Knox
15 Citrus Fruit
16 Type of pocket pistol
18 The "City of Lights"
20 Perfect
23 Keen; acute
25 To form an opinion
27 _____Scrooge
28 10th President of the U.S.

DOWN

1 The announcing angel
2 Heavy-headed staff carried by a sovereign
3 To pierce
4 To turn aside; to repel
5 Shade tree
6 35th President of the U.S.
7 Buffoon
12 Intelligent
13 Pathway
14 A grape plantation
17 A strong wind
18 A pattern of colorful and minutely detailed figures
19 Specimen
21 Leas
22 Of lofty character
24 Singer-actor Ed _____
26 Exclamation



-son matter

are as near duplicates of the original as possible.

"We buy the works for the clocks," James says. "The original Terrys had to be wound every day; these have eight-day works."

The painstaking nature of the clock-making methods of Bill and James Carr parallels that of Eli Terry. Built during the early 1800's, the Terry clocks are now collectors' items. It is estimated that originals are worth about $1,500 now, if the owner will part with the treasured timepiece.

The limited number of original clocks, the reluctance of owners to part with them and the desire of people to have such a piece of history in their homes works in the favor of Bill Carr. For about $200 those who cannot obtain an original or cannot afford one can own what is an outstanding replica, and they won't have to wind it every day.

The 15 years since the first story in the Register are filled not only with James Carr's clockmaking. Bill, as mentioned in the first story, was working at sea.

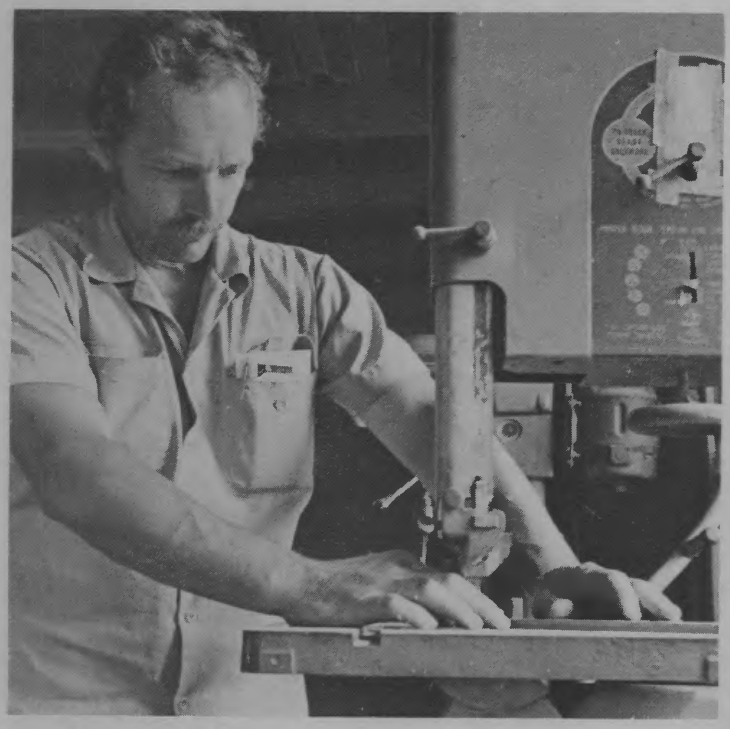
Before long, he became a licensed officer for sea-going vessels, working mainly in the Far East. In 1967, he settled in Saigon, South Vietnam. Between then and 1975, he made that his home, married and began his family. His wife, Chi, and children, Jimmy and Lilia, now make their home on Possum Ridge, far removed from southeast Asia.

Bill Carr, his family and his wife's sister, Ut, were among the people evacuated just in advance of the communist takeover of South Vietnam.

From Saigon they traveled to the Philippines, where a refugee camp was home. Fortunately for the Carrs, one possession was not in South Vietnam at the time—Bill's yacht. It was in Singapore, and Bill flew there and set sail back to Manila to get his family.

The next trip, even considering what they had just been through, was to be the most perilous. For three months and three days, Bill single-handedly manned the yacht as they sailed to Guam. Sailing alone for that distance would have been enough of a task, even for an experienced seaman such as Bill, but the real test came from two tropical storms. "There were several times when I thought it was all over," Bill says.

After reaching Guam, the Carrs made the island their home until the sale of the yacht, providing them with money needed to fly to the states, and reach Possum Ridge.



Left: William Carr works at the band saw, cutting pieces for the Terry clock reproductions. Center: Each of the reproductions bears a card with the particular clock's number and the signature of the maker. Right: William Carr and Otis Hickey of Southeastern Illinois Electric Cooperative discuss Carr's technique for reproducing the famous Terry clocks.

Clocks become a father-and

Some 15 years ago the Harrisburg Daily Register featured an article about James Carr and his hobby of making reproductions of the Eli Terry clock. The story detailed the craftsman nature of James Carr, whose interest and creativeness were closely related to his work as a welder and cabinetmaker.

In the article, there was mention of James' son, William, then 21 and described as also an artist, but who was working on a scientific ship.

This past June, The Daily Register put together the second part of that story. William (Bill) Carr is now home from the sea and is following in his father's footsteps, reproducing the famous Terry clock in the same artistic manner as his father.

What began years ago as James Carr's dream—to reproduce the Terry scroll-and-pillar shelf clock—is now a family tradition. And, as James Carr is so proud to tell visitors, Bill is having no trouble acquiring the skills and techniques to reproduce the clocks. "I taught him everything I know," James says, as he watches Bill continue the work he began years ago. "When I showed him how to do the different things, I could tell he would be good at it."

Bill Carr now works in the concrete-block shop atop Possum Ridge (off Route 34 south of Rudement) that was his father's working area for so long.

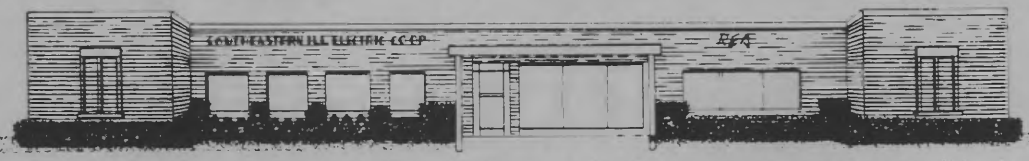
James is in and out of the shop during the course of a day, generally pleased to tend his garden and watch as son Bill perpetuates the dream.

The Terry clock stands about 29 inches high and is about 17 inches wide at the base. The original clock was mahogany veneer, and the first clocks that James Carr reproduced were of solid mahogany. But, prices for some woods are now five times what they were just a few years ago and Bill has found that he must use soft pine, veneered outside with Honduras mahogany.

Using a quantity technique developed by his father, Bill cuts, drills and carves the wooden pieces. While the methods passed from father to son make the work somewhat easier, Bill explains that production is still slow and will always be secondary to quality.

The dials of the clocks are painted by Bill, and he handmakes the hands, using a length of wire, a nail and a washer. After Bill is finished with the welding, filing and forging, the hands

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

New rates effective with November meter reading

As mentioned in the past few issues of this magazine, a rate increase will go into effect with the November 1978 meter reading. The increase in rates, which will be approximately 20 percent, is due primarily to the expenses which will result from the operation of the new 173 MW generation until at Southern Illinois Power Co-operative, Southeastern's generating plant. This unit, which contains pollution control equipment, costs about three times as much per KW of installed capacity as the original unit. In addition, the interest on the new unit is approximately four times greater than the interest rate on the old unit.

The other contributing factor to the rise in power costs is the increase in the cost of coal. As a result of last year's coal strike, the price of coal necessary to generate electricity has risen drastically.

Rate increases are, of course, unpleasant occurrences; however, because of the factors mentioned above, increases in the cost of electricity are inevitable and necessary. Even with a rate increase of about 20 percent, we at Southeastern are proud of the fact that our members still enjoy the lowest rates among all Illinois cooperatives. In addition, our studies show that our new rates are highly competitive with those of neighboring utilities.

The following comparison rate schedules reflect the new rate changes:

KWH/Mo.	Existing Coop. Rate "A"	New Coop. Rate "A"	Existing Coop. Rate "A-H"	New Coop. Rate "A-H"
100	$ 10.88	$ 10.50	$ 10.88	$ 10.50
200	15.60	15.75	15.60	15.75
300	18.75	21.00	18.75	21.00
400	21.90	26.25	21.90	26.25
500	25.05	31.50	25.05	31.50
600	28.20	34.86	28.20	34.86
700	30.93	38.22	30.93	38.22
800	33.66	41.58	33.66	41.58
900	36.39	44.94	36.39	44.94
1000	39.12	48.30	39.12	48.30
1200	44.58	55.02	44.16	54.60
1400	50.04	61.74	49.20	60.90
1600	55.50	68.46	54.24	67.20
1800	60.96	75.18	59.28	73.50
2000	66.42	81.90	64.32	79.80
2500	80.07	98.70	76.92	95.55
3000	94.50	115.50	89.52	111.30
3500	110.25	132.30	102.12	127.05
4000	126.00	149.10	114.72	142.80
4500	141.75	165.90	127.32	155.55
5000	157.50	182.70	139.52	174.30

The rate on security lights has been increased by 50 cents per month.

Just What Is 'Energy Conservation?'

"Energy Conservation" is a term being heard in more and more conversations each day. We know that to conserve means we must try to save energy, but the question of "why" often creeps into our thinking.

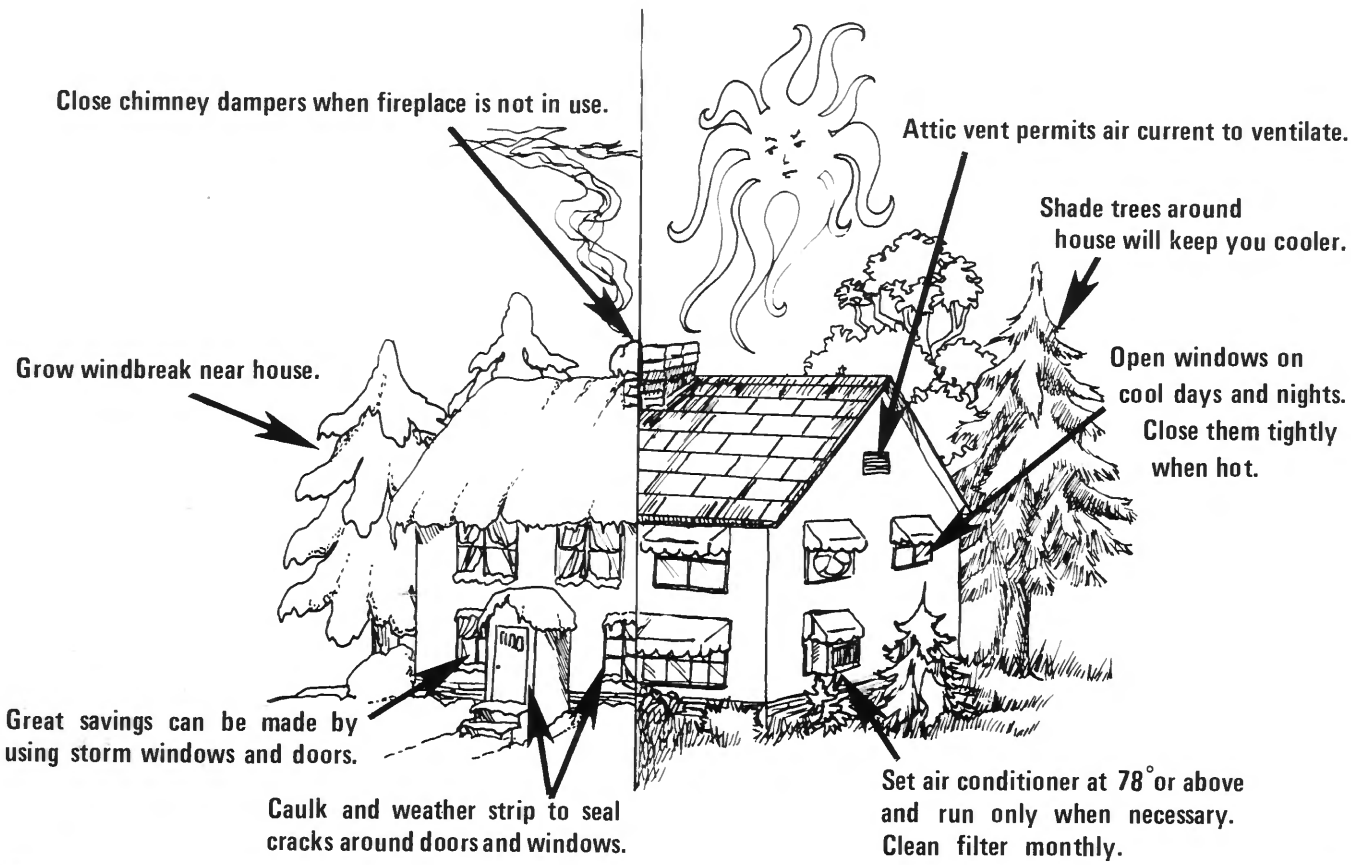
We know that energy has made possible our high standard of living. We use energy to heat and cool our homes, cook our meals, give us light, launder our clothes, provide us with entertainment—the list goes on and on. However, if there is to be enough energy to meet our energy needs now and in the future, we are going to have to start saving energy immediately.

The supply of fossil fuels needed to generate electricity is limited, yet our demand keeps rising. In addition to saving resources, we will be saving the environment, for pollution is a by-product of using energy.

By using energy more efficiently, not only will we be preserving natural resources and the environment, but we can also save money through energy conservation. Energy costs are steadily rising so it is more important than ever to save energy. It is true that electric costs are increasing, but by cutting demand, this will help to slow down the upward-climbing costs of electricity.

The latest estimates claim that the residential American wastes approximately 40 percent of the energy used in the home. Considering the fact that Americans consume 35 percent of the world's energy while representing only six percent of its population, this amounts to a great deal of wasted energy.

Energy conservation is truly good for the economy—yours and the country's. The following diagram gives some hints on how to save energy at home all year 'round.



Cadle reported.

At last year's annual meeting the cooperative's use of the chemical 2,4,5-T was questioned. When used according to label instructions, Cadle said, this chemical poses no imminent or emergency threat to the environment or to human health. "However, we discontinued the use of 2,4,5-T in 1977 and our plans for this year are to reduce aerial spraying operations as much as possible using a different chemical which is not supposed to be as controversial as 2,4,5-T. In addition, we have substituted the use of a large brush clearing machine for part of our right-of-way clearance program, when possible," he wrote.

Receiving length-of-service recognition were: 25 years; Bob Fulkerson, Derak Jones and Tobby Lane. For 20 years; Ray Harbison, Ray Sanders and Sue Yates. Mike Perkins and Wilma English received 15-year recognition, and Dan Barger was feted for 10 years of service.

The Musical Flowers, a variety group from Hilliard, Ohio, provided entertainment.

Clockwise from top left: These are among the persons receiving length-of-service awards during the meeting. Pictured are, from left to right: Ray Harbison, 20 years; Wilma English, 15 years; Ray Sanders, 20 years; Sue Yates, 20 years; Derak Jones, 25 years; and Bob Fulkerson, 25 years. Secretary-Treasurer David Ramsey and President Bill Cadle address the audience. Directors Robert Tiberend and Victor Knight receive hula lessons. Knight was besieged by autograph seekers after the performance.

Top right this page, three men were reelected to the board of directors of the Southeastern Illinois Electric Cooperative, and are pictured with Roger Lentz, manager. From left to right are: Bill Cadle, Marion; Robert Tiberend, Benton; Orrie V. Spivey, Elizabethtown; and Lentz. Above right, The Musical Flowers provided entertainment during the meeting. Below, Robert and Marguarite Lambert are shown with the color TV set Mrs. Lambert won at the meeting.

stabilized, but coal costs are higher because of last winter's miner's strike settlement. Although coal stocks at the plant were badly depleted near the end of the strike, some power was purchased from other utilities and the plant's ability to substitute a high percentage of carbon mixed with coal enabled us to meet the needs of our consumers without rationing or curtailing service.

"The new unit is rated at 173,000 kilowatts (kw), but only 160,000 kw will be available to our members. The 'lost' 13,000 kw will go to operate pollution control equipment at the plant. These controls are a major part of the costs of both building and operating the plant and, like the emission control systems on automobiles, are getting more expensive all the time."

Another factor driving up the cost of the plant is interest on money borrowed to build. The present plant was built with the proceeds of a two percent loan, and the new unit is being financed through an eight percent REA guaranteed loan with funds being advanced by the new Federal Financing Bank.

"Although we anticipate that these new cost factors plus inflation will continue to have an adverse effect on future electric rates, we are fortunate that all of our studies show that our rates will continue to be highly competitive with those of neighboring utilities and among the lowest of Illinois electric cooperative rates,"

the SOUTHEASTERN LIGHT

Southeastern Ill. Electric Co-op

Eldorado, Ill.

At SIC

800 Turn Out For 40th Annual Meeting

Some 800 members of Southeastern Illinois Electric Cooperative turned out August 1 for the cooperative's 40th annual meeting, which was held for the third year in the gymnasium of the Southeastern Illinois College.

Bill Cadle, president, noted that the president's report was printed in the members' programs and urged them to read it at their leisure. Secretary-Treasurer David Ramsey told the audience that the cooperative had had a total revenue of $10,382,231 for 1977, as compared to $8,673,608 in 1976, and that more than $6.6 million of that went for purchased power and $630,891 went for taxes. Total margins for the year, he reported, amounted to $1,052,123.

Roger Lentz, manager, presented length-of-service awards to nine employees, and members reelected Cadle, Orrie V. Spivey and Robert Tiberend to the board of directors.

Those who read their president's report learned that the new generating plant, owned in part by SEIEC, will become operational in the fall, and will help minimize cost increases, but will not prevent them entirely.

In his report, Cadle wrote, "It appears that all forms of energy will continue to increase in cost in future years, and we are doing all we can to keep costs in line.

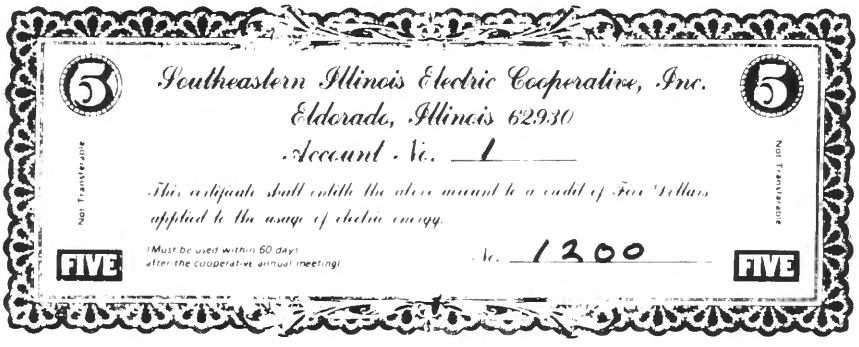
"Our coal supply appears to have

Members Attending Will Receive Certificate Good for $5 Credit on Bill

All members attending this year's annual meeting will again be presented with a certificate good for a credit of $5 that can be applied to the member's electric energy assessment.

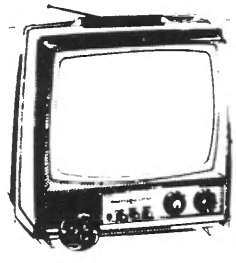
Every registered member will receive a certificate and that certificate must be used within 60 days of the annual meeting date.

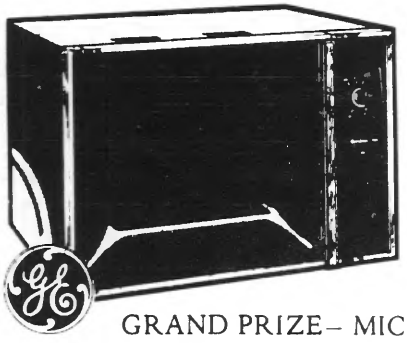
It is hoped that this $5 certificate will help members offset their expense in attending their cooperative's annual meeting. It is estimated that the cost to the cooperative for the certificates will be no greater than expenses incurred at previous meetings and that the full benefits will go to those members eligible to vote who take sufficient interest in their cooperative to attend the annual meeting.



Besides the certificate, other prizes will be awarded during the meeting, including two grand prizes for lucky members who attend the meeting and are eligible to participate in the drawings. They are a General Electric microwave oven and a General Electric portable color television set.

Annual Meeting PRIZES





Awarded by Drawing from Member Registration

GRAND PRIZE– MICROWAVE OVEN

To be Eligible for Prizes You Must be Registered and be Present at Drawing

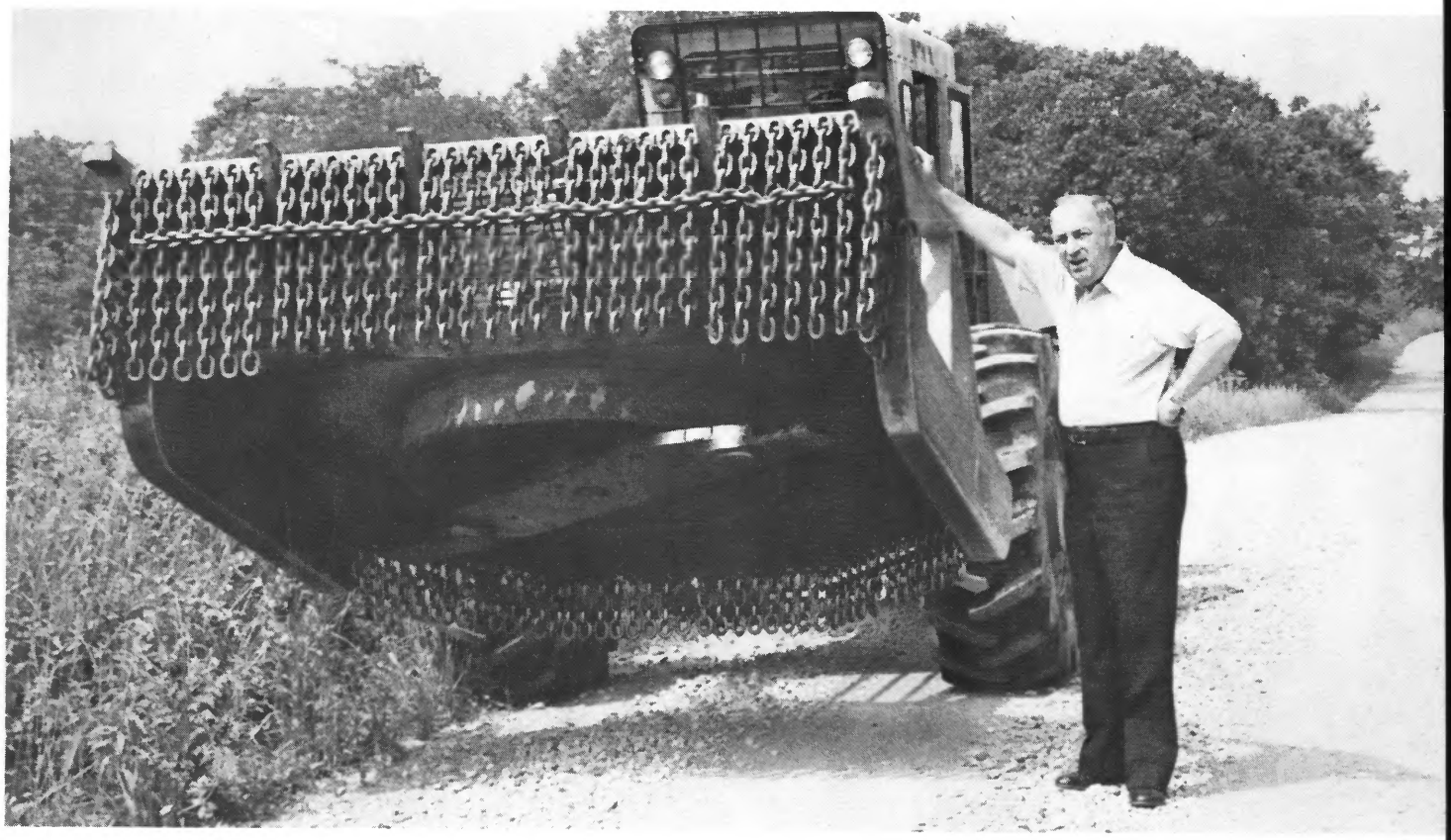
BE SURE TO REGISTER!

At far left, SEIEC Manager Roger Lentz is pictured with the Hydro-Ax, an 11-ton machine designed to clear the roughest brush from the cooperative's right-of-way. The Hydro-Ax, which cuts an eight-foot swath, is shown in the immediate left photo as it moves down a country road to another job site. The photo below shows a strip of land cleared by the $80,000 machine, which is owned and operated by an independent contractor.

right-of-way

Hydro-Ax leaves a clean, natural cut with a back-to-the-earth chip mulch—a method much preferred by environmentally concerned people. Owned by the Wright Tree Service of Des Moines, Iowa, the Hydro-Ax is contracted out by Southeastern Electric.

In reviewing the right-of-way conditions throughout our system, we, too, appreciate the beauty that trees and foliage provide to the environment in our community; yet, we also realize that during the storm periods to which this part of Illinois is very susceptible, the lack of electrical power creates severe problems with our members' environment in that they do not have water, refrigeration, and the other necessities to which we have become accustomed and consider important to our personal health and welfare. We at Southeastern are working to provide adequate right-of-way controls in the most environmentally acceptable manners.



New machine clears SEIEC

Continuous service with a minimum of outages—this is one guideline which Southeastern Illinois Electric Cooperative tries to uphold. As you know, during the late summer months, this motto if often hard to follow because of severe storms and winds. However, our hard-working servicemen find it much easier to restore electric service after such storms if the right-of-way under the power lines has been kept clear.

In order to assure our members the best of electric service, right-of-way must be kept free of obstructive foliage and debris. An adequate clearance between the trees and lines is usually considered to be a 40-foot right-of-way, or 20 feet on either side of the primary line. Trees or foliage that are not cleared from the right-of-way pose severe safety hazards for our employees and you, the members.

Working on a dark and stormy night in a dense right-of-way situation greatly raises the potential for accidents among our employees. Also when the trees are trimmed back just a minimum of a few feet from the line, your children, your neighbor's children, or your grandchildren may be climbing these trees near the line, causing a branch to make contact and thereby receiving electrical shock; so the exposure to accidents includes the members of your family and your community.

In addition, this sort of situation creates extremely high costs for your cooperative in restoring service, and the costs end up in your electric bills; it also causes great inconveniences and losses for you, the members, when you are without electrical services. As you can see, it is important that right-of-way be continually kept cleared.

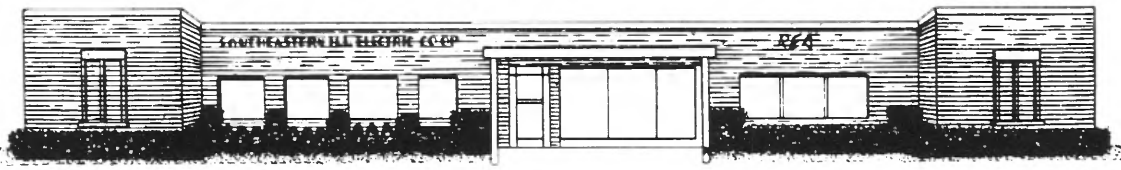
Since Southeastern has 3,000 miles of primary lines throughout ten counties, you might wonder how right-of-way is constantly maintained. Four tree-trimming crews from Southeastern Electric are employed to give year round right-of-way service. In addition, spraying, as a method of clearance, is used for the rougher terrain with a density of brush. ROWCO, Inc., a right-of-way company from San Antonio, Texas, sprays designated areas with an environmentally safe herbicide, taking pains not to spray shrubs, shade trees, gardens, or crops.

Always making sure that every measure is being taken to safeguard the members' property, Southeastern Electric, along with ROWCO, sets strict safety limitations on spraying procedures. Only a 20-foot right-of-way strip along the lines is sprayed; consequently, if the wind velocity reaches five m.p.h., spraying is immediately halted.

This year, a new herbicide which is accepted by the Environmental Protection Agency, will be used as the spraying agent, although a spokesman for the program states that spraying will be kept to an absolute minimum.

The newest method of right-of-way clearance for Southeastern is done by a Hydro-Ax machine. This nine foot, eleven ton machine resembles a gigantic lawnmower as it clears 8-foot paths through wooded areas. Used mainly in the Forest Service areas, the

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Official Notice of 1978 Annual Meeting

NOTICE IS HEREBY GIVEN That the Annual Meeting of the Members of SOUTHEASTERN ILLINOIS ELECTRIC COOPERATIVE, INC. will be held at the Southeastern Illinois College, Illinois Route 13, East of Harrisburg or South of Eldorado on College Drive, on August 1, 1978; that the period of registration for said Members will be from 6 p.m. until 7 p.m.; that the business meeting of said Members will convene at 7 p.m. for the purpose of taking action upon the reports of Officers, Trustees, and Committees of said Cooperative; for the election of three (3) Trustees for a term of three (3) years each, and for such matters as may be properly considered at such meeting.

YOU ARE FURTHER NOTIFIED That the number of Trustees to be elected at the 1978 Annual Meeting is three (3) and that in the election of three (3) Trustees, one each is to be elected from Franklin County, Hardin County, and Williamson County, and that the following persons:

Robert Tiberend, Franklin County
Orrie V. Spivey, Hardin County
Bill Cadle, Williamson County

have been nominated as Trustees for a term of three (3) years each by a Nominating Committee consisting of:

Carroll H. Pearce, Ewing (Franklin County)
Robert Barancher, Benton (Franklin County)
James A. Patton, Shawneetown (Gallatin County)
Lewis E. Davis, Cave in Rock (Hardin County)
John Stunson, Elizabethtown (Hardin County)
Chester Davis, Golconda (Pope County)
Mrs. Madge Malone, Galatia (Saline County)
Eugene Roper, Marion (Williamson County)
Hobard Tanner, Marion (Williamson County)

DATED at Eldorado, Illinois, this 14th day of July, 1978.

David Ramsey

David Ramsey, Secretary
Board of Trustees

Inflation smites electric bills, too

"Rate increase" can be a very disturbing term. How many times have you heard people say, "There's got to be a stopping place somewhere!" Yet, each year, the cost of living continues to soar higher and higher. So far, the "stopping place" has not been reached, and trying to arrive at this leveling-off point in the near future looks near-to-impossible.

The electric industry is no exception to inflation. Being a member-owner of Southeastern Illinois Electric Coop., you have a right to know exactly why electric rates are steadily rising. Southeastern, like all area utilities, will have to pay the cost of the coal strike settlement over the months and years ahead. Overall inflation, environmental addition costs, and fuel prices will contribute to significant rate increases in upcoming months.

Yet, even with future rate increases, national averages show that inflation has hit electricity less hard than it has hit most other goods and services that you buy. Averages at Southeastern Electric show that electricity costs for an average home run only about $1.31 per day. With air conditioning and various appliances being used continuously each day, you can see why electricity is one of the best buys in today's world.

While members are now enjoying all the comforts of electricity for $1.31 per day, this cost will inevitably have to rise. As mentioned before, because of the coal strike settlement and inflation factors, a rate increase will have to be put into effect in the near future. Being a member of Southeastern Illinois Electric Cooperative, you will be completely informed of all of the details concerning our next rate increase in upcoming issues of the *Illinois Rural Electric News* magazine.

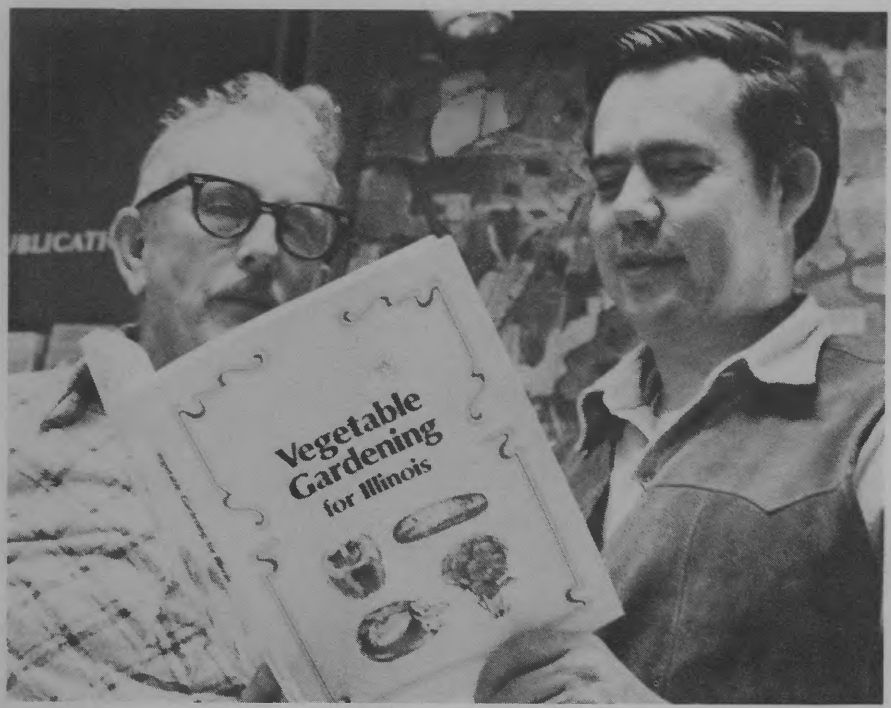
Member Puzzle

The following members' names can be found in the puzzle written vertically, diagonally, horizontally, or backwards. For example, AUNT.

Austin
Bennett
Collins
Dunn
Evans
Ferrell
Gray
Horn
Isom
Jordan
Kerley
Logsdon
Mosby
Norman
Oxford
Page
Quinlin
Roe
Short
Turner
Upchurch
Vickery
Wright
Yucus
Zinn

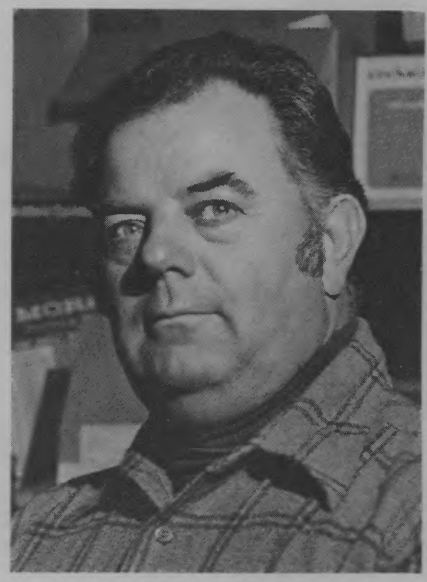
S N A V E V A M O S L R E M E
H W C I X F J O R D A N A O V
O R O C B Q U S N Z N Y R S A
N I L N I U Q B A U X Q L I N
N G L O S I S Y D O R Y O M L
I H I Y B N Z I N U E R G O L
Z T N A E L E G A P M E S S E
I S S O N A L R U C R K D B R
A U N T N M P A D H U C O E R
W E A K E R E N R U T I N N E
S B M E T A S I O R Q V R A F
T O R R T D U T F C E P O M P
I X O L N R C S X H O R N R L
N H O E U O U U O S O Q O O A
S Q N Y D J Y A R G R E F N R

Professors write garden book



Bill Courter (right) shows George McKibben, Dixon Springs agronomist, his new book, "Vegetable Gardening for Illinois." Co-authors Courter and Joe Vandemark, both professors of horticulture, have been advising home gardeners and commercial vegetable growers in Illinois for many years. They wrote the book for both the experienced and beginning gardeners. Its 136 pages are filled with guides, charts, tables, more than 150 original illustrations, and answers to the most commonly asked gardening questions. The new book is printed both as a softbound and hardback. The softbound costs $2.00; the hardback, $6.00. You can get your copy from your County Extension Adviser.

People Profile



Bernard Feazel

Bernard Feazel of Harrisburg is a 30-year veteran of Southeastern Illinois Electric Cooperative, and works as a utility serviceman. He handles trouble calls, reconnects, and disconnects.

A lifelong Harrisburg resident, Feazel was born there and attended Harrisburg schools, coming to SEIEC after graduating from Harrisburg High School. His wife, Barbara, also a local girl, is director of the Doctors Hospital Auxiliary in Harrisburg. Their daughter, Kathy, is a lab technician at the same hospital.

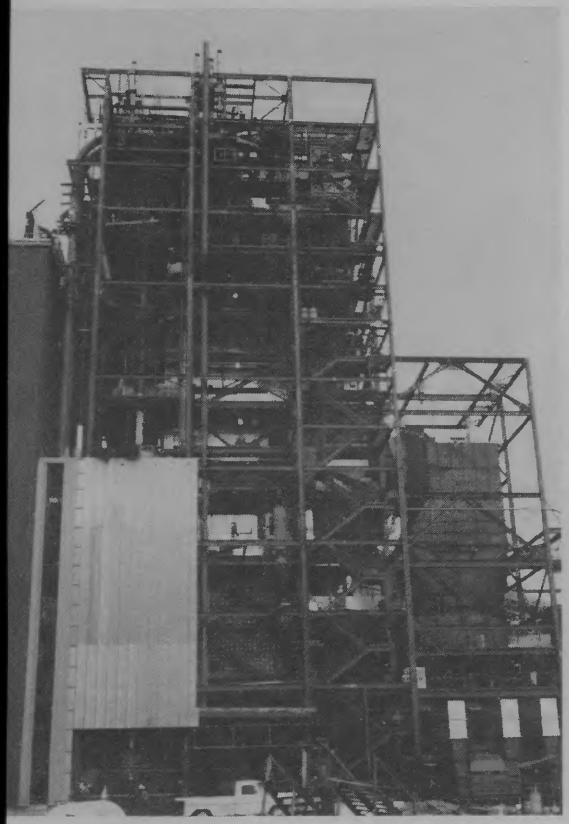
Their son, Kurt, went to the University of Florida at Gainesville on a basketball scholarship, and is now a district supervisor for Shell Oil Company in the Miami area.

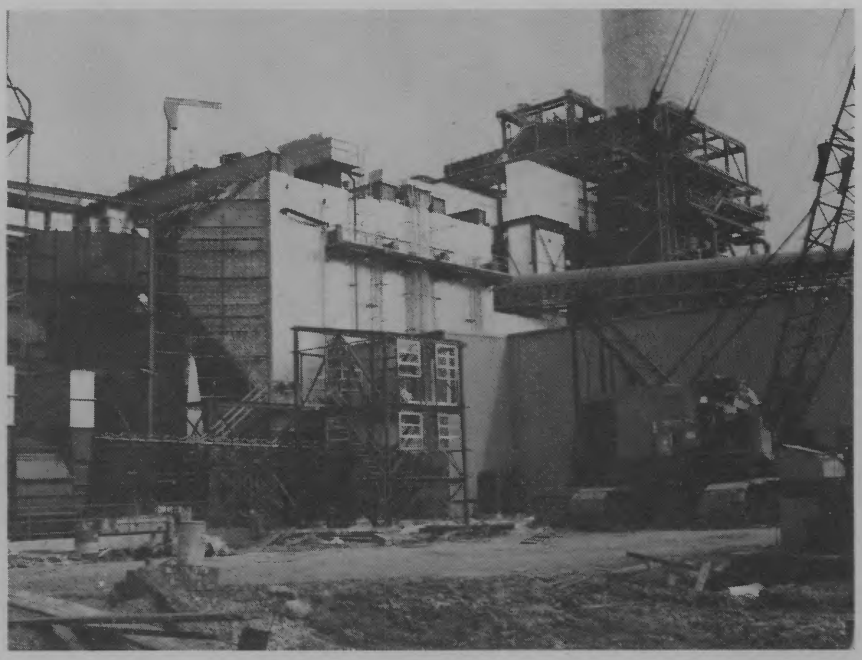
Feazel is a sports enthusiast and enjoys traveling.

A Willie Conserve-A-Tip

Attic temperatures can reach 150°F in the summer. An automatic exhaust fan installed in the attic or gable will remove hot air . . . and make your home more comfortable. It cuts down the cost of air conditioning too!

Conservenergy





ing plant features on controls

new addition to the SIPC generating plant in Marion.

Using coal as the fuel to generate electricity, SIPC must meet quality air requirements listed under the Clean Air Act Amendments of 1977. The new nine-level addition to the power plant consists of environmental equipment and a new 180-megawatt generation unit, compared with the original three 33-megawatt units. The costs associated with operating such environmental equipment will be extremely high.

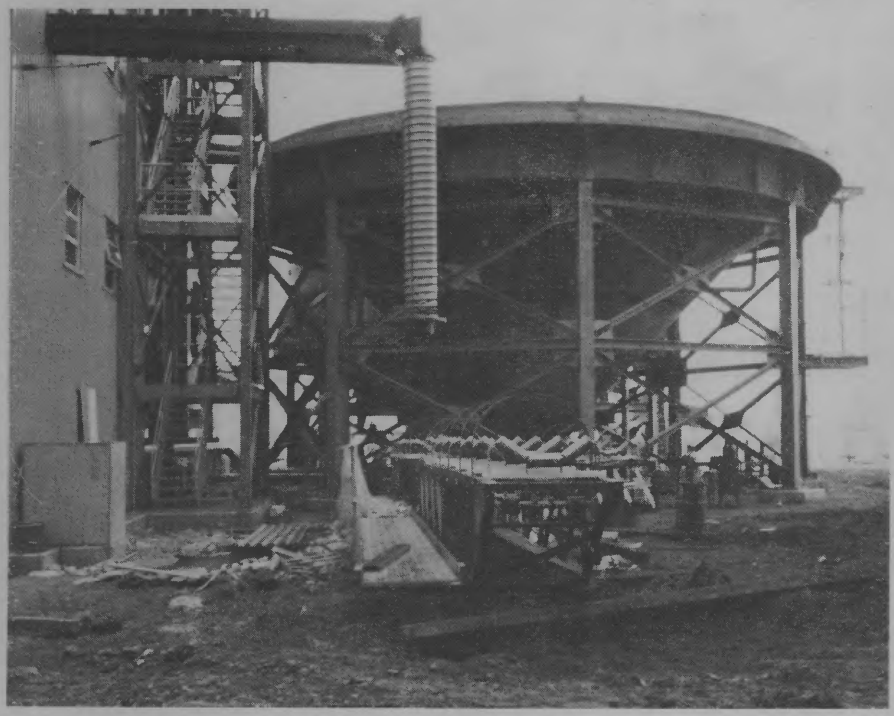
Because area coal is high in sulphur content, sulphur dioxide gas is given off when coal is burned. A scrubber unit is being constructed that will remove this gas from the out-going air. One part of the new addition, the electrostatic precipitator, uses a magnetized steel grid to remove unwanted solid substances resulting from the coal-burning process. The accumulation of solid substances must be disposed of properly; therefore, a conveyor belt system approximately one-half mile in length has been built which will deposit this refuse in storage areas.

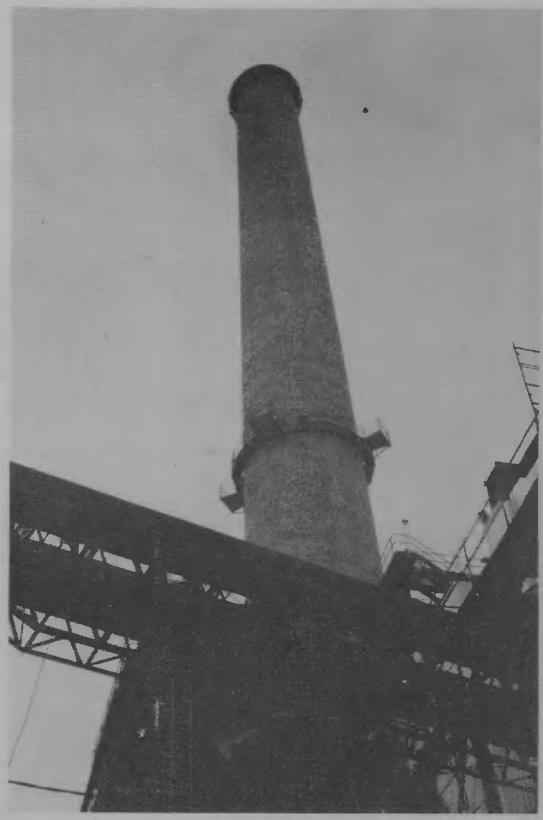
What, in reality, does all this mean? It means, of course, that environmentally acceptable standards for burning coal will be met at SIPC. However, it also means that a rise in electricity costs will be inevitable. In addition to the costs of installation, more manpower will be needed to operate the pollution control equipment. Limestone will be required for the scrubber, and more coal will be consumed just to operate the environmental system.

In order to reduce environmental pollution, the United States spent approximately $35 billion in 1976. This means that out of every $100 Americans spent for all types of goods, $2.03 went for pollution control. When speaking of electric rates, the price per dollar goes even higher. Approximately $15 to $20 of every $100 of electric bills is spent for environmental controls.

There is no argument over the fact that air quality standards are necessary to protect public health. There is, however, the fact that the public must support the costs involved in pollution control.

While we will continue to do everything we can at Southeastern Electric to hold costs down, as in any other utility, the consumer ultimately pays the cost of operation. Basically what is happening is that environmental costs, along with inflation and rising fuel prices, are continuing to escalate the cost of electric power. Despite this, the price of electricity remains one of the best bargains in today's world.





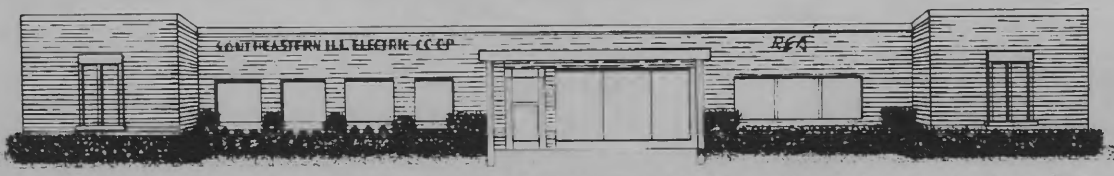
Facilities in the new generating plant are shown in the photos on these pages. Clockwise, from above, the new 180-megawatt generating unit in place. A water condensation tank, used to remove moisture from sludge before it goes to waste storage. The new smokestack. The nine-level addition housing generation and pollution-control equipment. Precipitators and scrubbers to help keep the environment clean.

New genera
many pollut

''Environment—'the external conditions which determine modifications in the development of organic life.'" This definition of "environment," a term being heard more and more every day, might seem to be somewhat complicated. However, looked at simply, this term might be defined as being our surroundings.

The Environmental Protection Agency (EPA), a governmental organization designed to cope with environmental problems, is much concerned with our surroundings. In compliance with the EPA's requirements for a clean environment, Southern Illinois Power Cooperative (SIPC), the generating plant owned by Southeastern electric and two other distribution cooperatives, is attempting to find new and better ways to convert coal energy to electric energy—cleanly, efficiently, and economically. One such method is the

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Air conditioning tips

Spring is finally here and a hot summer is bound to follow. Members will soon be thinking about turning on their air conditioners.

Air conditioners can only be efficient if we take the proper care of them. There are things that we can do to decrease the amount of energy needed to operate an air conditioner.

The filter is one of the most neglected parts of any cooling system and the major cause of high energy usage and low efficiency. Without adequate air flowing over the air conditioner's cooling coils, all of the cooling in the world will not lower the temperature of the house. Dirty filters restrict the amount of air that can be circulated across the coils.

Servicing an air conditioner is very important. If an air conditioner has lost some of its charge, it loses efficiency and lowers output. There can be several reasons for an air conditioner losing its charge. If you have any question as to whether or not your air conditioner is producing enough cooling, call a reputable serviceman and get your unit checked out—it could save you money.

Placement of your air conditioner can also save you money. Shade decreases the load on an air conditioner and therefore decreases the amount of energy it uses. Trees and shrubs can be planted around the unit to provide shade, but be certain that there is adequate air flow to the unit. Make certain that the outside part of your unit is clean because leaves and other foreign material can restrict air moving through the unit.

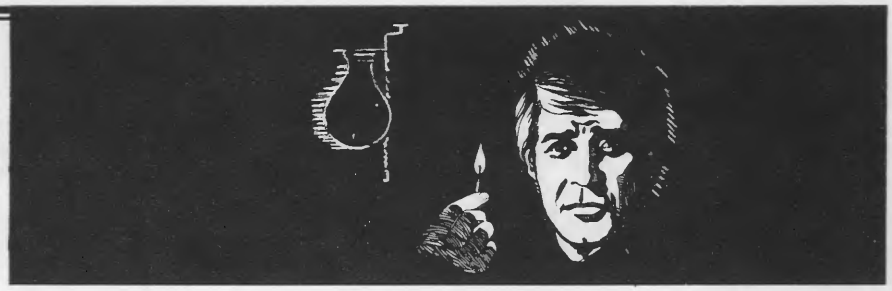
When buying a new unit, always look for the "EER" rating. The higher the energy efficiency rating (EER), the less energy it will use to do the same job. The higher "EER" unit may cost a little more, but will save you money in the long run.

When operating your air conditioner, don't over-cool your home. About 80 degrees is normally cool enough, especially when the relative humidity is kept low. Watch the amount of moisture that you allow to enter into the home. Whenever possible remove the excess moisture with the use of an exhaust fan. Make certain that your electric dryer is vented outside and, of course, keep your house closed up as much as possible.

Group to entertain at SEIEC 40th Annual Meeting

The Musical Flowers, will appear at the 40th annual meeting of the Southeastern Illinois Electric Cooperative August 1 at Southeastern Illinois College. Registration will begin at 6 p.m., and the business meeting will begin at 7. Variety is a keynote of the group, which features instrumental numbers using 15 different instruments, dancing, comedy, some singing and musical harmony. The group has been featured at county and state fairs, national conventions and special events throughout the Midwest. Entertainment and the drawing for attendance awards will take place after the business meeting.

POWER OUTAGE!



What to do for your family and home if the electricity goes off.

Electric service is one of the most dependable items you can buy. Rarely will you find anything else as reliable. But there are unusual times when the electricity goes off.

A power outage can last only a few minutes, resulting in some minor inconvenience. Or it can last for days and become a critical problem.

Sometimes a power outage is caused by lightning striking the electric lines, trees falling across wires during a storm or cars ramming into utility poles. A more serious type of outage occurs when severe thunderstorms and tornadoes snap poles and tangle electric lines. But probably the worst of all outages is caused by ice. Usually the most widespread and the most difficult to repair, an ice storm outage leaves your home and family vulnerable to freezing cold temperatures.

Regardless of the type of outage experienced, consumers should be able to cope with the situation. Let's review some helpful information which can help make an electric power outage more bearable.

ALWAYS HAVE ON HAND

1. Flashlight with fresh batteries
2. Matches
3. Candles
4. Portable radio with fresh batteries.

FIRST THINGS TO DO

1. Check to see if your neighbors' lights are off.

2. Check fuses or breakers in your switchbox panel.

3. If fuses or breakers are all right, call your electric cooperative. Give your address, location number and tell how long the power has been off. This will help your electric cooperative's emergency work crews determine the extent of the outage and aid in speeding repair service.

If your electric cooperative's telephone number is busy, hang up and try again in a minute. The phone is not off the hook. Chances are your neighbors are trying to call the cooperative's office, too. Keep trying and your call will eventually be answered. The information you have is important to your cooperative's repair crews.

4. Turn off all electrical appliances that were on, especially air conditioners or electric heating systems. This will permit the power to be restored sooner, without being knocked out again by automatic limiting devices that protect your electric distribution system from damaging overloads.

5. Turn on your portable radio and listen for public service messages from your electric cooperative.

EXTENDED OUTAGE—WINTER

1. Wrap up in your warmest clothes. Wear several layers of clothing rather than one or two bulky garments. Thermal underwear helps.

2. Keep the refrigerator and freezer closed. If the outage lasts until food starts to thaw, put the food outside in a shaded place. Be sure the temperature is cold enough to permit this. Be sure food is protected from birds, dogs, etc.

3. In extreme cold, fill all available containers with drinking water, then drain the pipes in your house to prevent their freezing and bursting.

4. Maintain an adequate supply of fuel for cooking on your fireplace, grill or camp stove.

5. Cook in the same manner as you would during a summer outage, but be mindful of dangerous fumes.

6. Keep canned goods with a long shelf life on hand to eat during the emergency outage. Soup, chili and stew, for example, are simple to prepare and provide warmth as well as nourishment.

7. In extreme cold temperatures, the entire family should group together in one room where all drafts have been sealed off. If a fireplace or wood burning heater is available in the home, make that room your headquarters for the duration of the outage.

8. Layers of blankets or quilts provide adequate warmth at bedtime, but warm, down-filled sleeping bags are best.

9. During periods of rest, the human body gives off 75 watts of heat. Use this heat by grouping two or three persons together under blankets inside zipped-together sleeping bags.

POWER BACK ON

Once the electricity is on again, turn on the appliances that you had previously turned off if they are needed.

CAUTION: If you have a heat pump and it's winter, don't reset the thermostat to the "ON" position as soon as the power comes back on. Here's why:

The electric heat pump performs its job by circulating a refrigerant gas. When the power has been off for a while, the unit's gas cools and changes to liquid. This liquid has a tendency to collect in the unit's compressor. If the unit is forced into operation at this state, possible mechanical damage can result. To protect your heat pump and your pocketbook, follow this rule after a winter power outage.

If the power has been off from two to ten hours, wait one and one-half hours before turning your heat pump on. If the power has been off longer than ten hours, wait three hours before restarting. This time is necessary for the crankcase heaters to change all the liquid refrigerant back into a gas again. If your unit has an emergency heat switch, you can use it to have warmth during the waiting period. But don't forget to turn it off once the heat pump is operating normally again.

Resume normal living, making a note to restock the supplies that you'll need should another power outage occur.

'farmstead portraits'

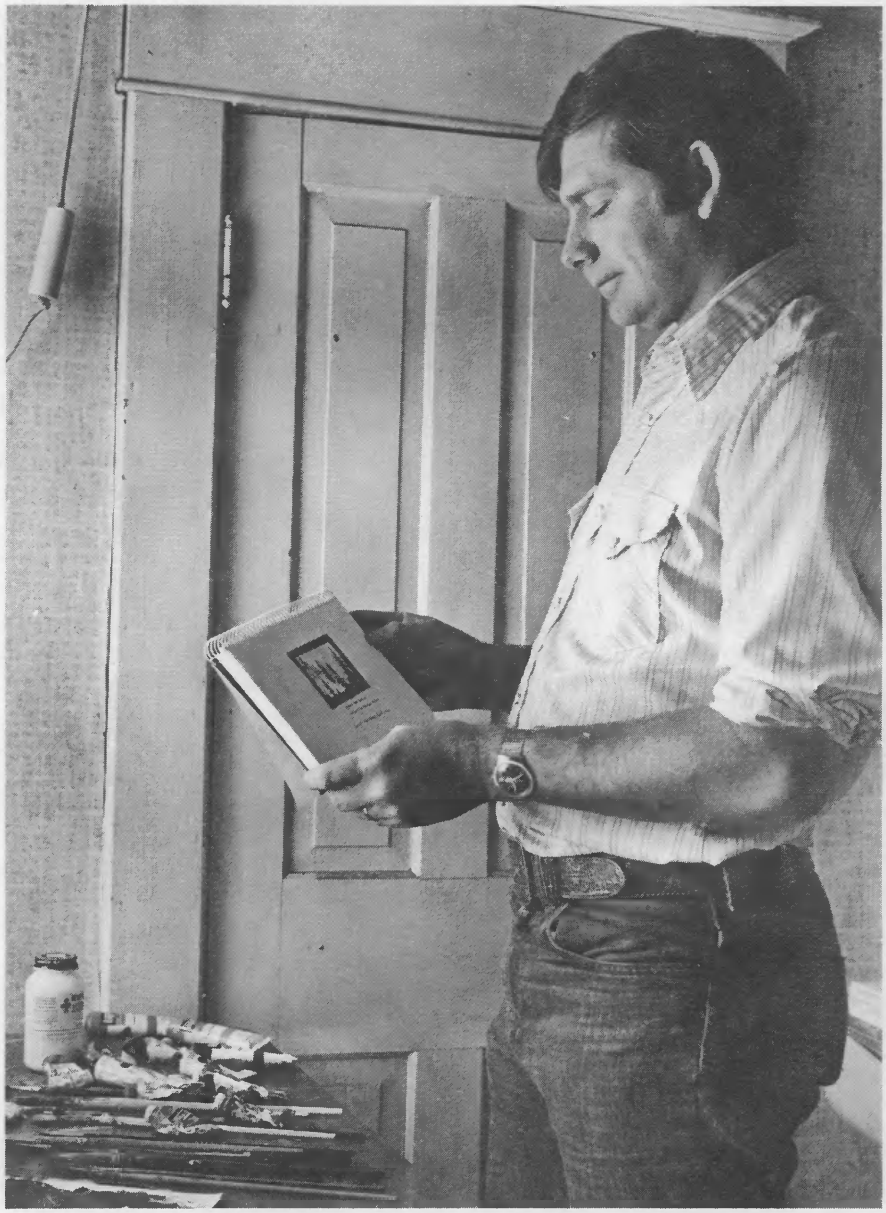
Scott says, "but it needs a lot of work, mostly cosmetic."

He works in a tiny studio that once served as a bedroom, painting pictures from small notepad sketches. Scott, who leans toward western-style clothing, paints mostly landscapes, many of which are western. He has just recently started painting people and animals in his work. Indians are among his favorites, even though they do not figure prominently in the paintings.

"I can't paint people or animals very well," Scott says with a grin, "and I didn't put any in my paintings for a long time. I've started putting them in lately, but I'm still not too good at it. If you'll look at my paintings, you'll notice that the people are in the distance, so they'll be small. I painted some of them with their backs to the viewer, but I've been working on them, and they're getting better all the time."

While his paintings are centered around the western desert and the mountains, Scott has not spent a great deal of time there. A Vienna native, he is a graduate of Vienna High School, and got his first Associate of Arts degree from Southeastern Illinois College in 1967; he majored in science and art. He graduated—again—from Southeastern, in 1977, with degrees in animal and crop sciences.

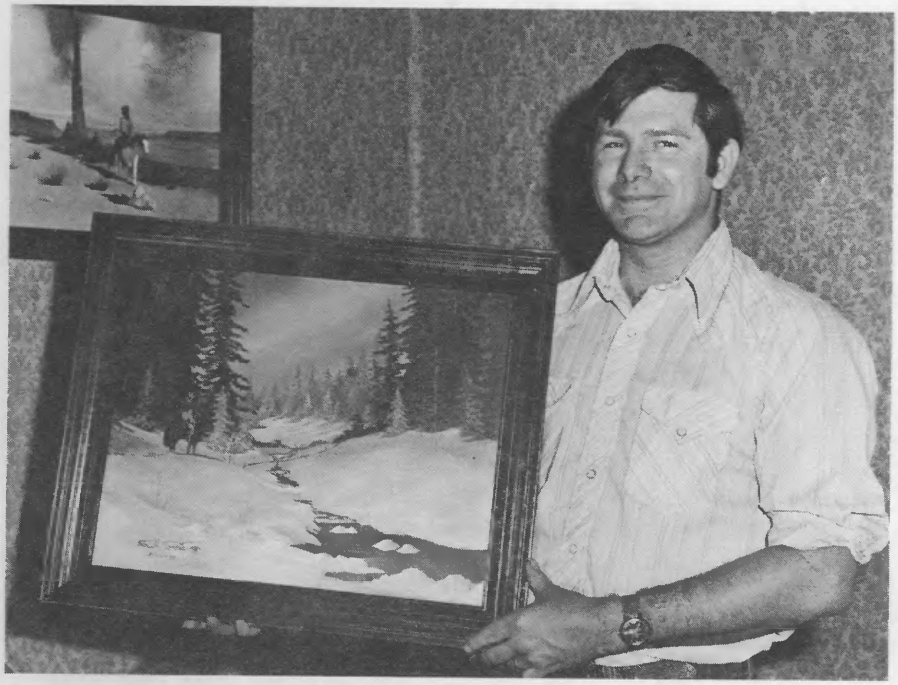
Shortly after graduation, Scott applied for a job at the local Soil Conservation Service office, then packed his new wife and all their belongings into a little Toyota station wagon and set out in search of a job. He landed work in Montana, stayed there briefly, then headed for Michigan. Shortly after they arrived there, word came through that his application in Vienna had been successful, so the Morrises packed everything into the Toyota again and returned to Illinois, where they had wanted to be in the first place.



Most of Scott's mountain and Indian inspiration comes from books. He has been a western and Indian fan for years, and they have hopes that someday in the distant future, if the painting works out right, they will be able to move to where the landscapes are bigger than southern Illinois has to offer, even if they are not better.

Scott creates his landscapes from tiny thumbnail sketches on a notepad, as shown in the photo above.

Benton man paints



At top, Scott displays one of his mountain winter scenes, while a desert landscape hangs on the wall behind him. Above, Scott and his wife, Gae, proudly display another of his paintings.

Scott Morris, a rural Benton resident, is a "portrait painter," but with a difference. He paints what he terms "farmstead portraits."

"I got into painting farmstead portraits kind of as a sideline," Scott relates, "because people heard that I was a painter and they wanted a picture of the old home place. Usually, the old home place is gone now, so the painting has to be done from an old photograph. Sometimes the people will ask me to put in something that isn't in the picture or to leave out something that is there, to make a better looking place.

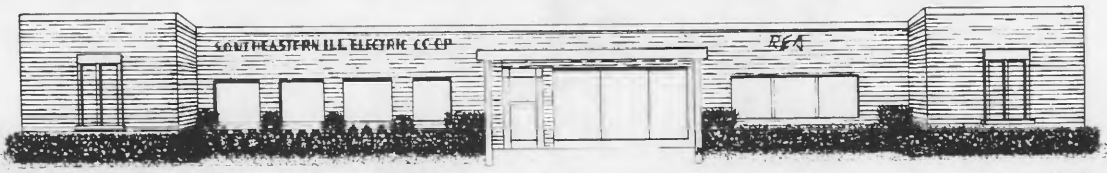
"I've had good success with making paintings that people like, but I did have trouble with one. The people came in and told me they wanted a farmstead portrait, but that they didn't have a picture of the place. They described it carefully and I worked from there, and when they came back they liked it but they didn't think it was quite right, so they described it some more and I started again.

"Finally, they liked it. They were really happy, and they said, 'That's it! That's just the way it was.' It's a good feeling to be able to do a good job for people, and since I can't paint portraits of people very well, I can at least paint their old home place. I guess that's just as well."

Scott, who lives in a 75-year-old house with his wife, Gae, and their two-month-old daughter, Sarah Melinda, has exhibited his paintings in Harrisburg and Benton. At the Benton exhibit, he won two first-place and two second-place ribbons. Having won at Benton, he is eligible to compete in a regional art show coming soon in Carbondale.

The Morrises, who moved into the house in the middle of the winter, are working to refurbish it, in exchange for rent. "It's a nice, solid old house,"

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Marina project afloat again

A proposed 220-slip marina at Golconda, repeatedly sunk by Corps of Engineers bureaucracy, is afloat again, according to R. J. Brenner, chairman of the board of directors of the Lusk Conservancy District.

Basically, the plan calls for acquisition of about 40 acres of land north of Lusk Creek. The Corps has tentatively agreed to make the excavation for the marina and to develop the boat access facility, parking roads, picnic facilities, and all related sanitary and safety appurtenances.

Once the initial facilities are built, it will be the responsibility of the conservancy district to operate and manage the site until the expiration of the lease.

The board's master plan, developed by Walker and Associates, a Carbondale engineering firm, also calls for the acquisition of the dam 51 personnel houses on the reservation. The dwellings are to be converted to cottages to be rented to persons wishing to spend weekends on the river. A glassed-in, elevated restaurant is also planned, so diners can watch the passing river traffic.

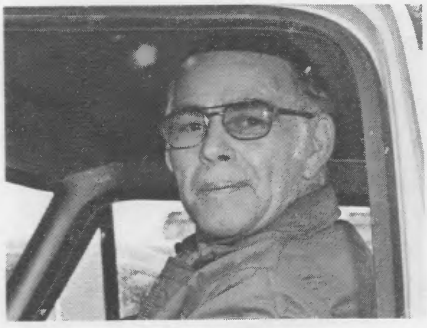
Brenner expressed hope that the project can get under way this summer, and added that he is writing letters to area legislators asking them to back the project.

Shawnee Campground opens for summer

Campgrounds in the Shawnee National Forest have reopened, according to David F. Jolly, forest supervisor. A fee of $2 is charged for camping at all the areas except at Lake Glendale, where the daily user camping fee is $4. Picnic grounds are also open and there is no charge for picnicking.

The two swimming beaches—Lake Glendale and Pounds Hollow—and the Ohio River Recreation Area open May 15. All developed swimming sites will charge a fee of 75 cents per person six years of age or older.

A Golden Age Passport entitles persons 62 years of age or older to a 50 percent discount on user fees at the campgrounds, Jolly says. The passports may by obtained at his office in Harrisburg or at the district ranger offices in Elizabethtown, Jonesboro, Murphysboro and Vienna. Passports must be obtained in person and proof of age shown. A driver's license or birth certificate may be used.



Donald Lee Piper

Donald Lee Piper is utility service man

Donald Lee Piper, SEIEC utility serviceman for the Sandy Run and Gallatin County area, has worked for the cooperative since March 1947. He was born and raised in Sesser, and attended schools there before joining the U.S. Navy during WWII. He came to the cooperative after leaving the navy in 1946. His wife, Ilah Mae, is also a lifelong Sesser resident. They have one son, Timothy, 29, who works for Ciba-Geigy.

Tornado hits Gallatin County

A tornado skipped across Gallatin County from southwest to northeast at about 10:30 on the morning of Thursday, April 6, damaging three area farms. The tornado touched down briefly, first on the Alfred Rister farm about four miles northeast of Ridgway, then on the Howard Wilson and Lowell Wilson farms, south of New Haven. Damage to the farms was extensive. In addition to completely destroying an old horse barn on the Rister farm, the twister ripped the top off another all-purpose building, destroyed a metal building, heavily damaged another, demolished a grain bin, and toppled a tree in front of the home. The Risters also lost six pigs and a cow. On the Wilson farms, the tornado destroyed another grain bin, did heavy damage to several barns, lifted a mobile home from its foundation and destroyed a concrete block garage.

Noble Spain Retires

Noble Spain, power meter foreman, retired March 31 after nearly 38 years with Southeastern Illinois Electric Cooperative. Mr. Spain, who came to work as a serviceman-lineman in 1940, held that job until 1952, when he came to the meter department.

A native of Franklin County, Mr. Spain attended schools there.

Mr. Spain and his wife, Bernice, have two sons and a daughter.

An avid country-western dancer, Mr. Spain also makes a hobby of his lodge memberships. He is a member of the Veterans of Foreign Wars and the Eagles.

Thank You

Old Man Winter played havoc with us again this winter. Many of our servicemen found themselves battling icy roads and huge snowdrifts, and more often than not the weather was frequently the victor.

In the Benton area, two servicemen who were trying to reenergize the power lines found themselves stuck in a large drift of snow. Help soon came when Mr. Percy Payne pulled the servicemen free from the drift with his tractor. Our servicemen were then shortly on their way to repair the damage.

Other good Samaritans, Mr. Eugene McConnell and Mr. Maurice McConnell, aided crews in the Raleigh area. In order to accommodate both the public and the cooperative, both men quickly helped Southeastern's servicemen through snow-packed roads.

When the blizzard struck the region surrounding Ridgway, it caused numerous outages and established almost impossible road conditions. However, with the assistance of State Policeman Michael Taggart, State's Attorney Anthony Dyhrkopp, B & M Farm Service, and the Ridgway Civil Defense, paths were soon cleared to the trouble spots, and most service was able to be restored.

Southeastern would like to extend many thanks to these people and organizations who helped area crews during the severe winter weather. These persons are not, by any means, the only people who assisted us this winter, and to those of you who were unintentionally omitted, a big "Thank You" is given.

Thanks again to the many good Samaritans in our area!

Member Puzzle

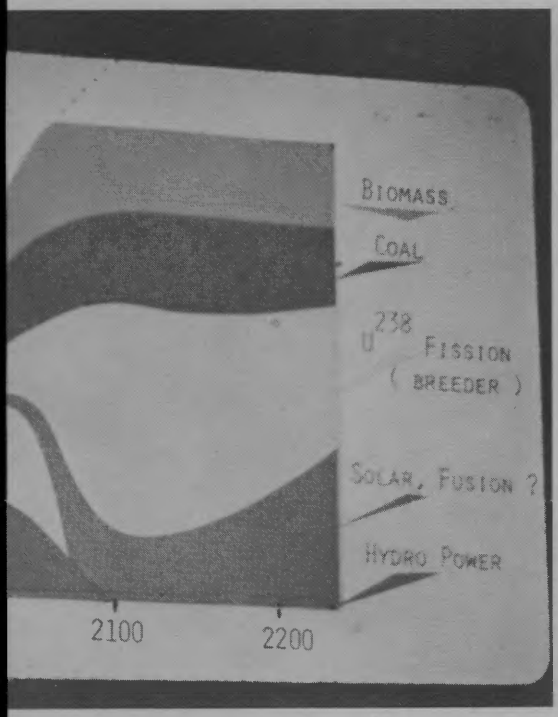
The following members' names can be found in the puzzle written vertically, diagonally, horizontally, or backwards. For example: GREEN

ALLEN
BARNES
CLARK
DRONE
EMERGY
FLYNN
GAINES
HANEY
IRBY
JENNINGS
KNIGHT
LANE
MYERS
NELSON
OLSON
PARTON
QUALLS
RICH
SHARP
TUCKER
USLETON
VARNER
WEBB
YORK
ZIMMERS

S O N N Y L F B U S E N R A B
G R E E N W Y B R I K E E P S
N O E L S T R E E P E N O R D
I H L S L O R W O N O T R A P
N E L O L N O S L E M Y E H S
N O A N A Z I M M E R S U S N
E L M R U N N E T K A Y R P E
J O Y P Q A B E R N O E N A L
S E E N P L A N F I R N N A L
V A R N E R W G Q G C A R P A
A F S K Y J N A X H Y H A N E
R G I R O K O I Z T U C K E R
N H E A R W S N Z I M M E S R
E M W L K Y L E M E W E B T E
E N K C L A O S N O T E L S U

BE ELECTRICAL WISE

A storm may have blown a pole or tree over high voltage wires, bringing them close to the ground. Keep away – notify the power supplier immediately and stand guard until help arrives.



turnout

Clockwise from lower left: Diners start through the serving line. Those who braved the storm to attend visit prior to the dinner. Dr. Thomas Holzberlein, chairman of the physics department at Principia College and the evening's principal speaker, discussed America's energy options for the future. John C. Small, ling-time member of the Southeastern Illinois Electric Cooperative's board of directors, made his appearance, and Otis Hickey, SEIEC public relations superintendent, right, talks with Mr. and Mrs. David Cox. Mrs. Cox is an administrative assistant for SEIEC.

enough coal to last 2,782 years, others say as little as 680 years. Whatever the case, they're both better than 76 years.

"Kids who are in school now will have an entirely different world than we have, and we're forcing it on them. The inheritance we pass on to them may be a strange one at that," he remarked.

We must be alert to the fact that we may be changing the environment, without being aware of it, Holzberlein cautioned.

Noting that there are any number of attractive-looking energy alternatives being pushed by various backers, Holzberlein noted that most have their flaws.

"Photovoltaics—the solar cells that convert sunlight directly to electricity—look attractive," he said, "but they are extremely expensive. Methane digesters, which generate natural gas from animal and other wastes, look attractive to many, but the returns are small," he said, adding that a person converting chicken manure to methane would have to maintain 50 chickens in order to drive a mile a day, while one pig will yield about one mile's worth of methane a day.

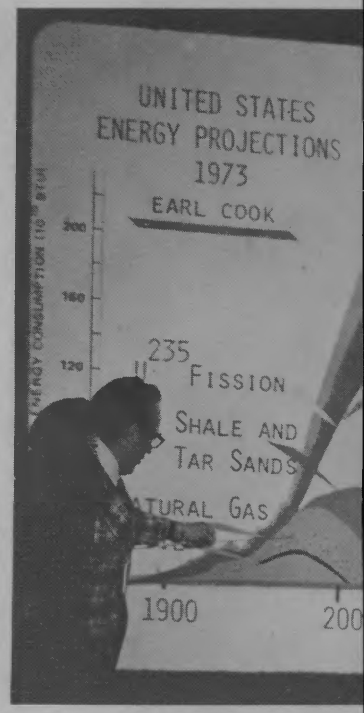
"Ocean thermal energy looks good," Holzberlein said, "but the power plants would have to be far out in the ocean.

"Windmills also look attractive, until you find out how much electricity they generate in comparison to their costs. There's a power plant down by St. Louis that puts out as much electricity as 12,000 of the big windmills the government has built over by Sandusky, Ohio," he noted.

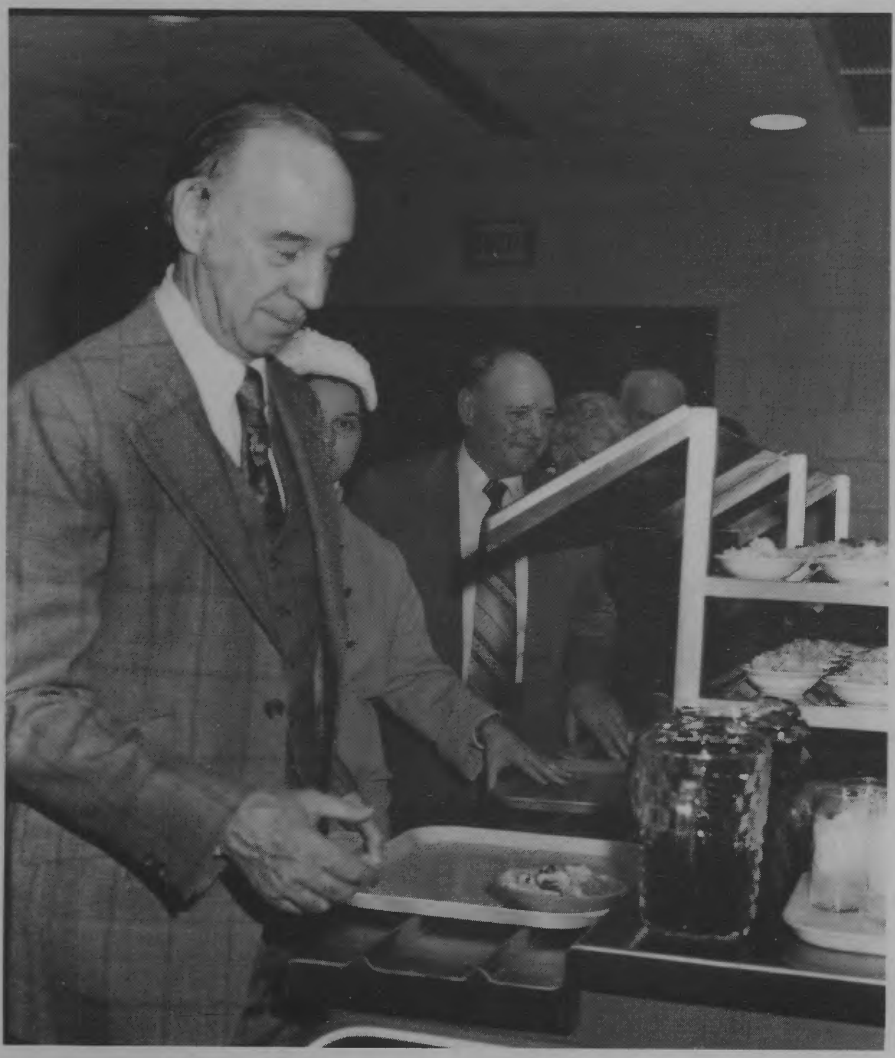
In summation, Holzberlein urged his audience to go to smaller cars, to motorcycles, bicycles, and shoe leather when possible to preserve fuels.

"In our homes," he said, "space heating, water heating, and lighting are where most of the energy goes. These are what you want to consider cutting.

"Recycling would pay off in a big way, too," he emphasized, adding, "There's a glass plant over near where we live, and it uses enough gas in one day to heat the city of Alton for almost six months. Recycling would definitely have a significant effect on our energy situation."



Storm cuts ag dinner



Some 40 rural electric and agricultural leaders from the Southeastern Illinois Electric Cooperative Service area braved a heavy winter storm to attend the annual Southeastern Illinois Electric Cooperative Farm Leaders Dinner near Harrisburg.

The weather-thinned group, which gathered at the Southeastern Illinois College on the evening of March 2, heard cooperative manager Roger Lentz discuss the effects of the coal miners' strike, as well as the general energy situation.

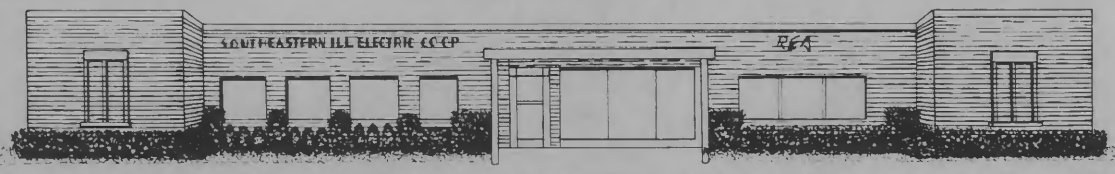
Dr. Thomas Holzberlein, chairman of the physics department at Principia College near Alton, was the guest speaker, and he elaborated on Lentz's comments in regard to the energy situation.

"Our energy consumption is on an exponential curve," Holzberlein said, "and we can't go on forever on an exponential curve."

With that in mind, he urged the audience to consider the fairly distant future.

"If we continue to grow at seven percent a year, as we have been, we can use up all our coal in 76 years. If we don't continue to grow, there are varying estimates as to how long our reserves will last. Some say we have

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Dear Cooperative Member:

Spring is slowly coming to Southern Illinois but the harsh winter of 1977-78 will not be forgotten for a long time to come. Our state has suffered through record cold, record snow falls, record ice storms and a record coal strike.

Our cooperative service area escaped the disastrous effects of the ice and snow and the cold temperatures will have no lasting impact. The Board of Directors and management of your cooperative wish the same could be said of the Coal Strike of 1978. The strike's impact will be with us for all time to come.

Thanks to careful planning of Southern Illinois Power Cooperative and excellent conservation efforts by our members, we had enough coal and carbon on hand at the start of the strike that SIPC got through the long strike without making emergency purchases of high-priced western coal as many other utilities had to do. Utilities that were caught with low coal stocks will have large wholesale power cost adjustments that will have to be paid for by their consumers in the months immediately ahead. Southeastern Illinois Electric Cooperative will not have that problem.

But, Southeastern and all utilities, will have to pay the cost of the strike settlement over the months and years ahead. This year the coal that produces our energy will cost an estimated 12 percent to 15 percent more as a result of the strike settlement and coal costs will increase further in the years ahead. This higher cost for fuel will have to be passed through by SIPC to our cooperative and SIPC's other two member-distribution cooperatives. SEIEC, in turn, will have to pass the higher fuel costs on to the membership.

You can be sure we will do everything possible to limit the impact of higher fuel costs on our membership. We urge our members to continue to conserve energy, especially during the warm summer days that are slowly coming to Southern Illinois. Limiting our peak demand on extremely cold days. . .or hot days. . .reduces SIPC's need for expensive peaking power and lowers our overall cost of power.

Because of our cooperative organization, any saving in SIPC's power cost is passed on directly through the distribution cooperative to the membership. Our members' efforts helped minimize the impact of the coal strike on our cost of energy production during the strike and we know we can count on everyone's cooperation in the month's ahead as we all try to cope with our inflationary economy.

Sincerely yours,

Bill Cadle

Bill Cadle, President
Southeastern Illinois Electric
Cooperative

Help Conserve Energy

perking, and perhaps a toaster.

Many will be taking baths or showers, others using those convenient little hair dryers. Some lights are probably on, and the thermostat has probably been turned up to chase away the chill that has settled over the house during the night. Electric shavers may be running, and you may be opening and closing the refrigerator, causing the motor to run occasionally.

All the activities going on at the same time, in households throughout our service area,contribute to the peak, During such times, the generators at the power plant are running flat out, burning coal at an astonishing rate.

We use nearly 1,800 tons of coal a day, in fact.

If you can postpone any of those tasks that you normally do during the morning peak, you can help save energy, but it won't help if you just put them off until the evening peak, which is enough of a problem on its own.

You probably will be able to think of some things you can put off in the mornings, and there are some things you can shift around in the evenings, too. Most likely, supper will be cooking, and you may have a load of clothes in the washer, another in the dryer, and the dishwasher—if you're fortunate enough to own one—may be going, too. Of course, when the washers are going, the water heater is working, too, because they draw hot water out of the heater automatically, and the water heater is the single largest user of electricity around the house after electric heat.

If you can avoid using hot water as much as possible and turn down the furnace thermostat a degree or two, you will be well on the way to cutting back your electric usage. And you'll be saving money.

One of the best ways to avoid the morning and evening peaks is by shifting your chores to other times of the day, if possible, and using the high-wattage appliances during the mid day and after 8 p.m., instead of just during the morning and evening hours.

Below is a chart showing the average energy drawn by some appliances. Especially heavy users are shown in bold type. The fewer of these you can use at one time, the better.

APPLIANCE	TYPICAL WATTAGE
Clothes dryer	**4,850**
Broiler (in kitchen range)	**3,375**
Oven	**2,900**
Large cooking element	**2,200**
Toaster oven	**1,500**
Small cooking element	1,275
Dishwasher*	1,200
Electric skillet	1,200
Waffle baker	1,200
Toaster	1,150
Hair dryer, blower	1,000
Coffeemaker, brew cycle	890
hold cycle	50
Clothes washer, automatic**	510
Slow cooker, high setting	150
low setting	75

*Note that your dishwasher draws 1,200 watts of current, much of which is used in the drying cycle. It also valves hot water from the water heater. An electric dishwasher will use much less electricity if you shut it off after the last rinse but before the "dry" cycle, which turns on a heating element in the cabinet. The dishes should air dry on their own in about 20 minutes.

**While an automatic washer does not draw much current, it *does* draw hot water from the water heater, a prime energy user in the home.

People profile: Catherine Dallas

Catherine Dallas, a 12-year employee of Southeastern Illinois Electric Cooperative, is the organization's cashier. Mrs. Dallas has lived all her life just south of Eldorado, attended area schools, and went to Raley's School of Beauty Culture in Harrisburg. Her husband, Dayton, a pit manager at the Sahara No. 6 mine, was born and raised in Harrisburg. They have two daughters. Sally teaches kindergarten at Hillcrest and Bonnie taught second grade in Louisville, Kentucky, until the birth of her daughter, Kristie, who is six months old.

"I like to cook and do handiwork," Catherine says, "especially fancy quilts and other fancy work. I did ceramics for a while, but it got too involved."

At left, Bruce is shown with his Bonanza, in which he often commutes to work. At lower left, he examines the jury-rigged front landing gear on another Bonanza, which he flew up from Huntsville, Alabama after stiffening the landing gear and replacing the propeller. At right, he works on an old airplane, a 1929 Stinson Detroiter, which sports a five-cylinder Wright Whirlwind radial engine.

matter

from the Marion Airport to Harrisburg-Raleigh, where he is self-employed as an airframe and powerplant mechanic, having subleased the aircraft repair operations from Percy Brown, manager of the airport.

The Bonanza is a 1951 model, and Bruce owns it in partnership with a Marion man. "It had been damaged in a hangar fire," he says, "and some of the heat-treated metal in it had been damaged so we took it to the Beech factory in Wichita , Kansas, and they told us what needed to be replaced. We scavenged around for a while and got all the parts we needed and fixed the plane up."

A Piper Cherokee 140 was another rebuild project Bruce got into, this time in partnership with Keith Mortag, who owns and operates Mortag Flight Training at the Harrisburg-Raleigh Airport.

"The Cherokee didn't have any damage, really," Bruce says, "but the engine was getting in need of a major overhaul and it was going to cost the owner some money, so he decided to sell it. We overhauled the engine, did some minor repairs, and gave it a more modern paint job, and we've got it up for sale now.

"Keith and I have another Bonanza," he remarks, "that a guy damaged when he overshot the runway and ran it into a ditch. He must have been barely moving when he went into the ditch because there's not too much damage, mainly a bent propeller blade and a collapsed front landing gear.

"We flew it back from Huntsville, Alabama, after replacing the propeller and jury-rigging the front landing gear. When I got it back here I landed it very, very gently," he laughs.

The two plan to make all the necessary repairs and sell the airplane.

Bruce, who bears somewhat of a resemblance to an oversized John Denver, got into flying partly from a long association with model airplanes, a hobby his family has pursued for several years. His family is now following him in his aviation interest, and they own a Cessna 140. His brother holds a private pilot's license and his mother and father are working toward theirs, too. He studied at the Aviation Technology School at the Southern Illinois University at Carbondale.

Bruce and three of his friends took an aviation vacation over the New Year's holidays, and although it didn't turn out exactly as planned, they had a lot of fun and escaped some of the winter weather that ravaged much of the Midwest.

"I have a friend who teaches scuba diving," Bruce says, "and he offered to teach us if we'd pay the expenses involved, so I learned and a few of us were going to go to Southern California to do some diving.

"We took off and headed south, for New Orleans, where we spent the night. The next day we started west, the weather turned bad, and we were weathered in for two days. When it started clearing, it was clearing to the east, so we went to the Bahamas instead. Planning kind of fell apart early, so we just played it by ear."

"Sometimes we have to travel with a pretty flexible travel plan," he adds wryly.

"We liked the Bahamas," Bruce notes, "and the weather was great. We went out for a dive on New Year's Day and the water was about 70 degrees. The food and accommodations were a little high-priced, but everything else was pretty much in line. All in all, it was a nice vacation. We ran into some headwinds on the way back, though, and it took us 11 hours to get here from Miami."

Leave it to a man who commutes to work in an airplane to complain about taking 11 hours to get from Miami to southern Illinois.

Flying is a day-to-day

The radio at the Harrisburg-Raleigh Airport crackles, and a metallic voice announces that Bonanza N35Lima Tango will be landing in about five minutes. Later transmissions indicate the plane's progress toward the airport, and then it's visible, descending toward the runway, where it lands gently.

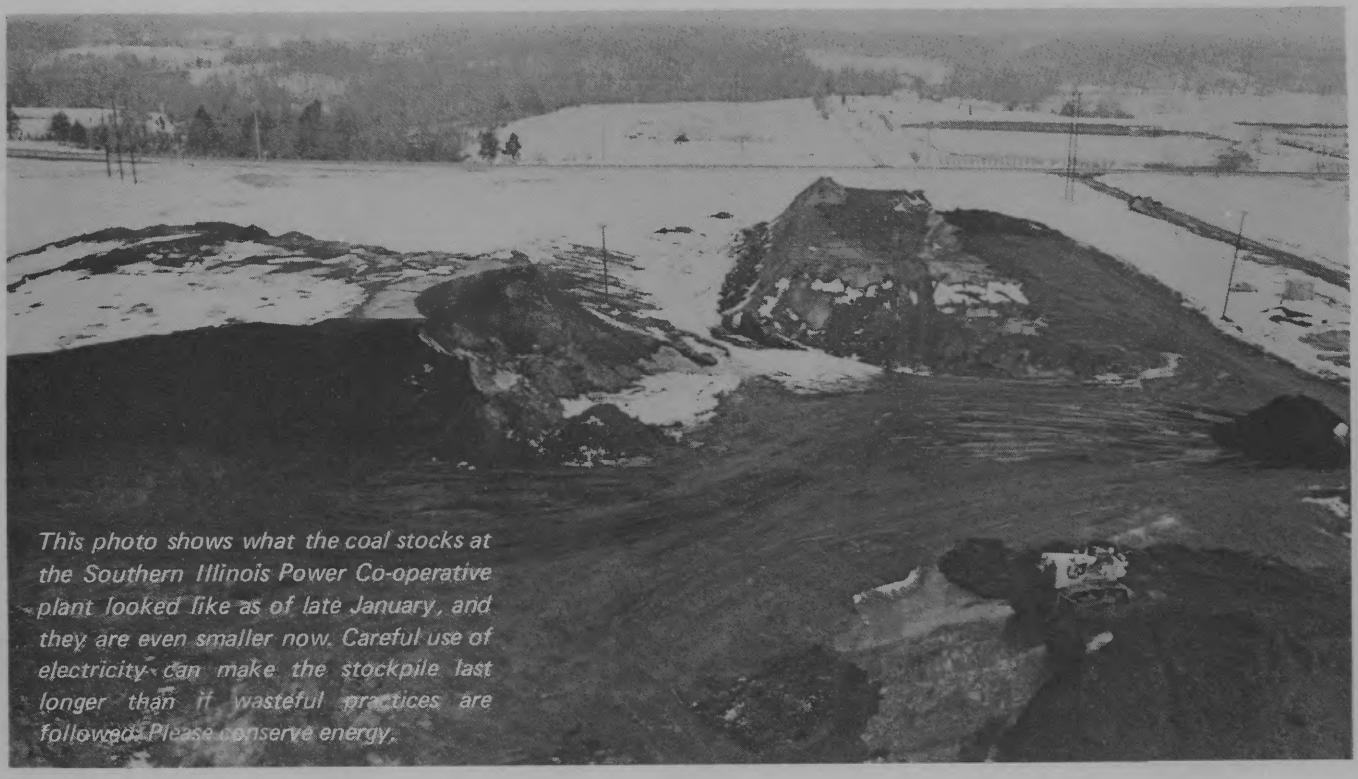
The butterfly-tailed orange, white and black airplane taxis to the terminal, the door opens, and Bruce Lyons climbs out, ready to go to work. Commuting to work by private airplane isn't the average man's way to get to work yet, and it may never be, even though aviation proponents believed for a while that such a mode of transportation would be commonplace.

Bruce, who lives in Herrin, commutes in "three five Lima Tango"

the SOUTHEASTERN LIGHT

Southeastern Ill. Electric Co-op

Eldorado, Ill.



This photo shows what the coal stocks at the Southern Illinois Power Co-operative plant looked like as of late January, and they are even smaller now. Careful use of electricity can make the stockpile last longer than if wasteful practices are followed. Please conserve energy.

Help Conserve Energy

As the effects of the coal strike continue, the coal stocks at the Southern Illinois Power Co-operative plant in Marion continue to shrink. To enable your cooperative to continue serving you, we urge all members to conserve electricity any way you can and, when possible, avoid using electricity during peak hours.

A "peak" is a lot like the rush hour at the supermarket, when many people are doing their shopping at the same time and the checkout lines are clogged.

Our system peaks twice a day—that is, demand soars to very high levels—from about 6 to 10 a.m., when most people are getting up and beginning the day, and again from about 4 to 8 p.m., when people are rushing home, preparing supper and doing the evening chores.

If you can shift some of your household tasks to other times in the day, especially to the times between 10 a.m. and 4 p.m. and after 8 p.m., you can help shave those expensive peaks and save scarce coal. This is especially true of those chores that require high-energy appliances.

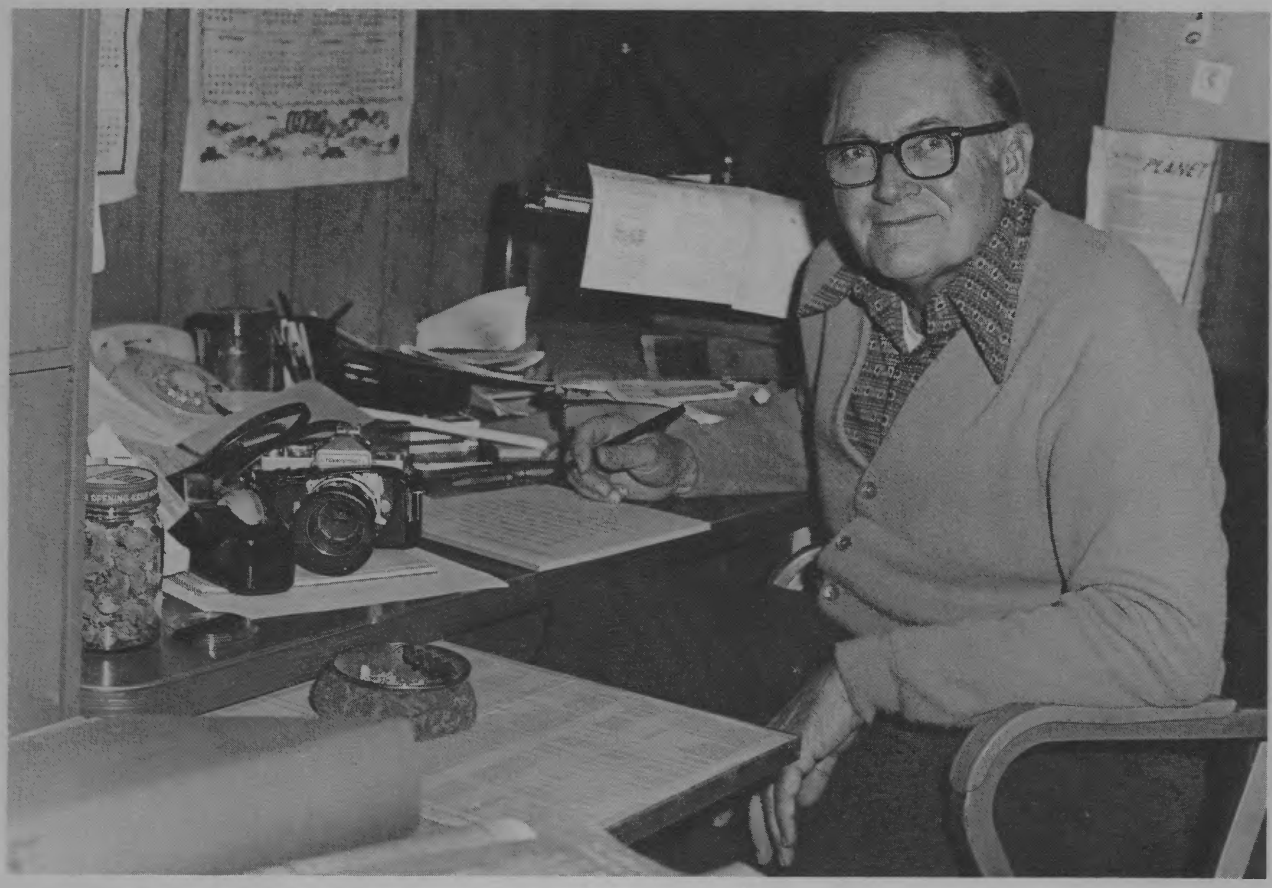
Also, you may be able to substitute smaller appliances for large ones; a counter-top oven, for example, uses half as much electricity as the average oven in a range and is perfectly adequate for many occasions. Similarly, an electric skillet uses only half as much energy as a large stovetop cooking element.

And perhaps you can prepare an occasional main or side dish in a slow cooker, which uses very little energy.

We are not asking you to stop using electricity completely, but to conserve where you can without too much inconvenience, and to change your habits a little.

With the average family, everybody gets up in the morning and breakfast is cooking. If you—and all SEIEC's other members— are about average, you will probably have two or three of your range cooking units on, a coffeemaker

(continued on page 17)



Bob Cate Nears 30 Years of Service to DSAC

Hubert A. "Bob" Cate, associate professor of agricultural communications, serves as departmental editor for the Dixon Springs Agricultural Center (DSAC) in western Pope County. He joined the staff there in 1949.

Cate coordinates regular direct-mail editorial services provided for the 12-member DSAC academic research staff in meeting the needs of extension advisers, daily newspapers, farm editors, and radio and TV program directors.

"I also produce a weekly photo-news service called, 'Scene at Dixon Springs,' " Bob says, "it goes out once a week, while 'Action at Dixon Springs,' a report on special events of public interest, goes out monthly. These services go to 65 southern Illinois daily and weekly newspapers."

Bob is also liaison editor for the DSAC research staff, and helps staffers edit their contributions to their departments at the Champaign-Urbana campus. A large part of this time is devoted to editing *Update,* the annual research report that spells out the reasons, research and findings of the many and varied projects going on at the center.

Professor Cate, as an extension communication specialist, also serves as field editor for region 10 of the Cooperative Extension Service, a 15-county area of southern Illinois.

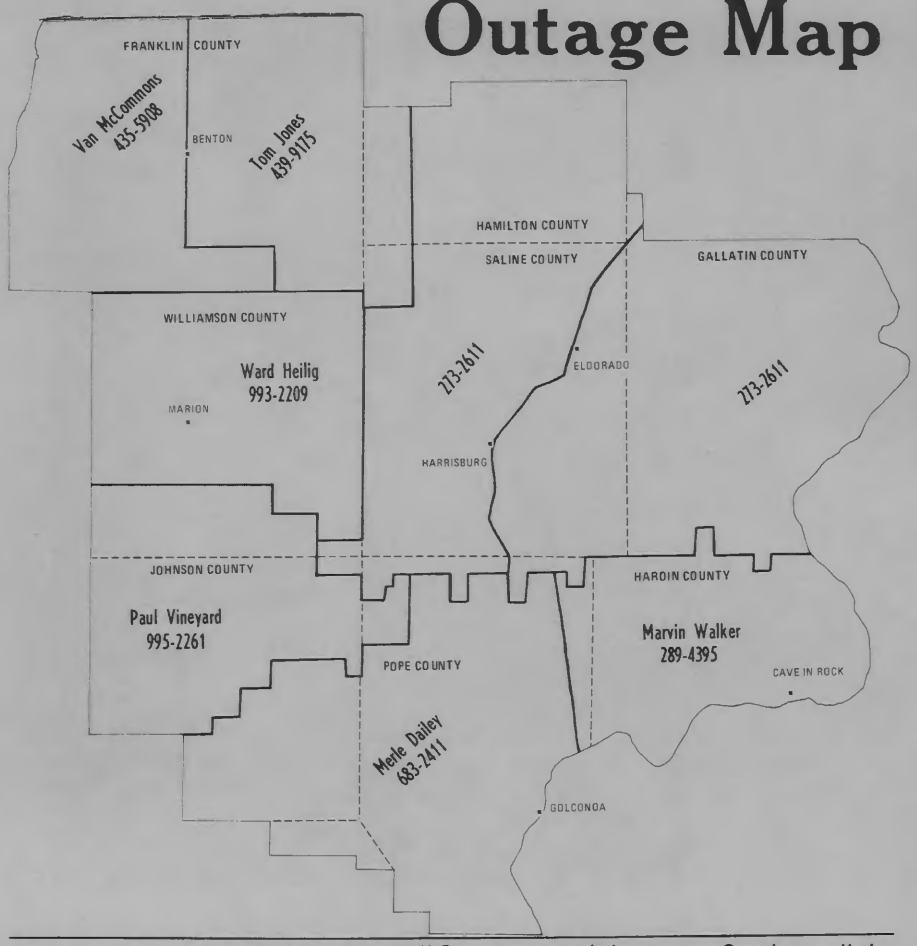
The center is part of a public institution and visitors are always welcome. Bob acts as host for the numerous scheduled tour groups, foreign visitors, curious passersby and unscheduled visitors. He also coordinates for the Cooperative Extension Service the special DSAC field day events such as Horticulture Open House, Agronomy Day, Beef Cattle and Forage Day, Sheep Day, and Forestry Day. He also organizes the public relations effort of numerous extension activities in southern Illinois.

Cate, a graduate of the University of Illinois College of Agriculture, is a World War II veteran, having flown transport aircraft in Asia from 1941-1945. "We flew gas, mops, jeeps, nurses, floorsweep, and cigars—everything needed to fight a war—into China and India, and we flew Chinese troops out for training in India. Hog bristles were another priority cargo we flew out of China," he says with a laugh, "and they had priorities on some of the darndest things."

The DSAC consists of 5,000 acres of U.S. land under special use permit to the University of Illinois from the U.S. Forest Service for research purposes. Current focuses on problems in the broad areas of controlling soil erosion, improving soil fertility, and developing profitable and practical production systems for crops, livestock, horticulture and forestry.

The facility has 1,500 head of beef cattle, including a 500-cow breding herd, 3,000 head of sheep, including 1,200 ewes, and a 20-sow swine health evaluation unit. Twelve academic and 41 nonacademic staff members carry out the research and extension programs at the center.

Outage Map



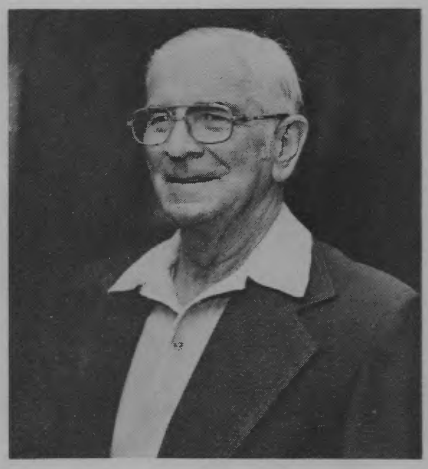
To report an outage from 4 p.m. until 8 a.m. on weekdays or on Sunday, call the serviceman for your area, as indicated on this map. Persons in the service areas around Eldorado should call 273-2611 collect. Please do not call the servicemen during regular office hours.

HEATING HINTS

CHECK YOUR THERMOSTAT SETTING... regardless of the type of fuel you use to heat your home, be it gas or electricity, your thermostat can be the key to more economical operation. The lowest comfortable settings naturally mean the greatest in economy.

TEMPERATURE—COST RELATIONSHIP

Room Temperature	Based on 70 Degrees
68 Degrees	Costs 6.2 percent less
69 Degrees	Costs 3.1 percent less
70 Degrees	Costs 0
71 Degrees	Costs 3.1 percent more
72 Degrees	Costs 6.2 percent more
73 Degrees	Costs 9.4 percent more
74 Degrees	Costs 12.5 percent more
75 Degrees	Costs 15.6 percent more
76 Degrees	Costs 18.7 percent more
77 Degrees	Costs 21.9 percent more
78 Degrees	Costs 25.0 percent more
79 Degrees	Costs 28.0 percent more
80 Degrees	Costs 31.0 percent more



Jesse Young

Jesse Young Retires After 30 Years

Jesse Young, line foreman at the Golconda District Office, retired January 31 after nearly 30 years of service. He came to work for Southeastern Illinois Electric Cooperative in April, 1948 as an electrician.

Young, who was born and raised in Elizabethtown, attended country schools in Hardin County and graduated from Rosiclare High School in 1932. Before coming to SEIEC, he worked in mines at Hillside and Rosiclare, and, along with a partner, owned and operated an appliance and repair shop in Elizabethtown. He and his wife, Alberta, have three sons and two daughters.

In addition to his work for the cooperative, Jesse has bought and refurbished four mobile homes—one of which he lives in—and two houses, for use as rental properties.

He makes a hobby of his fraternal memberships. He is Past Master of the Blue Lodge Masons, was Grand Royal Patron of the State of Illinois Order of Amanarth, has served as Deputy Supreme Royal Patron, Post Watchman Shepherd, and Past Worthy Patron.

He hopes to get in some fishing and traveling now that he has retired, and expects to visit fraternal lodges around the country as he visits his sons and daughter.

Pat Scates Carves Christmas Gifts

Pat Scates and his work.

Pat Scates, Sr. of Shawneetown was faced with the question of what to give his children for Christmas. Actually, there was no real question of how he was going to get the gifts. An avid woodworker, he knew he would make the presents.

After settling on the idea of building washstands, he set about the work, and there was plenty of work to be done. The Scateses have six sons and three daughters, and Mrs. Scates gets one of every item Scates creates, so he needed to make ten washstands. They are patterned after an antique stand that has been in the family for years.

"I started woodworking four or five years ago," he relates, "first just fixing furniture for the kids—things like that, then I got into working on stuff, mostly during bad weather."

"I don't really work on anything steady," Scates says, "and it takes me about a week to build one of these washstands. If I went at it steady I guess I could finish one in a couple of days."

Nine of the stands are made of walnut and one is made of cherry. "I just happened to have some cherry around," Scates chuckles, "so I made one out of that. Two or three of the kids wanted that particular one, and I couldn't figure out how to decide which one got it."

Scates, who says he is "more or less retired," farmed some 7,000 acres in partnership with his sons, in an area where his grandfather settled after coming to this country from Germany.

Member Puzzle

The following members' names can be found in the puzzle written vertically, diagonally, horizonally, or backwards. For example: ORR

ADAMS
BAKER
CARTER
DENNY
ERWIN
FISHER
GIBBS
HOWARD
ING
JAMES
KARNES
LEE
MILLER
NORRIS
OWENS
PAYNE
QUICK
RISTER
SIMMONS
THOMPSON
UHLES
VINYARD
WARREN
YOUNG
ZIMMERMAN

T	H	O	M	P	S	O	N	N	E	E	L			
S	O	W	I	A	I	A	E	U	D	K	A			
E	W	I	L	Y	M	R	A	O	E	C	E			
L	A	A	L	N	D	R	A	Y	N	I	V			
H	R	E	R	E	O	W	E	O	N	U	I			
U	D	A	B	R	N	O	T	U	Y	Q	N			
H	O	D	A	R	E	W	I	N	D	U	Z			
L	R	A	K	E	R	N	R	G	E	F	I			
S	E	M	A	J	A	R	E	L	L	I	M			
N	T	S	G	O	K	S	K	C	L	S	M			
O	S	N	E	A	S	B	A	A	Y	H	E			
M	I	L	R	E	N	B	B	R	O	E	R			
M	R	N	S	E	E	I	N	T	U	R	M			
I	E	R	I	A	W	G	I	E	S	B	A			
S	S	I	R	R	O	N	E	R	W	I	N			

the SOUTHEASTERN LIGHT

Southeastern Ill. Electric Co-op

Eldorado, Ill.

Glenn Webb Named to Farm Credit Post

O. Glenn Webb, a farmer from Tunnel Hill and son of rural electrification pioneer Ray Webb, has been appointed director-at-large on the Board of Directors of the Farm Credit Banks of St. Louis, Mo.

He was named to a three-year term beginning January 1, 1978, by Donald E. Wilkinson, governor of the Farm Credit Administration, Washington, D. C. Webb succeeds Wayne Buck, of Marshall, Mo., whose term expired December 31.

Webb operates a 400-acre farm, including a 50-acre apple and peach orchard, maintains 70 brood cows, and raises corn, wheat and hay.

He currently serves as vice president of the board of FS Services and FS Producers Seed Company, Bloomington; secretary of the board of Fruit Belt Service Company, Vienna; secretary-treasurer of the board of Illinois Fruit Growers Exchange, Cobden; and is a member of the board of Illinois Grain Corporation. He also holds posts in several community organizations.

Webb has a bachelor's degree in agriculture from the University of Illinois and a Ph.D. in educational administration from the same university. He and his wife, Phyllis, have two sons and a daughter.

Glenn Webb

Coffee . . . 19 Cents a Pound?

Since paying your last electric bill, many of you may have thought that electricity has been the only service to rise in costs. Yet, inflation has taken its toll on almost every item ever made.

In order to see 75 years of inflation at work, a brief look through a recent reproduction of Sears' 1902 catalogue is recorded here. Here are the average prices of everyday items of 1902 compared with those of today.

Many of us chuckle when looking at prices of 75 years ago; however, we continue to pay for those same commodities today even though their prices have skyrocketed through the years.

Yes, it's true that electric bills are going up. But, compared with the inflationary costs of other items, electricity, with its comfort and cleanliness still remains one of the best buys we have today.

Then and Now

	1902	1977
Diamond ring	$6.85	$200.00
38 double action revolver	2.75	100.00
Men's dress shirt	1.30	16.00
Ladies' boots	2.75	60.00
Webster dictionary	5.00	50.00
Camera	3.68	40.00
Man's all-wool suit	6.00	175.00
Cheese	.15 (lb)	1.80 (lb)
Pecans	.12 (lb)	6.00 (lb)
Coffee	.19 (lb)	3.60 (lb)

Kaiser completes 5 years at DSAC

Clarence J. (Jim) Kaiser has just passed his five-year mark as director of the University of Illinois Dixon Springs Agricultural Center (DSAC) at Simpson. He oversees the work of some 50 persons at the 5,000-acre agricultural research facility.

Kaiser, an affable six-and-a-half-footer, was born in Indiana and attended schools there, receiving his bachelor's degree in agriculture from Purdue University in 1952.

Kaiser went back to school to get a M.S. in education and administration, which he received in 1959 from Indiana University, then attended the University of Missouri to earn a Ph.D. in agronomy and statistics in 1971.

Before coming to DSAC, Kaiser served as extension specialist in forages at the Western Kentucky Substation of the University of Kentucky. He also served as superintendent of the Southern Indiana Forage Farm for the Purdue Agricultural Experiment Station.

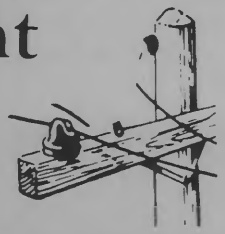
Woven into his academic career is also a long military hitch. Kaiser completed Reserve Officers Training Corps duties in 1952, and has steadily risen in rank since.

Clarence J. (Jim) Kaiser, director of the University of Illinois Dixon Springs Agricultural Center, talks with Otis Hickey, Public Relations Superintendent for Southeastern Illinois Electric Cooperative. Kaiser recently completed five years as director of the agriculture research facility near Simpson.

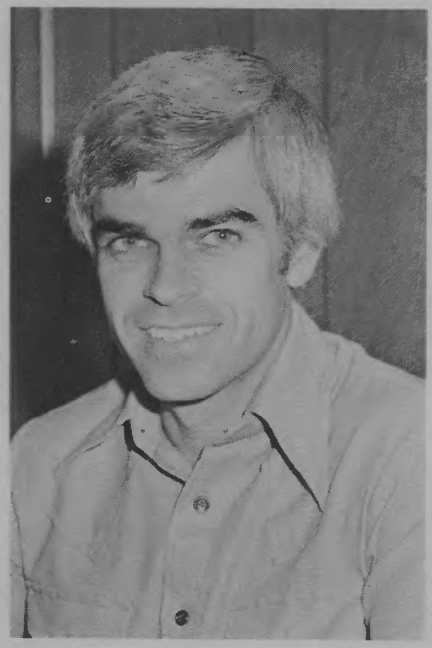
While his studies indicate a wide range of interests, Kaiser has still another: flying. He made his first solo flight about ten years ago, and has been flying "off and on" since then, and has since resumed training.

Kaiser and his wife, Doris June, have three daughters and a son.

It doesn't take a "crack shot" to shoot an insulator or security light



people profiles



James Michael Cummins

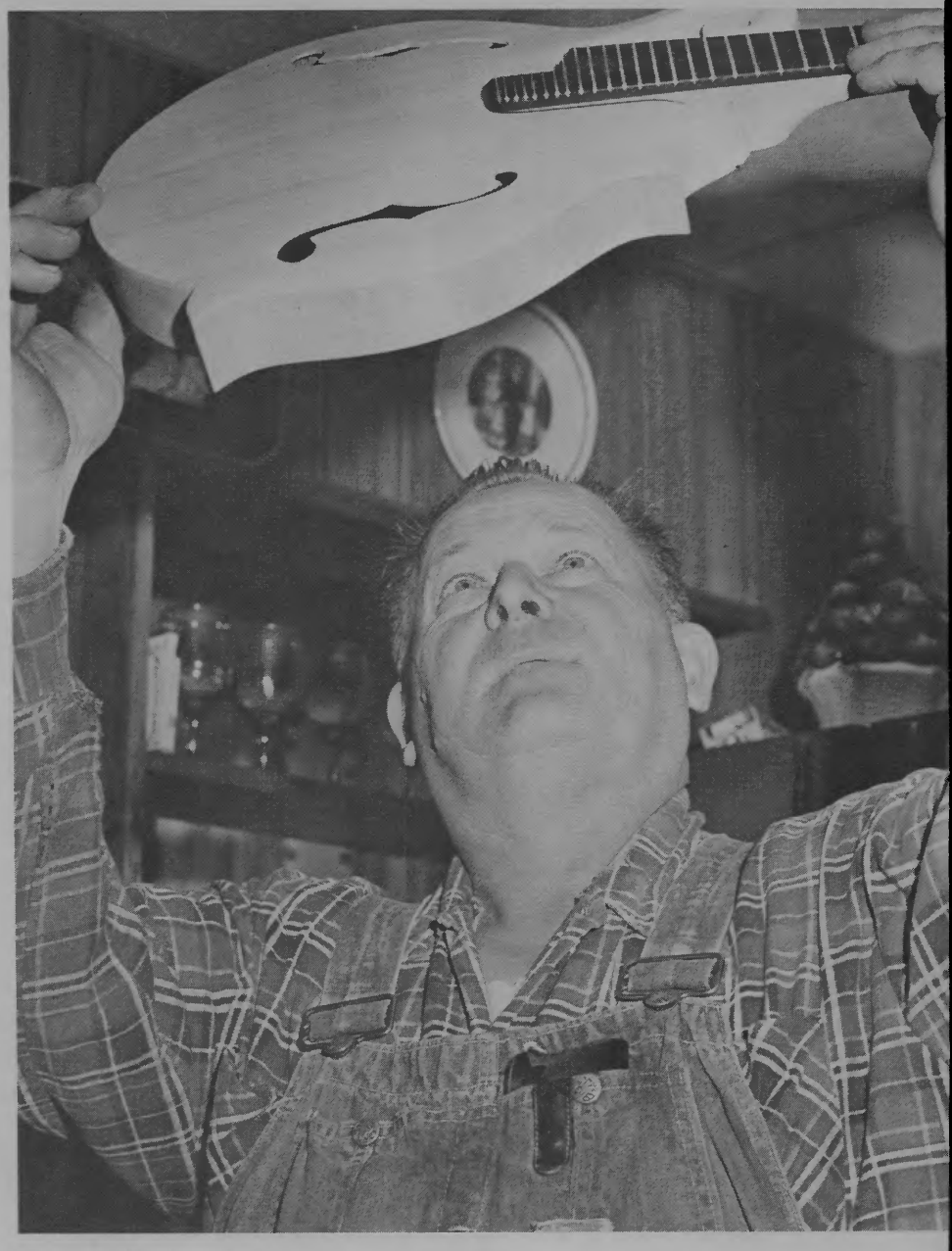
James Michael (Mickey) Cummins, 32, is a staking engineer for SEIEC, and is a lifelong resident of the area. Born in Eldorado, he attended Harrisburg High School and attended a semester of college before coming to work for the cooperative.

"I started here in 1965," he says with a laugh, "and took two years off for military service. I spent my first year with the Corps of Engineers at Ft. Lewis, Washington. The second year I spent in Vietnam with the First Infantry Division."

An avid night-school student, Mickey has completed two years at Southeastern Illinois Junior College, where he is taking business and humanities courses.

He and his wife, Sherri, have a daughter, Stephanie, who is eight years old. They live in Harrisburg.

The hand-crafted mandolins of Carl Elder require a good deal of visual examinations as the work is under way. At the lower left, Elder inspects the sound box. In the upper left photo, he sights over the top of the sound box for alignment with the neck. At the right, he holds the top against a light to check the outer edges of the sound box top; the outer edges must be thinner than the middle for the best quality of sound.



maker

Carl Elder is a mechanic with an unlikely sideline: he makes and sells mandolins as "kind of a hobby," as he puts it. A Homberg resident, he works at an implement dealership in Golconda.

"I was just sort of born with the ability, or the gift, to cut wood," he says. "When I was about six years old, I carved a little ol' Model T with a lot of details in it. My mother looked at it and said, 'Son, that looks so good that you ought to go up to Detroit and help Mr. Ford build automobiles.' " Elder didn't, and Mr. Ford's loss is country music's gain.

A musical inclination turned him to making instruments instead of furniture or any of the other things a gifted woodworker might make.

"I make mandolins because the mandolin's my instrument," he says. "They play easier for me. I've played 'em since I was a little bitty kid. I started when I was about eight or nine, and belonged to a little country band.

"That was about the only entertainment we ever had, and we played for dances and little country music parties all around here, even some down into southern Missouri."

He still has the first mandolin he made. "I didn't know what I was doing when I built this one. "but it sure has the tone," he says, breaking into a rendition of "Woody's Rag " to prove it.

His mandolins are made out of hard maple, "Curly, if I can get it," he says, "out of an old sugar tree. I just start out with a board. The top is spruce." He uses a homemade band saw, a table saw, and a drill or two.

Each mandolin takes about three months to make, largely because of the time necessary to allow glue and varnish to dry. He uses a special varnish formulated for fiddles because it doesn't deaden the sound. He sells them for $500. Of the seven he has built, he has kept only the first. "Number eight is another one I'm going to keep," he relates, "I'm making it for my wife, Clara."

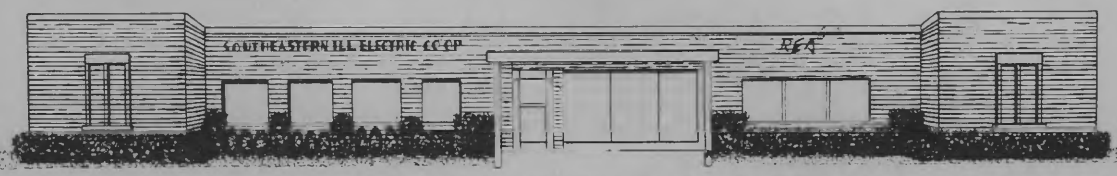
When he started to build mandolins he was faced with a problem: he did not have a set of plans. "I saw a picture in a magazine and it was almost full sized," he remarks, "so I drew a set up from that, being real careful, and it worked out fine. I found a set since, but they were so close to mine that I stuck with my own design."

In order for a mandolin to have the proper tone, Elder says, it is necessary for the outer edges of the top to be thinner than the middle, and this is where many builders go wrong. "I just hold it up to the light," he says, "and look through it. You should be able to see light through the outer edges, but not in the middle. It's knowing how thin to make the edges that makes a good builder."

Anybody who listens to an Elder mandolin would agree that he is a good builder.

'Picker' is masterful mandolin

the SOUTHEASTERN LIGHT



Southeastern Ill. Electric Co-op

Eldorado, Ill.

Dear Cooperative Member:

As you know, a rate increase was placed into effect for electricity used during the period beginning in October 1977.

Three factors made this increase necessary:

1. Inflation—The cooperative has continued to experience the effects of inflation in nearly every phase of its operations. For example, a 30-foot pole that cost $16 in 1970 now costs about $35.

The initial cost per kilowatt of generating capacity at Southern Illinois Power Cooperative's Marion plant was about $200 in 1964. A new unit at the plant that will go into operation in 1978 is expected to cost almost $500 per kilowatt. Interest rate on the 1964 unit was two percent. Interest rate on the new unit is expected to be about eight percent.

2. Environmental Costs—Pollution control equipment required by law added about two million dollars to the cost of the 1964 unit several years ago. The equipment required on the new unit costs almost as much as the total plant cost in 1964. When in operation, it is expected to reduce the efficiency of the plant and substantially increase the cost of every kilowatt-hour (kwh) generated.

3. Fuel Costs—Coal costs at the Marion generating station have increased dramatically since 1970. At that time coal delivered at the Marion station cost a little over $6.00 per ton. Today the same coal costs about three times this amount—and prospects appear that it will increase substantially when a new labor contract is reached between the coal industry and the United Mine Workers Union.

When we look at the cost factors that have adversely affected us during the past five years, I think we can take pride in the job we have done in keeping rates as low as we have.

Even after our most recent rate increase, our rates compare very favorably with those of neighboring utilities. Our base residential rate is lower than that of either CIPS (Central Illinois Public Service Company) or Illinois Power for 1,000 kwh per month usage. This is about the current average usage per consumer per month on the cooperative system. Our rates are lower than those of most electric cooperatives in Illinois and are much lower than those in New York City and many other parts of the United States.

A unit cost comparison of average cost per kwh on our system over the years illustrates what has been happening to the utility business in this country. In 1961, the average cost per kwh under our residential rates amounted to 3.34 cents per kwh. The average cost declined steadily until 1970 when it reached a low of 2.4 cents per kwh. Costs have risen steadily since then so that by 1976 they averaged 3.4 cents per kwh. During the first nine months of 1977, costs averaged about 3.3 cents per kwh.

Basically what is happening is that inflation, environmental costs, and escalating fuel costs are having an adverse effect on costs in the entire electric industry. Despite this, the price of electricity remains one of the best bargains in the family budget.

Recognizing what is happening to energy supplies and costs of all of the basic fuels has caused the current concern about energy in the Congress and by the President. No one seems to have an answer to all aspects of the problem, but it appears that conservation will play an important part in the solution of the country's energy problem.

Prospects for a decline in inflation rates in the foreseeable future do not appear favorable. We urge our members to conserve energy through proper insulation and the elimination of waste wherever possible. The cooperative is particularly concerned about the effects of inflation on those on fixed incomes and those caught in the economic squeeze of low farm prices.

While we will continue to do everything we can to hold costs down, in a cooperative, as in any other utility, the consumer ultimately pays the cost of operation. There simply isn't anyone else to bear these costs. We do have one advantage over the investor-owned utilities however—a cooperative doesn't have stockholders and pays no dividends. It is owned by those it serves, and any margins over costs of operations must ultimately be returned to its consumers.

Sincerely yours,

Bill Cadle

President, Southeastern Illinois Electric Cooperative