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AUGUST

1962

Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE



A VERY IMPORTANT MAN

(See Page 3 and Administrator's Message)





A Message from the ADMINISTRATOR

There is a very important man on the cover of RURAL LINES this month. He is John McGuffin, the 5 millionth consumer to be served by an REA-financed system. Mr. McGuffin, and people like him, are the sole reason for the \$4 billion rural electrification program. Both REA and its borrowers are in business to get electric power out to people who don't have it—and to keep it coming in adequate amounts, at low cost.

The connection of the McGuffin ranch naturally made us think about all the other John McGuffins in the United States who are still without the blessings of electric power. It occurred to us that it might be a good time for all REA borrowers, both electric and telephone, to re-examine their own area coverage and line extension policies to see what can be done to serve the still unserved.

It has long been a provision of REA's loan contracts that "electric service shall be made available to the largest practicable number of rural users in each borrower's service area." One of the important reasons for the Pace Amendment to the Rural Electrification Act in 1944, which eased the terms on REA loans, was to permit area coverage rural electrification of the Far West, Great Plains, and low income rural areas. In 1949, the telephone amendment to the Act was approved; it said that the Administrator "shall, insofar as possible, obtain assurance that the telephone service to be furnished or improved thereby will be made available to the widest practical number of rural users."

Area coverage as an REA concept goes even beyond the idea of reaching the "widest practical number"; it also means reaching them at standard rates. We define the term as service at regular rates and monthly minimum established in the standard rate schedules (without contributions or special minimums) for all classes of consumers other than large commercial and industrial consumers. REA long has felt that this goal can best be attained as a matter of local initiative, through the enlightened policies of our borrowers' officers and boards of directors. A few years ago, when REA made a survey among its electric borrowers on line extension policies, the results spoke well for our program. Slightly more than one-third practiced area coverage as we define it.

(Continued page 16)

Rural Lines

Editor, Samuel Levenson

Contributors to this issue: Lucile M. Holmes, Bernard Krug, John F. Temple.

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NEW MEXICO RANCHER IS 5,000,000TH CONSUMER

*REA Administrator Norman M. Clapp
throws transformer switch to energize
ranch house near Tatum, New Mexico.*

A New Mexico cattle rancher is the five millionth consumer to receive central station electric power through the 27-year-old Rural Electrification Administration program.

Ceremonies attending the connecting of the John McGuffin home 30 miles northwest of Tatum with the electric line received national attention. REA Administrator Norman M. Clapp threw the transformer switch to energize the ranch house. New Mexico Congressman Joseph M. Montoya and other notables were also present at the remote, 12-section ranch to participate in the July 2 celebration. Secretary of Agriculture Orville L. Freeman phoned from his office in Washington to congratulate the McGuffins when the switch was thrown. The telephone represented another first for the McGuffins, since they have also been without telephone service during their 21 years in this remote section of New Mexico.

Two cooperatives financed by REA were responsible for extending the electric and telephone service 3.5 miles to

the ranch, at a cost of about \$4,000. Joint use of the new poles was simplified because R. B. Moore is manager of both cooperatives—the Lea County Electric Cooperative, Inc., and Leaco Rural Telephone Cooperative, both with headquarters at Lovington.

The installation was made at no cost to the new subscriber beyond his regular monthly bill, Mr. Moore told reporters. "This is what we mean by 'area coverage'—to serve the lean as well as the fat areas. This is the big reason why the REA-financed cooperatives in this country have reached so many farmers and ranchers," he said.

Lea County Electric Cooperative came into existence in March 1949, when it obtained a loan from the Rural Electrification Administration to purchase the Lovington District of The



Secretary of Agriculture Orville L. Freeman makes first telephone call to McGuffins, whose picture is on the table behind him. The event got wide publicity.

Inland Utility Company. The commercial utility had decided to sell its Lovington holdings rather than invest additional capital to keep up with the rapidly expanding power needs in the booming Lea County area. Mr. Moore, district manager for the utility, agreed to go with the cooperative as its general manager.

Acquisition of the utility services in the town of Lovington gave the struggling new cooperative enough consumer density to enable it to extend its electric lines to the sparsely settled rural areas in Lea County and in three adjacent counties. Today, the cooperative services 6,689 meters, of which nearly 1,400 are rural residences—farms and ranches.

The Lea County cooperative now produces power by means of a 20,030 kw diesel plant and a brand new 16,500

kw steam generating plant. Its power sales have risen tremendously during the past 12 years. Operating revenues rose from \$135,607 in 1949 to \$2,193,117 in 1961. The cooperative, which borrowed \$17 million from REA, is repaying its debt with interest on time—and even ahead of time.

The Leaco Rural Telephone Cooperative acquired the Tatum Telephone Company, an obsolete magneto system, in 1954, and a year later obtained an REA telephone loan to modernize the system. Today it serves 804 rural subscribers over 500 miles of line through two automatic dial exchanges, in Maljamar and Tatum.

These statistics probably hold little interest for the three quiet, hard-working people who make up the McGuffin establishment. Their concern is with the new tools and equipment that will

make life for them easier and more pleasurable. A major manufacturer generously donated a whole line of electrical appliances to meet their needs. Margaret McGuffin, John's wife, is a victim of crippling arthritis. To her the manufacturer gave an electric washing machine, to take the place of the washtub and scrub-board, a dryer, an electric food mixer, a dish washer, a refrigerator, a range, a garbage disposer, a hot water heater, an electric iron, a frying pan, a coffee percolator, a toaster and a heating pad.

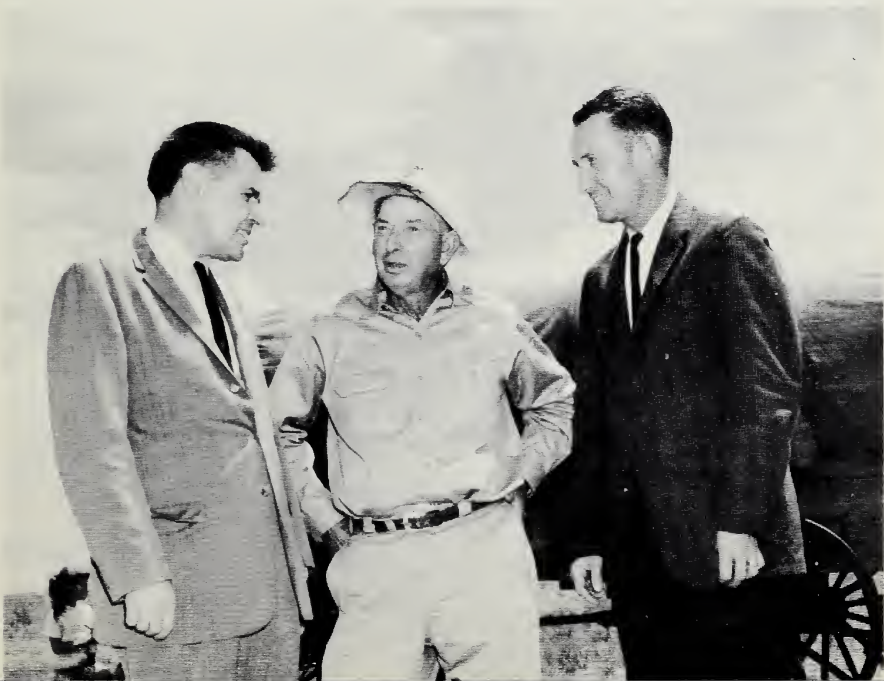
John's German-born, 87-year-old mother-in-law occupies her own two-room house, the original place where she settled with her husband many years ago. Her dearest wish was to have a small electric refrigerator in which she could keep her milk cold. This desire has been met.

His new deep freezer will save John McGuffin many trips to the locker plant in town. He is now planning to purchase an electric tire pumper, second-hand, for the roads on which he drives about in tire-puncturing hazards.

The new world of light and power that has opened up for the McGuffin family is discussed by (left to right) Mr. Clapp, Mr. McGuffin and Mr. Drew J. Cloud, New Mexico State Director for the Farmers Home Administration.



Mr. and Mrs. John McGuffin with some of the electrical appliances donated to them. At right is R. B. Moore, manager of the REA-financed cooperatives which now supply them with central station electricity and telephone service.



DATA PROCESSING

at North Dakota electric cooperative

New methods of data processing became a fact of life at Cass County Electric Cooperative in Kindred, North Dakota, a little more than two years ago. The six fast, efficient electro-mechanical workers, known collectively as data processing equipment, could hardly be more popular with the co-op staff than if they were blonde and beautiful or tall, dark and handsome. At monthly billing time, or when a special financial or engineering study is needed in a hurry, the machines' popularity rate reaches a height that human beings never could attain.

According to co-op manager Willard Grager, this automatic electric equipment is a boon to the staff, cuts human error to a minimum, and makes it possible to serve the membership better. He terms it a vitally important tool of management.

One of the first questions that arises in any discussion of automation is "How many employees did the machines replace?" When this question was put to manager Grager, his answer was an emphatic "None!" He went on to explain that the data processing equipment is enabling the same number of people to handle 6400 old plus 600 new accounts that have been added in the past two years, as well as the extra job of billing members for 1,000 mercury vapor yard lights. Furthermore, manager Grager stressed the fact that his employees now can make needed surveys and studies which, in years past, required outside help — or which were sometimes completely infeasible to undertake from the standpoint of time and expense.

Both the manager and directors of the cooperative deserve congratulations for the approach they took to this drastic change in operations. It was fully discussed with office manager Virgil Peterson and others on the staff. Investigation and study soon convinced all personnel that the potential uses of data processing equipment were far greater than the first and most obvious application — that of improving the co-op's accounting and billing operations. Everybody became greatly interested in the possibilities. By the time the final decision was made, every employee knew how it would affect his job, and was sold on the idea that it would benefit all of them. In Mr. Grager's words, "They all really wanted it to work."

Let's introduce the six machines. Data processing begins with a punched card for each member, on which is noted kwh consumption, amount of the bill, and other information needed for accounting purposes.

1. The Key Punch machine, with a keyboard similar to that of a typewriter, is used to convert desired information into punched holes.

2. The Card Sorter groups all cards of similar classification, and arranges each classification in alphabetical or numerical order. The Sorter, which operates at a very high rate of speed, has the ability to pull out of a large group certain cards or items that may need special attention, or that are required for a special report on some phase of operations.

3. The Collator can simultaneously feed two sets of punched cards, merg-

ing the matched cards and selecting the unmatched cards.

4. The Alphabetic Interpreter translates into alphabetic and numerical characters the holes in the punched cards, and prints the corresponding data across the face of the card.

5. The Reproducing Punch reproduces numerical or alphabetic information from one set of cards to another.

6. The Accounting Machine handles several important jobs. It reads the punched holes of a card, printing the actual information on the bills, account cards and other forms. Thus it can prepare reports showing in detail information desired. It also will print each consumer's monthly bill, showing meter readings, kilowatt hours used, the date and amount of the bill, and, of course, the consumer's name and address.

At Cass County Electric Cooperative, two employees formerly had the job of posting and reconciling the accounts, listing delinquent accounts, and manually preparing the billing statements. Two standard tabulating accounting machines were used, on which the operators recorded the information supplied by each consumer through the self-billing system. Under this system, errors occurred in at least 10 percent of the bills, either through mistakes in figuring the kilowatt hour consumption, or in using the wrong dollar amount from the rate schedule. With the co-op doing the billing by means of the automatic machines, errors have been reduced to approximately 1 percent. The correspondence formerly required to explain errors to members has been drastically cut and now is about 10 percent of the original volume.

This cooperative is divided into two districts, East and West, with the main office in the East District. In the West

district many members pay their bills over the counter. This office now is furnished with a duplicate of the billing registers. Thus, questions from members about their bills can be answered on the spot, making it unnecessary to call the accounting department in the main office. At the end of each month, delinquency notices can be prepared directly from the accounts receivable punchcards and mailed in a window envelope. This eliminates checking the records for delinquent accounts, preparing a list and addressing envelopes on the typewriter.

The 1962 payment of more than \$200,000 in capital credits is demonstrating to the co-op another benefit of data processing equipment. Capital credit records have been converted to punched cards within the past year, with a card in the file showing each member assignment. Office manager Peterson knows that it would take two employees, working manually two to three months to accomplish all the operations associated with assigning and paying capital credits. He estimates that the job now can be done in about three days. The punchcard record not only offers a simple method of notifying members of capital credit assignments, but provides the means of automatically printing each member's check.

Accounting and billing are standard operations in any business, but in an electric system special studies and surveys frequently are required. Engineering studies are needed for planning additions to plant. Load studies are needed to assure efficient service to consumers. Rate studies help management to decide on rate changes, which may lead to greater and more efficient use of electricity. Under the old procedures, information of this type would require detailed manual clerical computation extending over

weeks, sometimes months. The time required for such studies now is reckoned in hours.

For example, a recent rate study was made in just a few hours, estimating the various revenues the co-op would receive from different rates. This estimate was not merely for one month, but computed on the basis of 12-month consumption for any year. Such a study previously had taken the time of several employees for nearly two months.

Cass County Electric is finding it possible to keep track quickly and easily of the trend of growth in areas by districts, by substations and feeder lines from the substations, or by any specific township or residential area desired. By making such load studies frequently, the co-op has been able to plan plant additions fast enough to meet the demand in fast-growing areas. On the other hand, these studies help to guard against making unnecessary plant investment in areas where the load is not developing rapidly.

Line loss, a great problem in some rural systems, has been relatively low on Cass County's lines. However, by pinpointing line loss in each substation area, the cooperative has effected a saving. In this phase of operations, speed in assembling data is vitally important. The old method of making line loss studies produced information that was likely to be out of date by the time it was completely assembled.

Preventive maintenance has become much simpler now that trouble calls are being entered on punchcards. Line and consumer outages are tabulated by the substation affected, feeder and phase, type and cause of outage (whether planned or unscheduled), duration, weather conditions, number of consumers affected, etc. This makes possible frequent reviews of service

interruptions to determine their causes and frequency.

Material inventory accounting now is on the punched card system. District offices receive a month-end inventory report, listing each material item as to quantity on hand, cost, unit price, and orders in process. The district offices are able to keep proper supplies on hand, and have better inventory control than ever before.

During the course of construction, Cass County Cooperative and other utilities occasionally have to cross each other's electric and telephone lines. Such situations require the provision of joint facilities for safety and other reasons; this has occurred at as many as 2,000 points in the co-op area. Keeping rental records on these joint use locations has been a cumbersome chore; that is no longer true. Data processing makes it possible to furnish each utility with an annual debit or credit statement, showing the location of the joint use, number of facilities involved, date of the agreement, and other valuable information.

The punched name and address cards make it much simpler to mail out all types of material, including the monthly newsletter and notices of planned outages. By using continuous envelopes, address labels and insert sheets, it is possible to address everything for the mail on the Accounting Machine.

REA's auditing standards require a borrower to make sure that all meters in service are being billed. Usually meter records are kept in order of meter numbers. However, making a comparison of meter records with accounts billed requires sorting the meter cards in the order of location. Since establishing a punchcard meter record, the billing can be verified without any manual sorting or comparing.

The cooperative has found it advantageous to adapt the punchcard system to other areas, including general ledger accounting, payroll and labor distribution, accounts payable and budgeting. There are still further potentials for use of data processing equipment, and every staff member keeps an eye open for them.

Can the average REA borrower afford to install data processing equipment? Probably the first factor to be considered is the number of consumers. Cass County Electric Cooperative, with 7,000 members, had feared it would be too expensive. After comparing prices of different manufacturers, however, the co-op decided that the cost of the equipment was reasonable, but that it was wiser to rent rather than buy. This permits flexibility in replacing present machines as improvements are made.

The co-op has found the manufacturer extremely helpful in every way. Information regarding the experience of other utilities was made available. Installation was made at a time when the January bills could be prepared on the new equipment, thus avoiding the necessity of providing for two methods of accounting during one year. Office manager Peterson and two other employees were trained at the manufacturer's special training school, and all employees quickly grasped the procedures and techniques.

The space required by this sextet of mechanical helpers seems slight considering the volume of work handled. The room required is only 26 by 10 feet, and all six machines will fit into it, with room for the operator. Remodeling of the headquarters building, now being planned, will permit moving the data processing equipment to a location which will be somewhat more convenient for use by the staff.

Cass County Electric, as one of the first REA borrowers to install data processing equipment, has been a happy "guinea pig" for the past year or more. Grager, Peterson and the rest of the staff have given demonstrations to other North Dakota electric cooperatives, and to visitors from REA borrowers in Minnesota, Missouri, and even as far away as Kentucky.

Perhaps the most fascinating attribute of data processing equipment is the ability it gives any business to look into the future. It changes the philosophy of management. Cass County Electric now has available up-to-date, highly detailed statistical information, in far greater quantity than ever before, as a guide to management in planning future operations. The manager, directors, and employees are confident that these plans will help them provide members with dependable, high quality electric service at the lowest possible cost — always the major objective in any REA-financed electric system.

(REA encourages borrowers, both electric and telephone, to examine the potentials of using data processing equipment. Its reports indicate that at least one-fifth of its electric borrowers now employ these procedures in one way or another — sometimes through a data processing service bureau rather than an individual installation. Based on these reports, it is felt that systems with more than 5,000 members might well consider the advantages of installing some combination of these electro-mechanical machines. Any borrower may call on the REA operations field representative for advice on the subject, or write directly to REA.)



Farewell To Rural Route 1

Rural Route 1 will never be the same for patrons of the Bourbon post office in Missouri.

After carrying the mails on this route for 41 years and 8 months, Ben Eldredge has retired.

Three hundred townspeople and patrons gathered to mark the event with cake, hot dogs and coffee. Ben swapped his automobile for a horse and buggy to make the final run and give the occasion a true old-time flavor.

"That buggy brings back memories," he mused, remembering how children, staying out of sight but bursting with curiosity, would watch his expression when he discovered a frog or terrapin in the mail box. Ben's real surprise came when Billy Steurnaugh and Junior Higgins squeezed Junior's little sister in the mail box.

Route No. 1 began with 27 miles in horse and buggy days. It runs north and west of Bourbon in the Little Bourbeuse River country. Once sparsely settled, it now has more than 185 families on a 48-mile route.

What change does he note in the community?

"Years ago, folks in the country supported the town. The towns depended on their patronage for sur-

vival," says Ben. "Today the town provides jobs and makes it possible to live out in the country."

And that's a good place to live because "country folks take a lively interest in their community and schools."

What has made it even better is the availability of electricity, thinks Ben. Watching the countryside light up when Crawford Electric Cooperative began to build its line gave him deep satisfaction. He did more than watch, however. Ben was a signer of the original articles of incorporation, active in obtaining other signatures, and is now president of Crawford Electric.

He saw the cooperative through all its struggles, beginning in 1941 when difficulties with commercial suppliers forced it to use mobile generating units in order to serve its first 620 consumers over 300 miles of line. Crawford Electric now serves 7,000 consumers over 2,170 miles of line, and has already repaid REA almost \$2 million of the \$5 million it has borrowed.

The volunteer time he and others devoted to the cooperative were well spent, he believes. Of all the good things developed in the area, including better roads and schools, he maintains that "rural electrification is the greatest." □



Illinois Cooperatives Submit Glowing Report on Security Lighting

Illinois rural electric cooperatives have put at least 6,000 security lights in operation and some observers believe the number will reach 100,000 within a few years.

"The program started here just four years ago," explains Lyle E. Dunham, member services director for the Association of Illinois Electric Cooperatives, "and the surface hasn't even been scratched. As more cooperative members learn the advantages of the lights, their use will spread even faster."

Setting the pace is Rural Electric Convenience Cooperative Company of Auburn, in the central Illinois area. It has slightly more than 3,000 member-owners.

"Early last year at our district meetings we found interest was growing in security lighting," Ralph V. White, manager, reports. "We decided we'd render our members a real service by pushing those lights."

"We were right. During 1961 we installed 467 new lights. A recent count showed the current total to be in excess of 530 lights in operation. Installations are continuing at about six to ten a month and I'm sure the increase will be steady."

"The more people know of the advantages of these lights the happier they are — and the more we install. Neighbors tell neighbors."

Of course it isn't quite that simple. White and his staff concede any security lighting program takes work.

"The real key," says Roy D. Goode, power use adviser for Rural Electric, "is work, enthusiasm, and knowledge. With these your program can't fail. And it isn't difficult to put such a program into operation."

"Everyone in our cooperative worked on this project," Goode continues. "The girls in the office pointed out security light advantages when members came in to pay bills."

"Walter Hart, a salesman who also is a lineman, would load several lights in his truck and when he'd make a service call at a rural farm he'd talk up advantages of security lighting."

"Likely he'd get an order — and install the light on the spot. It might take a half hour. He and all of us figure we're doing our members a real service when we sell them on security lighting. And that's our job—service."

Over at Shelby Electric Cooperative, two counties away, manager W. L. Walker and his staff began to get inquiries about security lighting from members who had seen the lights in operation.

They pitched in and today the countryside is alight with the cheery night lights.

"It's a service to our members," Len W. Seaman, power use adviser, says.

"They want it and we should provide it."

Charles C. Youtzy, manager of Jo-Carroll Electric Cooperative, Inc., in the northwestern part of Illinois, reports increasing numbers of members have been inquiring about security lighting.

"They've seen the lights along freeways and heard they might be available," he says. "We'll see that they get them."

Down in the southern third of the state where farms are smaller and average yields lower, adoption of security lights has been slower — but interest is increasing.

"Our members are interested," says Elmo A. Cates, manager of Clay Electric Cooperative, Inc., at Flora. "But many of them are still trying to hold their bills to the minimum. We're now offering an attractive and efficient reflector for \$15 that they can install on their meter pole and use any size lamp they wish. This may be an answer for many of our people. Some other managers in the area are interested. We'll see how this works out."

Dunham, well acquainted throughout the state, is convinced Southern Illinois farmers will adopt mercury vapor lights in great quantities.

"They buy good cars and television sets and washers and driers," he says. "I'm sure they'll adopt security lighting, too."

"We shouldn't sell short that great southern third of our state. Those people are progressive. Farmers are raising their yield averages tremendously. Rural area residents are raising their living standards. Watch that area grow!"

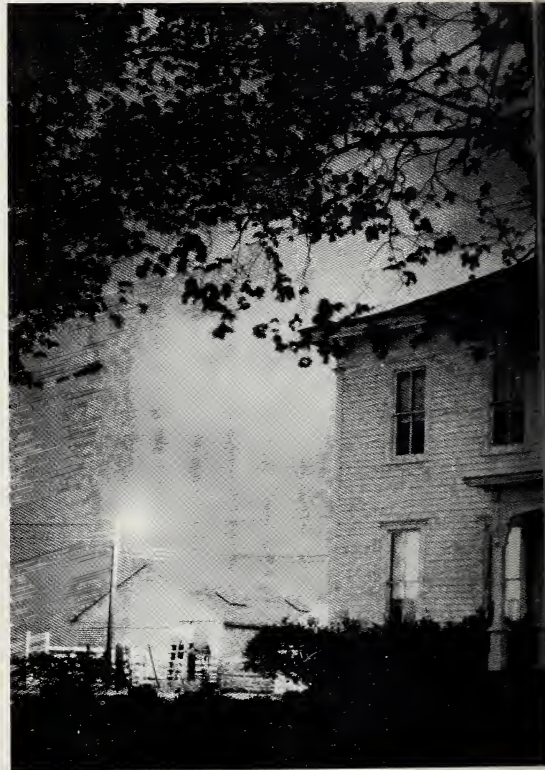
In Illinois two security light installation systems are in use. One provides

that the cooperative member-owner buy a security light (cost \$65 to \$75, approximately), install it himself and pay for its current and maintenance.

The other — and more popular — is a rental program. Through it the cooperative installs the light on the member-owner's meter pole, maintains it and provides electricity. Monthly cost to the member is roughly \$3.50, varying somewhat from cooperative to cooperative.

Typical of many users is Eldon Rutherford, who operates an efficient farm near Virden in Central Illinois.

"I wasn't too anxious to have the light at first," Rutherford admits. "But



A farm home near Virden in central Illinois, where Electric Convenience Cooperative has installed more than 530 security lights. The cooperative headquarters at Auburn, serves over 3,000 members.

that's changed. Now I wouldn't want to be without it.

"When necessary I can pull in and service equipment at any hour. That's a big help in rush seasons.

"The light makes for safety, too. The family can come home at any time. The light is always burning. We can see clearly.

"We used to lose considerable gasoline. We'd see tracks leading to the gas tanks. That's stopped and I just don't think we have any prowlers now."

Some farmers insist reduction in thefts more than pays for their lights. But not everyone is wild about them.

Pretty Judy Rutherford, 19-year-old daughter of Mr. and Mrs. Rutherford, complains with a twinkle in her eyes:

"It kind of bothered my boy friend and me at first when we'd drive into the yard after a date, but that's all right now. We're engaged."

Security lighting represents a good load for a cooperative, notes Thomas H. Moore, manager of the Association of Illinois Electric Cooperatives.

"It is estimated that adding ten 175-watt mercury vapor lights to a cooperative's lines is equal to the annual kilowatt-hour consumption of 15 refrigerators, 9 food freezers, or 8 clothes dryers. In addition, the lighting load created is predominantly off-peak."

Dunham concludes: "I honestly believe we'll see the day when we have 100,000 of the lights on Illinois farms. It's coming. It's progress. Our member-owners are progressive people — and they're the boss."

(Contributed by John F. Temple, editor, Illinois Rural Electric News.)



Ralph V. White, (right), manager of Rural Electric Convenience Cooperative Company, Auburn, Ill., and Walter Hart, salesman for the cooperative.

SAFETY AWARENESS...

**The most important
ingredient in a low
accident record**

**"No deaths during the first
four months of 1962 — this
shows what can be done."**

(See back cover)



Steel frame.

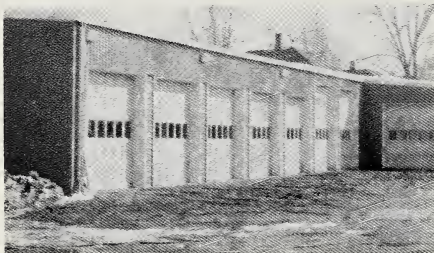


One week later. Siding going up.

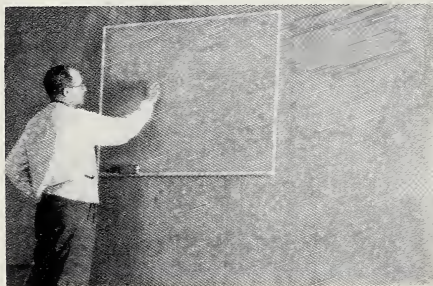
All-Electric, MultiPurpose Warehouse Built by Wright-Hennepin Cooperative

Built in two months, the 11,000-square-foot warehouse of the Wright-Hennepin Cooperative Electric Association at Maple Lake, Minnesota, serves many purposes. It houses all the co-op's vehicles, the appliance service department, a locker room and shower for the linemen, a meeting room

and a storage section. Blue prints for the building, which is heated entirely by electricity, and has no pillars, were drawn up by manager Edward R. Slebiska and his staff. (*Photos and story by courtesy of LeRoy Endenloff, special pages editor of Rural Minnesota News.*)



Building completed. Approach apron will contain electric snow melters built into the concrete. Note number of doors.



Joe W. Allen, Wright-Hennepin power use advisor, at blackboard in linemen's well-equipped, spacious assembly room.



Mr. Allen at controls. Note quartz heating unit at upper left. In garage section, six of these units, hung from the ceiling, are used for heating and de-icing vehicles. Units range in size from 3,000 to 10,000 watts.

Rural Power Moves Nebraska Oil from Well through Pipeline

A significant change in the rural electrification scene has been the increase in commercial and industrial loads. After central station electric service became available in rural areas, small and large industries became customers of the rural systems. Some industries moved to the country to find new sources of labor or materials. Others already there converted to electricity from other power sources.

Oil production was one of the rural industries which quickly took advantage of available electric power. New oil fields refused to consider any other power source.

In Nebraska, the reliance of oil producers and pipeline companies on public power districts readily illustrates what has taken place. In the Sleepy Hollow oil field near McCook, several producers are served by the McCook Public Power District. McCook PPD also supplies power for parts of two other oil fields south of the town, a total of more than 300 oil wells.

North of town, McCook PPD serves pumping stations operated by a large pipeline company. On these pipeline pumps, 900- and 1,250-horsepower motors were recently replaced by 1,500-horsepower motors to increase the amount of crude oil which can be moved through the pipeline. Both the large motors will operate 90 percent of the time and at least one will be in use all the time. A 500-horsepower motor already at the pumping station will continue to be used.

Even before this increase in horsepower at the pumping station, oil already accounted for nearly two-thirds

of all the kilowatt-hours sold by McCook PPD. The pumping station alone used 1½ million kilowatt-hours of electric power each month. The increased power requirements for the new, larger motors will put oil even further ahead as the major user of McCook PPD service.

Does this mean that rural electric service to farms will be slighted? Not at all. The McCook directors and manager Joe Horner have worked too hard to achieve area coverage, provide good service, and improve their facilities—despite such obstacles as wartime shortages and their thinly populated, “high risk agricultural area”—to let down now. McCook Public Power District, organized 22 years ago to bring electric power to farmers and rural residents, has even now only 1½ consumers per mile.

In the same way that irrigation and a prison camp helped carry the burden during some of the early years, the pipeline company and drillers are benefiting farm consumers today. The increased revenue makes the district financially stronger and may improve its position for buying wholesale power. Farm customers will receive better service because of the new lines and substations which oil loads are making possible.

Its industrial loads have also helped McCook PPD repay one million dollars, half on principal and half on interest, of its four million dollar loan from REA.

Across the State, the South Central Public Power District, at Nelson, recently opened bids for the construction

of 22 miles of transmission line to serve increased loads at one of the pumping stations. Other systems are preparing to meet similar demands for larger amounts of power from such stations.

South Central PPD, originally the South-Central Membership Association, was incorporated at Red Cloud in 1945. It received its first REA loan in January 1946 to build 392 miles of rural line to serve 971 signed and potential farm members. At that time 93 percent of the farms in that area were without electric service. South Central PPD now has 1,867 miles of line and serves 3,173 consumers. On its REA loans of approximately three million dollars, it has repaid over \$550,000 on principal, \$394,000 on interest, and made \$176,436 in advance payments.

Oil production began in Nebraska late in 1939 when the Boice well west of Falls City began to produce. After 1941, oil production declined until 1949 when the Mary Egging well began producing in Cheyenne County in the Nebraska panhandle. The discovery of oil in such widely separated

areas as the southeast corner and the far west end of the state encouraged drilling activity; by 1958 there were 195 separate oil fields with about 1,200 producing wells. Much drilling activity has taken place since then. The Kimball, Sidney and McCook areas have continued to develop until oil has become an important factor in their economies.

In all these areas, rural electric systems have extended service to operate pumps on the wells, power pipeline pumps, supply lighting and meet other needs of oil operators.

When industries come to rural areas everybody gains. New jobs and new uses for the land diversify the economy. Industrial loads contribute to the financial soundness of rural electric systems and enable them to serve their farm customers better. The farmers in turn are able to purchase more manufactured goods. This is the cycle summed up in the slogan, "Rural electrification is good for *all* Americans."

(Adapted from an article in the April 1962 issue of Nebraska Electric Farmer.) □

Administrator's Message *(Continued from page 2)*

We know that there are cases where line extension charges are necessary. We know that there will continue to be a few isolated instances of consumers who are so far from the end of the line that it is not now feasible to reach them. But we also know that borrowers should take a fresh look at their requirements for extending service every now and then and make sure they reflect current conditions. Either the fortunes of an area—or of one of our borrowers—may have changed so rapidly that what was not feasible yesterday is feasible today.

With this in mind—and remembering the look on Joh McGuffin's face when he finally saw the transformer switch thrown in his own front yard—we are asking our operations field representatives to confer with each borrower at some time during this fiscal year on line extension policies. We must never stop trying to attain our goal of electricity and telephone service for all rural consumers, at standard rates. This is what the Congress and the Nation expect from us; it is what we should expect from ourselves.

Norman M. Clapp
Administrator, REA

Preventive Maintenance Of Poles Requires Rigid Inspection Routine

Since most REA borrowers in the electric distribution field came into existence during the Thirties, they will from now on be exerting increasing efforts to repair and maintain those sections of their plant that are showing signs of age. The Norris Electric Cooperative at Newton, Illinois was one of the first borrowers to adopt a carefully thought-out program for handling this problem. Feeling that planned preventive maintenance was much more economical than waiting until costly repairs became necessary, the board of directors early set aside funds in order to pay for expenditures that must be made as equipment becomes older.

The wisdom of these policies has become particularly evident in regard to one of the most expensive and vulnerable items in any electric distribution system: poles. During a recent 12-month period, it was found necessary to replace 171 poles, as compared to 48 during the previous 12 months.

There is nothing haphazard about this cooperative's program of pole inspection and maintenance. Inspection crews follow a rigid routine. They start at the beginning of a line and examine every pole. And there is nothing casual about the inspection.

First, the inspector digs around the pole, 8 to 10 inches below the ground surface, and examines the wood for signs of decay. He sounds the pole by striking it with a hammer, and tests it with an increment borer. If he determines that the ground line area is in

good condition, he climbs to the very top, scrutinizing every part of the pole for signs of deterioration. He checks for loose hardware, broken insulators, loose ties, worn conductor or armor rods, or bad crossarms.

After he decides that a pole is worthy of continued service, it is given a chemical treatment around the ground line. If he finds a hole made by an animal or woodpecker, he fills in the cavity and treats it.

When does he consider the condition of a pole bad enough to warrant its removal? When it seems to be dangerous to human life, or so weak that it might fall and cause a service interruption or result in other serious damage.

Norris Electric has about 66,000 poles of various sizes and lengths. Some of them have been in use for more than 20 years, and can be expected to be approaching the end of their usefulness. Experience is beginning to bear out this statement.

Pole inspection is only one phase of the cooperative's preventive maintenance program. Other important factors include brush clearance and tree trimming, inspection and maintenance of oil circuit breakers and reclosers, reconditioning of transformers, and meter testing. During the first 10 months of 1961, more than 2,000 meters were tested.

Such programs are destined, from the standpoint of both service and economy, to become increasingly necessary. □

New Forestry Loans Expected To Aid Rural Areas Development

Still another tool for rural areas development has been given to a Department of Agriculture agency. It consists of a new loan program to help family farmers make full use of the resources in their farm forests.

Effective immediately, the Farmers Home Administration will make loans to enable eligible farmers to carry out better forestry management practices, expand their forest resources, and convert crop land to forestry uses.

The loans will bear 3 percent interest on the unpaid principal and will be repayable over periods up to 40 years. Loans previously were made at 5 percent interest, and the lower rate is designed to encourage greater participation. When necessary, the initial payment on the loan may be deferred for periods up to 15 years. The maximum loan under the program is \$60,000, or the value of the security provided by the individual farmer.

Success of this program, on which \$10,000,000 is expected to be invested from July 1962 through June 1963, may have important consequences in creating a more balanced economy by moving marginal land from crop raising to reforestation. In addition, it will help provide timber to meet the future needs of a growing population, improve recreational facilities, and increase supplies of a raw material peculiarly important to local industry.

FHA believes that the new 3 percent interest and the possibility, when justified, of deferring payments for a period up to 15 years — an important provision in establishing new stands of timber because several years must elapse before they produce any income — should make these loans attractive to many qualified family farmers.

The loans may be used to clear and prepare land for tree planting, to purchase and plant forest seed or trees, and to buy land or refinance debts on land that is to be used for forestry purposes.

Loans may also be made to pay for the establishment of approved forestry practices on the farm such as fencing, pest control, thinning and fire protection.

To be eligible an applicant must be unable to obtain the credit from other sources and must agree to follow an acceptable plan for the proper management and operation of his forest land.

About three-fourths of the commercial forest land in the United States is privately owned, mostly in small farm tracts. Increasing and improving these stands of timber would increase the resources and income of farm families, and thereby stimulate local business activity.

REA borrowers are urged to refer all inquiries promptly to FHA offices in the area.

PROSPERITY REGAINED

What does a city do when a new \$35 million Air Force base, on which it had pinned its economic hopes and dreams, suddenly closes down?

This was the experience of Ardmore (population 20,000) and thousands of other residents in south central Oklahoma when the U. S. Air Force, after building three runways, 50 permanent-type buildings and other facilities from 1953 through 1956, cancelled its plans for Ardmore Air Force Base.

Storekeepers, service companies and industries had anticipated a king-sized boom. Some four to five hundred new homes had been built and supplied with the necessary utilities. The president and manager of an independent telephone company — his name was Royce W. Gauntt — had borrowed money from REA to purchase and rehabilitate a central office in the nearby town of Gene Autry from which he expected, among other plans, to serve 618 subscribers in additional housing units to be built by the Air Force.

All this suddenly changed. What happened thereafter—both to the Ardmore area and Mr. Gauntt — may offer a lesson to those who believe that the prosperity of their community depends on the continuance of the military base near it. The lesson can be summed up in sentences like “don’t ever sell America short,” and “heaven helps those who help themselves.”

Born and raised in the telephone business, Mr. Gauntt acquired the Chickasaw Telephone Company at Lone Grove, Oklahoma, from his father in 1948. He immediately initiated an expansion and improvement

program, adding the exchange at Springer and converting it to dial. Score: two exchanges and, by 1956, 490 subscribers.

That year, with home construction booming, thanks to the air base, Mr. Gauntt applied for a loan of \$388,000 from REA. Of this amount a small part was for the acquisition of the Hardy Telephone Company, a tiny system (65 stations) with a central office located in Gene Autry. Almost all the rest was for system rehabilitation and expansion. The magneto switchboards at Lone Grove and Gene Autry would be retired. It was contemplated that in five years 1,364 subscribers would be served with modern dial equipment — 618 of them in housing units scheduled for construction near Ardmore Air Force Base.

In his “Loan Recommendation to the Administrator,” the REA examiner carefully noted: “In the unlikely event the Air Force housing development did not materialize and the 618 subscribers estimated for this development were deducted, the project would remain feasible.” The loan was granted. Score: three exchanges.

The following year operations ceased at the base. Without taking breath, Mr. Gauntt asked permission from REA to divert funds from the previous project and apply them to the purchase of 11.5 miles of toll line from the Bell system in order to serve an area called Daugherty (population 350). It was proposed to increase total mileage from 264 to 333 miles.

In 1959 Mr. Gauntt applied for a second loan in order to purchase and improve services of the West Telephone



Wooden gun stocks and leather goods are only a few of the items produced at Ardmore Industrial Airpark. Others are aircraft components, aluminum sashes and doors, plastic tanks, and decorative candles. The telephone needs of these new concerns are met by the Chickasaw Telephone Company, an REA borrower.

Company, which had common battery exchange at Paoli and inadequate dial service at Rosedale.

In its usual thorough fashion, REA studied the plans and found that the proposed price for the acquisition was reasonable, constituted a logical extension of the borrower's system, and was the best means of obtaining area-wide service. In February 1960 the loan was approved. It provided for the acquisition of the West Telephone Company's facilities, improvement of service to its 230 existing subscribers, and extension of service to 224 new subscribers in both the new and the original loan area.

Put in another way, these two REA loans helped to improve service for 795 existing subscribers and to extend service to 595 new subscribers in the exchanges of Lone Grove, Spring, Gene Autry, Paoli and Rosedale. Score: five exchanges; improved or new services for 1,190 subscribers.

Meanwhile, the residents of Ardmore and the area around it were recovering from the shock. They were learning that heaven helps those who help themselves. The city manager's office and the Ardmore Chamber of Commerce went to work. On September 16, 1959 an agreement was reached with the Air Force whereby the city would acquire the airbase, without a recapture clause, and use it as an industrial park. The deed was signed December 15, 1959. To meet the need for development funds, the Ardmore Industrial Foundation was organized in March 1960, with 71 participating members. The following month an open house was held, attended by about 30,000 people. Funds raised by the Industrial Foundation were used to set up and renovate operations. Individuals and companies dug deep into their pockets to raise a capitalization fund of \$150,000.

The Foundation went to work to attract new industries. It offered to rent the 50 buildings in the airpark, all of them built between 1953 and 1956, at prices ranging from 15 to 25 cents per square foot annually. It promised to provide all utilities at the same rates as city ones. It offered free fire and police protection, and use of the concrete runways, which are 7,200 feet long. It said that occupants would pay no taxes on land or buildings. It publicized the various properties available in the Airpark — air conditioning, overhead heaters, panel heaters, blast freezers, walk-in coolers, paint shops, a sprinkler system, light fixtures, water coolers and circulating fans.

The offer proved attractive. During the first eight months of 1960, six industries established plants at Ardmore Industrial Airpark. None of them found it necessary to remodel. They are still coming in at the rate of one a month. The number of workers has gone up to 500, and the annual payroll is more than \$1,500,000. Personal advances made by the 71 participants in the Industrial Foundation are gradually being repaid from the rent revenues. Substantial sums are being received from the sale of electric and gas facilities at the park. A cafeteria serves three meals a day, and a swimming pool is open during the summer. And on the basis of "a crowd brings a crowd," the future looks promising.

Never one to fall asleep at the switchboard, Mr. Gauntt obtained permission to divert some of his REA loan funds in order to purchase, at salvage value, the large quantity of Bell system equipment left in the Airpark. With the as-

sistance of a supplemental REA loan, he established a central office there to meet mounting demands for service. During a recent three-week period, 37 installations were made. There are signs that some large industries, whose requirements for telephones may run into the hundreds, are considering moving to the Airpark.

The supplemental loan, released last May, provided funds necessary to serve 69 subscribers, 142 extensions and numerous other installations in the Ardmore Airpark. It also called for the construction of facilities necessary to extend service to 137 new subscribers on other exchanges of the borrower's system.

By means of these three REA loans the Chickasaw Telephone Company has been able to improve service to 795 existing subscribers and extend service to 801 new subscribers in the exchanges of Lone Grove, Springer, Gene Autry, Paoli, Rosedale and Ardmore Airpark. Score: six exchanges and improved or new service for a total of 1,596 subscribers. It may not be big as telephone "empires" go, but the gratitude of 1,600 Oklahomans is no trifle.

The moral—for telephone people, at any rate—is clear. They need not rely upon a local military installation for business; it is likely that many persons right near it are in need of telephone service. An even larger consideration is involved. Other services and businesses may well contemplate the value of military bases, if and when they are discontinued, as resources for private industry. □

Mobile Radiotelephone Units Again Prove Emergency Value

The value of mobile radiotelephone units in times of disaster was again demonstrated when a transport plane crashed last spring in Missouri. An important role in relaying news from the crash site to an anxious world was played by an REA borrower, Grand River Mutual Telephone Corporation, through the use of its vehicles equipped with automatic dial radiotelephones.

On May 22 a passenger jet airliner crashed near Unionville, Missouri. The wreckage, located shortly before dawn on May 23, lay in the area of the Unionville exchange of the General Telephone Company. A frenzied demand for information arose from relatives, the press, the Government, and private concerns. But the nearest phone was a mile away on a multiparty rural line. Communication from the site was a must. Up and down the line came questions: where? how soon? how

much? what about more toll trunk lines out of Unionville?

C. W. Chastain, general manager of Grand River Mutual, and Spencer Smith, of Southwestern Bell, were both in Kansas City on the morning of the 23rd. The Missouri-Kansas telephone convention held here had just ended. Smith advised Chastain of the crash, and they discussed the idea of sending one of the co-op's mobile radiotelephone units to the area to supply emergency service.

Although his information was incomplete, Chastain sensed the urgency of the situation. He called H. L. Thomas, his plant superintendent, and instructed him to take his car to the site. Accompanied by Marvin Bridges, staff assistant, Thomas was on the scene before 10 a.m. For the next two hours the mobile unit, the only means of communication from the site, was in constant use.



About noon Northwestern Bell placed into operation some emergency radio into Centerville, Iowa, and the vehicle was dismissed. But that afternoon the airline company requested that a mobile unit be returned.

A truck that was available temporarily was taken to the site and remained for two full days. By that time, additional toll trunks into Unionville had been provided. General Telephone had seven circuits out to the site. Continental, CAB, FAA, FBI—all had telephone service.

So "Big Bertha" (the truck) came back to Princeton, headquarters of the telephone co-op, to resume the prosaic task of building telephone lines.

But not without honor . . . as attested by subsequent letters from Northwestern Bell Telephone ("Your dial radio exchange circuit . . . was invaluable") and from Southwestern Bell ("I would like to express our appreciation for your fine cooperation . . . General Telephone Company as well as the agencies investigating and handling details of the emergency were also most appreciative of your fine help"). □

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OFFICIAL BUSINESS

For more than two decades, REA, through its safety and job training program, has been helping its borrowers save human life. Today we cooperate with organized safety activities in 37 States — and the results have been encouraging.

Whereas seven men lost their lives on REA-financed lines during the first four months of 1961, not a single fatality was reported this year during the same period of time. Every borrower, every board member, every employee can share pride in this achievement.

In May 1962 this excellent record was shattered. A meter reader died in a transportation accident in Tennessee, a lineman in Minnesota was killed by electric shock, and a right-of-way foreman died in Alabama.

But the opportunity to make 1962 a banner safety year still exists. No deaths for four months — this shows that the job can be done provided that every person connected with an REA borrower shoulders a 24-hour-a-day responsibility for safety consciousness.

A vague, generalized sense of responsibility will not do the job; a rigid, unfailing observance of safety precautions will. Forgetfulness and indifference must be kept to an absolute minimum. Every employee must be trained to work safely, drive safely, live safely. Every vehicle must be properly equipped, well maintained, safely driven.

No borrower can combat loss of life without complete safety awareness. This is the most important ingredient in a low accident record.