

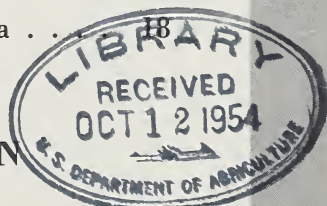
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ELECTRIFICATION SECTION

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Minnkota Steam Plant
(See page 3.)



A Message from the ADMINISTRATOR

We all recognize that one basic way of insuring a successful program for the future is to keep our rural electric systems financially sound. That leads us to the matter of building extra revenue, which from REA's point of view, has an important bearing on loan security problems.

A sound and vigorous electric sales program is about the only way we have of getting that extra revenue. That is why we have been giving a new push to such a power use program. We can report progress is being made and we hope we can report more as time goes on.

In March of this year we sponsored a power use conference in Chicago in an effort to awaken the interest of all groups—manufacturers, distributors, co-op leaders, electric companies—in putting energy and ingenuity into serving the rural market for electric appliances and equipment.

A great deal of interest was shown and a power use group called the Inter-Industry Farm Electric Utilization Council was formed. Its purpose is to coordinate and stimulate efforts to increase the beneficial use of electricity in rural areas.

The Council has adopted a rural power use calendar to coordinate industry-wide power use promotions. The Council is encouraging local rural electric market surveys. This is an important first step in any sound sales program.

Perhaps its most far-reaching undertaking is the sponsorship this fall of a series of five meetings designed to help advance state and local activity. The Council will bring together all segments of the industry so that potentialities of statewide load-building activities can be explored fully and plans actually launched where programs are not now active.

We in REA believe that significant gains for our systems and their member-owners can be had from a sensible electric sales program. For that reason we look forward to these meetings as an opportunity to advance power use—and make that extra revenue a reality.

Arthur Nelson
Administrator.

Integration

Can Save You Money

Integration may look like a \$5 word but if you spell it out in terms of area-wide cooperation by power suppliers it means thousands of dollars in savings for utility management and the farmers who use electricity.

This is the story of how 2 REA-financed G & T cooperative and 2 electric power companies in eastern North Dakota and western Minnesota linked their generating and transmission systems to gain advantages for all.

The integrated system includes facilities of the Minnkota Power Cooperative at Grand Forks, N. Dak.; the Fargo and Grand Forks Divisions of Minot, N. Dak.; The Otter Tail Power Co. operating in Minnesota and North Dakota; Bureau of Reclamation transmission lines and a number of municipalities. Every element of the utility industry is represented in this list.

The common problem of the power suppliers was how to meet the increasing demand for power during the period before Garrison Dam comes into operation in 1955 or 1956. To the electric companies the start of power production at Garrison means the loss of preference customers whose needs however must be served up to the time they stop buying power from their present suppliers. To the cooperatives, Garrison means hydroelectric power which will replace some higher cost

steam-generated power. The problem was "what to do until the doctor comes." The medicine was a good big dose of cooperation and interconnection of the existing systems.

Minnkota Power Cooperative, in operation since 1942, has generating plants at Grand Forks and Harwood, N. Dak., and supplies power to 10 distribution cooperatives serving 40,000 rural consumers in North Dakota and Minnesota.

Of Minnkota's generating capacity of 37,140 kw, 21,500 kw is steam, with lignite coal as fuel, and 15,640 kw is Diesel. The fuel cost for steam is 4.5 mills and for Diesel units, 10.5 mills. One problem was how to get 97 percent of gross generation out of the 62 percent of steam capability and keep Diesel generation at a minimum.

At the same time, Minnkota faced up to the fact that growing power needs of its distribution cooperatives would likely require the installation of additional generating units costing around \$2 million before new hydro power would be available from Garrison Dam.

Suppliers Interconnect

What Minnkota did was: (1) Interconnect with Northern States Power at three points; (2) Interconnect with Central Power Cooperative over Bureau of Reclamation lines; (3) operate the Grand Forks generating plants of the co-op and

Northern States in parallel; (4) interconnect with several municipalities; and (5) interconnect with Otter Tail Power Co.

Northern States has generating plants at Grand Forks and Fargo, N. Dak., with a combined generating capability of 42,850 kw. Linking these plants with Minnkota's generating plants meant operating economies, flexibility of operation, and more dependable and efficient service to farmers and other consumers of electricity in the area.

For example, where a Northern States or Minnkota generating unit goes out of service, in the space of seconds a generating unit from the other system picks up the load. This illustrates the importance of running the two generating plants in parallel.

Savings in Transmission

Another illustration of benefits from the working arrangement is in transmission. At one end of the system, Minnkota planned to build a \$140,000-transmission line. This was avoided by working out a plan to wheel power over the lines of Otter Tail Power Co. at a cost of \$8,900 a year.

From the standpoint of capital investment the plan has postponed the date when Northern States, Otter Tail and Minnkota need to install additional capacity. Otherwise each would have found it necessary to invest an additional \$2 million.

Northern States estimates a saving of at least \$12,000 annually in fuel costs. Minnkota estimates a \$25,000 annual savings by utilizing steam capacity to the maximum and holding down diesel generation to 3 percent.

But there is more to the Minnkota-Northern States arrangement than physical interconnection. A committee, representing both power suppliers, meets several times a year to discuss future plans. Each is advised what the other plans to do.

Cooperate in Other Ways

The two work cooperatively in power use. Minnkota and Northern States' advertising and promotion are keyed to the same items wherever possible.

Relations between Minnkota and Northern States are excellent. There were the normal apprehensions and suspicions on both sides before the agreement was signed. Since that time, relations continue to improve and there is an atmosphere of mutual goodwill and mutual appreciation.

Otter Tail Power Co., serving some 90,000 customers in the area, is the third company involved in the area-wide power integration plan. Otter Tail is now interconnected with both Northern States and Minnkota. Otter Tail had installed some generating capacity to meet the needs of its preference customers—rural electric systems and municipalities. However these preference customers will all likely go to the Bureau of Reclamation when Garrison Dam starts operations. Otter Tail, therefore, needed further sources of power during the interim period without the expense of installing additional generating units whose output might not have a market later. The interconnection provided the power source.

Integration solved Otter Tail's problem. President C. G. Wright of Otter Tail has this to say in his most recent annual report: "We

have just completed a most interesting year . . . Probably the most noteworthy, even if the least spectacular occurrence, was the emergence of a plan of cooperation and integration of all electric facilities in our service area. . . .

"The past year marked the completion of a planned program to shift rural electric cooperative loads from our stations to other energy sources. This gives us an interim period to develop new retail loads prior to their final departure from our system as preference customers of the Bureau of Reclamation."

In addition to the Otter Tail and Northern States interconnections, Minnkota has working arrangements with several municipal plants in Minnesota and North Dakota. The municipal plant at Fosston, Minn., buys power from Minnkota at 1 cent per kwh during those periods when Minnkota has spare steam capacity. This enables the municipal plant to reduce its diesel generating cost. Like arrangements have been made with the towns of Park River and Cavalier, N. Dak.

Central's Role

Central Power Electric Cooperative, with headquarters at Minot, N. Dak., is the fourth power supplier in the integrated system network. Central's steam generating units have been in operation only since the spring of 1952. The system supplies power to 8 distribution cooperatives serving 25,000 rural consumers.

Central's problem for the present is that it has more power available than its distribution cooperatives can use. For a variety of reasons the rural load in the section has not developed to the extent that was anticipated.

The integration of Central's generating units with the Minnkota system and the sale of Central's excess capacity solves a problem for Central and saves money for both systems, and ultimately for the farmers served.

The transmission lines of Otter Tail run into Central's generating plant. If Central were to lose all station power, Otter Tail's system would in effect be the standby unit.

Bureau of Reclamation lines built in advance of the completion of Garrison Dam run right outside

Central's steam plant at Minot, N. Dak., uses lignite for fuel.



the Central plant. Central rents the unused capacity of these lines to deliver power to its distribution cooperatives and to transmit power into the Minnkota system.

Millions of dollars in investment have been saved by Central through use of existing Bureau and Otter Tail lines. Central does not own any transmission or distribution lines.

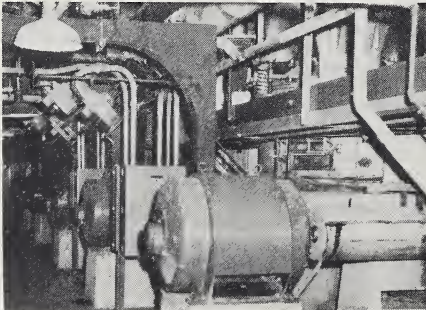
By reason of its location and unique fuel techniques, Central has one of the lowest fuel costs of any coal-burning plant in the country.

Lignite coal mines are located 10 miles from the Central plant. The coal is delivered by a railroad spur line to the plant at a cost of \$2.14 a ton. As a result, Central is able to sell its excess capacity to Minnkota at 4.5 mills per kwh which is half a mill less than the 5 mills charged by the Bureau of Reclamation.

Because Central's fuel cost is about half that of Minnkota's even when Minnkota is burning lignite coal, Minnkota stands to gain by the use of the cheaper power. Minnkota expects to gain around \$50,000 a year through sale of excess capacity and more efficient plant operation.

The fuel technique used at the Central plant has won worldwide

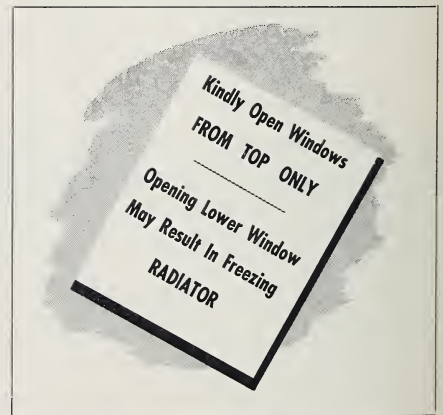
Pulverizers turn lignite to dust which burns efficiently.



attention. Power experts from many countries have already visited the generating plant. Lignite from the coal cars moves into a conveyor system and goes to a pulverizer where it is ground into dust. Under hot-air pressure, the lignite dust is forced into the furnaces and burns efficiently.

How does the integrated area system work out in practice? Well, here is an example. Last December when all 4 systems faced a peak demand for power, things started to go haywire. Northern States lost a generating unit; a little later a Minnkota unit went out; to complicate matters, Central also lost a generating unit. Otter Tail, which acts as power dispatcher for the integrated system, came to the rescue. Otter Tail had just completed construction of a new diesel unit and was about to test it. The test turned into a rescue operation. Otter Tail held the line and supplied power until the other systems could make the necessary repairs.

In short, power system integration and industry-wide cooperation offers benefits to everyone.



When our RURAL LINES reporter, who is from a more southerly climate, found this card in his hotel room in Grand Forks, he got an inkling of how rugged North Dakota winters can get.



YOU'VE BEEN ASKING ABOUT

ATOMIC ENERGY

The potential of atomic energy as a wholesale power source has captured the imagination of farmers and co-op leaders all across the country.

What are the prospects for rural electrification borrowers? How soon will it be possible to use nuclear reactors? What will the cost be? Will REA make loans for nuclear power plants?

These are some of the questions you have been asking REA. In an effort to get answers to these and other technical questions which will arise later, REA has asked for security clearance for a few of its employees to establish a working liaison with the Atomic Energy Commission. At present only a limited amount of information has been cleared for public use. For instance, most of the cost data and technical information on nuclear reactors is still classified for security reasons. And furthermore, some of the questions, such as how soon it will be available and what it will cost, just haven't been answered yet.

REA is definitely interested in any method by which electric power can be produced more cheaply and got to farm users more economically than at present. We have a keen interest and considerable confidence in the long-range possibilities of nuclear plants as a

means of borrowers obtaining power at lower costs. However, there are many complex technical and economic problems that must still be resolved. Nuclear reactors are still in the research and experimental stage.

For instance, there appear to be wide differences of opinion among experts in the field of nuclear power as to: (1) which of a number of general types of nuclear reactors offers the best possibilities for feasible development; (2) the possibilities of surmounting recognized technical obstacles in perfecting the various types; and (3) the time within which feasible nuclear reactors could be developed.

No Cost Figures Yet

Initially, the cost of power produced in thermonuclear plants probably will be substantially higher than the cost of power produced by conventional means, particularly in the case of relatively small units such as most REA borrowers might install. Since no nuclear plant is in operation at this time in the electric utility industry, the operating characteristics are matters of theory and there is no established operating experience by which we may be guided.

It therefore appears that considerable money must be spent on a

largely research and experimental basis before any clearly defined decision could be arrived at as to: (1) the preferable technical plan; and (2) fairly reliable estimates as to resulting power costs which could form a basis of comparison in actual operation with those of conventional plants.

In these circumstances the question naturally arises as to how soon it might be sound or prudent for a single cooperative, or a single federated cooperative, to attempt to build such a plant, the cost of which, whether successful or not, would have to be amortized by its own limited group of farmer-members.

The real possibilities of nuclear power for our borrowers appear to lie in the relatively long-range potentialities for low-cost energy.

Scope of Loan Authority

Under REA's authority in the Rural Electrification Act to make loans for the construction of generating plants, the plant could be either conventional or nuclear. REA's view is that fissionable material is just another fuel so far as the production of electricity is concerned. Our consideration of loan applications for nuclear power-plants will be guided by the same policy on generation and transmission loans which has existed throughout the life of REA.

If a borrower established a need for an REA-financed generating plant, the choice as between a conventional plant and a nuclear plant would be made upon the estimate of its assured efficiency and cost to the distribution cooperative and to the ultimate farm users of electricity. Nuclear power would be considered as an alternate fuel. All

other basic considerations which affect the Administrator's action on a generating loan application would remain the same.

Of course, there is still the question of loan feasibility. Until many technical problems are solved and realistic cost figures are available, it would seem to be difficult to establish this. Until feasibility can be established, it should be pointed out that under the Act, REA's authority is to make loans for construction of facilities, rather than for research.

However, other alternatives have been proposed. These include the possibility that some other agency make some contribution towards the original plant cost in view of the necessarily experimental nature of any such installation. The borrower might cooperate to the point of serving as "guinea pig" for a pilot plant, providing a means could be worked out shifting most of the risk from the borrower and the farmers it serves. There might be other ways our borrowers could collaborate in exploratory work where the cost burden would not be borne by them alone.

A further alternative would be for a cooperative effort on a broader basis (participated in by a number of federated cooperatives) with benefits, if any, accruing to the whole group. In such a plan, costs and risks could be spread over a larger group, too.

This does not answer all of your questions. But it does serve to bring you up-to-date on what REA is doing, and to let you know that we are investigating all of the angles in a sincere effort to discover for you just what atomic energy can do for us in the rural electrification field.

Pioneer

Mr. Hobbs



For a long time now a friendly, forward-looking Ruby, Ark., dirt farmer, John Hobbs, has been leading a successful crusade for more and better electric service in parts of four States.

"Uncle John," folks call him, is a spry, hearty 87, president of Arkansas Valley Electric Cooperative of Ozark, Ark. For most of his working years he's been giving a helping hand to others and backing worthwhile community projects.

Mr. and Mrs. Hobbs settled in Muscatine County, Iowa, soon after their marriage in England some 62 years ago. Later he moved to his present farm site in Crawford County, Ark., where, he says, "I worked hard and tried to make a good citizen."

Being a good American came easy for Mr. Hobbs. And when things had to be done, he worked just as hard in the ranks as at the head of key committees.

He's had his share of top level

posts. He has served continuously as president of the Arkansas Valley distribution co-op since it was organized 16 years ago, and was first president of KAMO Electric Cooperative, a transmission co-op serving 14 distribution co-ops. The Crawford County Farm Bureau honored him as president emeritus after 14 years as president. He is now rounding out a long span of leadership in his church, and has a record of nearly half a century of service as justice of the peace.

Mr. Hobbs has a quiet, homespun brand of philosophy when it comes to discussing rural electrification. He believes that electricity is the cheapest hired help a farmer can get and that rural areas haven't even scratched the surface in their use of power.

Not long ago, he said, "The very genesis of our great Nation is built upon the faith of the Government in its people, and the people's faith in their Government."

Our Yesterdays

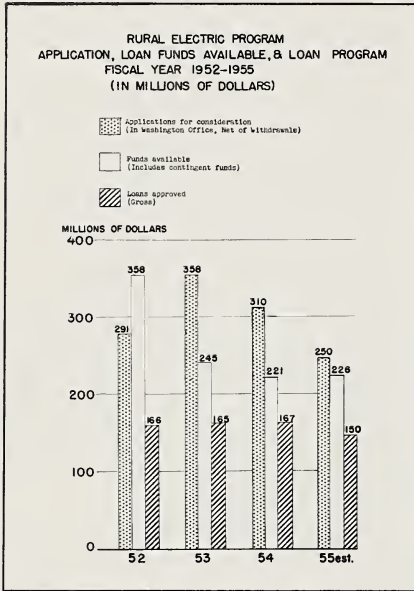
[*Editor's note: The following material appeared in September 1935 in the first issue of an REA magazine.*]

Quoted from an article in Collier's dated August 24, 1935, is the following: "This year's REA program means more than bright lights for Bossy. It means a new lease on life for Mr. and Mrs. Farmer, new efficiency for the farm and new business for everyone. Meet the new wired help."

REA Progress Record in 1954

Here are facts presented visually to show the progress REA has made in the past fiscal year.

These charts, with preliminary figures, were presented at the REA field conferences. They are reproduced here to give you ready answers to some of those questions you may be asking or may be asked.



In fiscal 1954 the loan program was a bit larger than in either of the 2 previous years. One-fourth of money loaned was for system improvements.

G & T accounts for 18%
of all money loaned electric borrowers
In 1953 G & T accounted for 22%
In 1954 G & T accounted for 19%

About one-fifth of all electric loans which have been made were for G & T purposes.

We've reduced our backlog of electric loan applications \$75 Million during '54

	NUMBER	AMOUNT (MILLIONS)
On hand June 30, '53	226	\$193
On hand June 30, '54	157	118

REA cut down its backlog of loan applications by \$75 million during 1954. We started fiscal year 1955 with lowest inventory of electric loan applications since 1947.

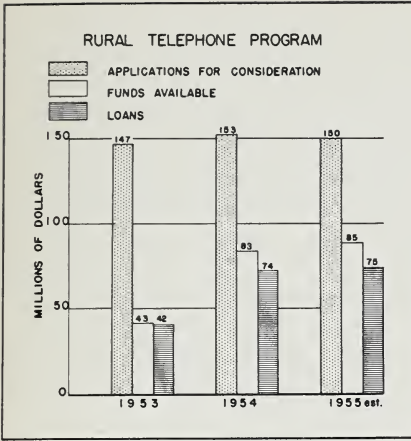
239 electric borrowers have loan security problems

They owe approximately:

\$500 Million principal

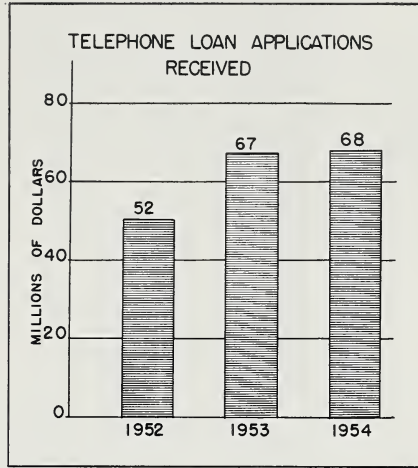
\$ 25 Million deferred interest

Borrowers with loan security problems are giving increasing attention to increasing electric sales. During fiscal 1954, REA joined them and other groups in launching a vigorous electric sales program. Most of these borrowers are meeting debt payments on schedule.



Fiscal 1954 was REA's biggest year in the rural telephone program. The \$75 million loaned nearly doubled the amount loaned in any previous year.

Loan applications keep rolling in. An increasing percentage is from independent telephone companies, as a result of REA cooperation and negotiation with the industry.



RURAL TELEPHONE CONSTRUCTION

MADE MARKED PROGRESS IN 1954
WILL ALMOST DOUBLE IN 1955

	1953	1954	1955 est.
NO. BORROWERS CUT-OVER	42	53	85
MILES OF LINE BUILT	8,000	22,000	28,000
SUBSCRIBERS CONNECTED	25,000	70,000	85,000

We've reduced our backlog of telephone loan applications \$35 Million during '54

	NUMBER	AMOUNT (MILLIONS)
On hand June 30, '53	505	\$113
On hand June 30, '54	270	78

REA borrowers made more cut-overs, built more lines, connected more subscribers in fiscal 1954 than during all other years combined. REA expects that pace to be more than equaled in 1955.

REA's \$75 million loan program in fiscal 1954 helped reduce the backlog of loan applications by \$35 million during the year. Telephone loans are moving faster than ever before.

The John Stamy family lives on a push-button Pennsylvania farm 30 miles west of Harrisburg. Their all-electric farm layout is designed to show farm people how they can put electricity to work to help themselves, and to show manufacturers and dealers that the farm market for electrically operated equipment is a good one.



The old Pennsylvania stone house features all of the electric appliances every woman dreams about for easier living. The farm equipment aims not only at saving time and labor, but also at improving income for the Stams.

Mr. Stamy expects to double the size of his dairy herd with no increase in hired help. That's because of new electric barn cleaners and automatic feed-handling equipment. He expects to save on feed costs with the use of electric feed grinding and mixing equipment. He will get a premium on his Grade A milk with his new refrigerated bulk tank.

The project is sponsored by the **FARM JOURNAL** in celebration of its Diamond Jubilee at the same time the electric industry is celebrating 75 years of progress.

Pie in the Sky

Ernest C. Woods, manager of the **Farmers Electric Cooperative**, Chillicothe, Mo., literally increases co-op revenue out of the air. A commercial company in his area operating a fleet of cars equipped

with 2-way radio needed a radio tower. Wood rented space to them on the co-op radio tower. Revenue from the rental over a 10-year period will cover more than half the cost of the tower and 3 paint jobs.

Adams County Cooperative Electric Co., with headquarters at Corning, Iowa, offers a small gift to encourage members to report the installation of new electric appliances. Members are asked to report new appliances so that the proper transformer can be installed to assure good service.

With an electric mixer a farmer can thoroughly mix dry feed for his

POWER EXCHANGE



herd of cows in from 5 to 12 minutes, depending on the size of the batch. For the average herd he can do it for less than the cost of 1 kwh, since tests show it takes only $\frac{2}{3}$ of 1 kwh to mix a ton of feed.

With a variety of models on the market the farmer can select a mixer with either a vertical or horizontal mixing chamber, agitator or tumbler type, with a capacity of from one-fourth to one-half ton, and a motor from 1 to 3 hp. in size. His selection will be influenced by his own situation with regard to space

and installation requirements. Local dealers may be interested in taking advantage of national farm advertising to promote this piece of equipment at this time. This is a good load for rural electric systems and a labor- and time-saving item for farmers with stock to feed.

O cone e Electric Membership Corp., with headquarters at Dudley, Ga., is sponsoring a campaign to get members to put nameplates on the rural mail boxes to help line crews in locating consumers. A company specializing in such signs is offering members an attractive rate to speed up the installations.

R USE ANGE



Midwest Electric Inc., with headquarters at St. Marys, Ohio, offers a small gift for each consumer who sends in information about new homes being built. Cooperation by members saves co-op personnel many hours of travel in locating new consumers.



Ferriday, La., declared a "Ferriday REA Appreciation Day" in connection with the annual meeting of **Concordia Electric Cooperative**. The proclamation by Mayor L. W. Davis designated the special day, "In appreciation for the great contributions of the local farmer-owned co-op to rural people and especially to the towns in the areas served. Concordia Electric Co-op not only helped the farmers, it created a huge front-street business boom, bringing on a healthier economic condition for all our people."

T. R. Cole, president of **Pemiscot-Dunklin Electric Cooperative**, Hayti, Mo., says, "I think that you will soon see electricity used in such an abundance for sprinkler irrigation here that rainbows will be seen in every direction on a hot, clear summer day."

Tom Berg, a pilot for Alaska Airlines, has been a member of the board of directors of the **Chugach Electric Association, Inc.**, Anchorage, Alaska, for 4 years.



Baldwin County Electric Cooperative, Robertsedale, Ala., offers prizes of electric appliances to members who come closest to guessing the amount of KWH the co-op will sell in a month. Guesses are sent in on the member's meter reading card.



Accent on Members

.....

... Meeting at Dryman's Chapel shows how one North Carolina borrower built community interest.

When you want to reach the maximum number of members with an important message, you may want to try a plan that is gaining increasing attention among borrowers which have farflung rural electric systems. That is—take the co-op out to the members.

Manager R. C. Sheffield of the Haywood Electric Membership Corporation of Waynesville, N. C., is sold on the idea, and he didn't have a hard time selling it to his board. They agreed that a tri-State system with 4,000 members along almost 900 miles of line needed some way of coming to its members.

All co-ops—to a greater or lesser degree—face the problem of how to enlist greater membership interest and participation in the affairs of their jointly owned business enterprise. With rural electric and rural telephone groups it is a problem of driving home to users that their system is providing a community service, and of educating rural families to make the best use of this service.

A community meeting at Dryman's Chapel in the little mountain community of Tessentee illustrates Mr. Sheffield's plan.

In more ways than one this was a big community event. Not only had their electric co-op come to Tessentee for a member information meeting, but it was also the first gathering to be held in the fine new Dryman's Chapel building. The little community had just completed its new chapel by faith, hard work, and sacrifice after the wind toppled over the old frame building last summer.

Whole families were there. Men, tired after a day's work in the fields, but scrubbed and shining. Young mothers with their babies wrapped in pink blankets to keep out the night chill. Altogether there were more than a hundred people in the audience. Some of them must have walked down the steep mountain



About a hundred people attended Dryman's Chapel meeting at Tessentee, N. C.

trails to get to the meeting. On hand early to welcome them was a neighbor, Mr. A. C. Patterson, local foreman for the co-op. Mr. Patterson presided during the program, informally introducing the speakers from headquarters to his friends and neighbors in the audience.

As the manager told the co-op's proud story of rural electrification progress, everyone listened intently.

Highlights on Progress

It was good to hear how the co-op had grown since it was first energized in 1939. Then it served 172 members over 37 miles of line. Today it brings power to more than 4,000 families and has nearly 900 miles of single-phase and multi-phase line. Quite a change from the old days, when practically no one back in the hills had electricity. Today about 97 percent of the system's operating territory is covered. The membership beamed proudly when they heard that their coverage record is better than the 90-some percent achieved nationally to date.

Highlights on total loans from REA and the co-op's repayment record were discussed. Mention of advance payments by the co-op opened the way for emphasizing the stake members have in helping see to it that the government loan is paid off on schedule. A report on power consumption showed that the average farm family had increased its use of electricity from about 25 kwh per month in 1939, to 78 kwh per month in 1949 and 165 kwh in 1953. This record provided Manager Sheffield with the opportunity for plugging increased power use to make farming easier and more profitable.

J. T. Miller, agricultural engineer from the North Carolina Rural Electrification Authority, gave a brief talk with slides on the use of electric hotbeds to get some farm crops off to an early start by growing seedlings. He also gave a short explanation of the advantages of various types of hay dryers.

Mrs. Margie Reed, the office manager, gave a simple explanation of the co-op's billing procedure. She explained that if the meter-reading is not received by the 24th or 25th



At Canada meeting, co-op was asked to help boys with demonstration hotbed.

of the month, when the co-op starts mailing out its bills, the accounting department is forced to estimate the bill. When that happens, the member is likely to be shocked by an estimated bill that is too high or to receive a worse shock later when a big accumulated bill arrives, based on an actual reading.

A brief, nontechnical explanation of capital credits followed. Mrs. Reed asked if anyone had any questions or complaints. Nobody spoke up.

Finally, Manager Sheffield laughingly said that all members present must feel satisfied that their bills were okay and that they weren't paying too much for electricity. He complimented the community for having had only one

cutoff since the co-op started serving it, concluding, "That sounds like satisfied consumers."

The manager showed a series of color slides telling the co-op's own story. Sheffield had taken most of the pictures himself. Bona-fide before-electricity scenes from recently connected homes reminded the audience that they too had to bend over wash tubs and work by the light of kerosene lamps before the power lines of the Haywood EMC came to their farms.

A closeup of a pretty girl taking a meter reading was the cue for explaining that members had cut the costs of collecting billing information from \$900 down to \$80 every month by taking their own meter readings and mailing them into the office.

During the long drive back to Waynesville, the headquarters staff reviewed the meeting: Had the audience learned much about their co-op? Had the meeting been worth the effort? How could it have been improved? Did the people enjoy the get-together—and go away with more of a realization that Haywood EMC was *their* co-op?

The attentive attitude of the adults gave a strong indication that they found the meeting interesting. And the smiles with which people left the chapel suggested that they had enjoyed it.

More tangible evidence of appreciation came from the fact that about 4 times as many people turned out for the meeting at Dryman's Chapel this year as came to a similar meeting held in the same area the year before. In fact, attendance at most of the series of 17 meetings held by the co-op last year to initiate the program were a trifle disappointing.

Annual Meeting Gains

Then came last year's annual meeting. Attendance was 1,700—by far the largest in history. Manager Sheffield feels that the series of grassroots meetings definitely helped build up annual meeting attendance in 1953. He hopes the new series of local meetings will further swell the size of this year's annual event.

This hope is encouraged by the fact that much bigger crowds turned out for the 6 community meetings before the Dryman's Chapel session this year than came to the introductory meetings in the same areas last year. This year attendance was averaging around a hundred a meeting, instead of 25 to 50.

Members are sending their meter readings in more promptly and are making an effort to pay their bills on time as a result of the community get-togethers, Mrs. Reed finds. In the long run it makes her job as office manager much simpler to have the support of a well-informed membership.

Everybody on the program wished that there had been more questions. Manager Sheffield was inclined to think it was shyness that had kept the audience silent. He plans to stimulate discussion at later meetings by asking people to write down their questions and having the ushers collect them. That way no one would have to stand up in meeting to bring up his question.

Asked if he had any advice to offer co-ops planning a series of community meetings, Manager Sheffield summed up his experiences.

"As I see it, community meetings offer about the only way that a co-op with a big operating territory like ours can reach all its members."

THE LINEMAN



Program Set for National Safety Conference in October

A 4-day conference aimed at bringing linemen, foremen, instructors and managers up-to-date on safety and job training methods has been set for October 4-8 at Daytona Beach, Fla.

H. E. Brawner, planning committee chairman, says the conference aims to cover these topics: Standardization of instructional material, instructor training, training foremen to instruct workers on the job, human relations, getting managers and board directors to support and participate in job training, advanced technical training for instructors, how to get a continuous

training program going, improvement in local training programs, and development of essential records in the training program.

Four special workshops have been scheduled for instructors. Certificates will be given those completing the 18-hour workshop courses.

The conference is being arranged by the NRECA 1954 Job Training and Safety Program Planning Committee, with assistance of the Division of Vocational Education, U. S. Office of Education, and the Job Training and Safety Section, REA.

Electric Fence Safety Rules

1. No electric fence should be energized from any source except through approved controller.

2. The electric fence controller must be connected to the power source for which it is designed.

3. Use only one controller to energize a continuous fence.

4. Do not use indoor controller outdoors.

5. Provide lightning protection and good ground connections.

6. Identify electric fences, especially near buildings and public roads, with prominent signs.

7. Provide insulated gate grips for opening and closing gates.

8. Be certain that everyone knows how to safely disconnect or shortcircuit fence in case of emergency.

9. Teach children not to tamper or play with electric fence.

10. If controller needs servicing, return to manufacturer or authorized representative.

11. Always disconnect fence before servicing. Battery should never be charged while energizing fence.

12. Do not depend upon electric fence to restrain bulls or other vicious animals.

13. Avoid locating electric fence where it is easy for adult or child to contact the fence and a good ground at the same time.

14. Eliminate all hazards that may accidentally lead to direct contact between electric fence and power lines or other electric circuits.

15. If anyone in the community is using home-made or unsafe electric fence installation, warn others of the danger. Start community action for removal if owner will not cooperate willingly.

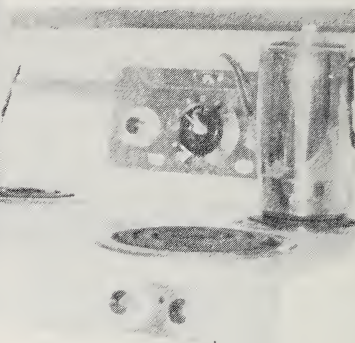
(These rules are taken from an article by C. L. Hamilton, Agricultural Engineer, National Safety Council. The full article in the Farm Safety Review has been reprinted and copies are available from the Council, 425 North Michigan Ave., Chicago 11, Ill. Borrowers have permission to reproduce all or portions of the reprints in their newsletters.)



Mrs. Obering is justly proud of the bread freshly baked in her new electric range.

DEMONSTRATIONS SELL POWER

.. Nebraska Borrower Aids Dealers
With Home Trial Installations



“The best load builder is a good crop. When farmers have the money, they buy electric appliances—and we sell more kilowatts.”

So says Manager Jesse Rogers of the Franklin County Electric Membership Corporation of Franklin, Nebr. And since this year the farmers thereabouts have had the right brand of weather to assure good crops of corn, wheat and alfalfa, it seems likely that a good many new appliances will be going onto this co-op's power lines.

Manager Rogers and his power use adviser, Bart Mucklow, have not placed their reliance entirely on good crops, however. They have been taking positive action to stimulate interest in farm and home use of electricity. The technique they have used successfully for the past couple of years is to lend demon-

stration models of certain electric appliances to farm members, on a 2-week trial basis. And they have found that there's nothing like actually using the equipment to convince the consumer of its merits.

This campaign has resulted in a steady rise in power use in this system's area during the past 2 years. In 1952 the average monthly farm consumption was 170 kwh; in 1953 it went up to 202 kwh. And the trend is still upward; by May of this year, the monthly average per farm had reached 260 kwh.

In Franklin County, they have already shown a good many farmers that electric grain dryers can save both money and grain—and have shown their wives that electric ranges are efficient, economical and cooler for hot weather use than any other type.

In the grain dryer campaign of 1952, the co-op used two 5 horsepower motors, mounted on trailers, which could be moved easily from farm to farm. As a result of the trials on their own places, about 50 members bought drying equipment.

Satisfied Users Help Sales

The electric range campaign, started about 2 years ago and still going strong, has resulted in the installation of ranges in more than 75 percent of the farm homes on the lines of Franklin County EMC. This is in pleasant contrast to the 10 percent or so which had electric ranges before that time. Specifically, the co-op knows that 53 sales of ranges resulted directly from demonstrations in members' homes.

A number of range sales have resulted from word-of-mouth advertising, without any home trial at all. One of the co-op's best saleswomen is Mrs. William Obering. Cleanliness and coolness of operation are the 2 principal factors in its favor, she says. Safety is highly important, however, in view of the small son who plays in the Obering kitchen a good deal.

The co-op neither sells merchandise nor recommends any particular brand. Dealers in the area are notified as soon as a demonstration model is placed, and are encouraged to follow through and make the sale. The distributor keeps the co-op supplied with 2 ranges of the latest model in a moderate-priced, average size (30"), with plenty of literature for distribution. Many members have bought a larger model than the demonstrator, and a large percentage have selected a different brand from the trial range.

Many farm families have purchased other large electrical appli-

ances soon after investing in the range—items such as water heaters and food freezers. This is one reason for the steady rise in the co-op's sale of kilowatts.

The success of both these campaigns convinced the management of Franklin County EMC that the home trial method is a fine way of building load on rural electric lines. The range is easy to install, and gives the farm homemaker a good chance to make direct comparison with the type of cooking fuel she has been using.

Manager Rogers would like to encourage more farm families to put in electric water heaters. This is not only an appliance every home needs, but a steady user of power. In view of the expense of installing one simply for a trial, however, he is considering another approach. He may decide to offer free trial of a pressure pump, which would be comparatively easy and inexpensive to install. It is his feeling that few farm families will do without a water heater very long after they have discovered the convenience of having water under pressure.

Franklin County EMC concentrates attention on consumers who are consistently minimum users of power. The manager writes a personal letter to these members, suggesting the home trial. This is followed by a personal call from the power-use adviser.

Rogers and Mucklow point out that once the equipment is in, it does a good job of selling itself. In their opinion, the home trial method will sell plenty of electrical equipment in any area where dealers and distributors will cooperate. And, to quote this energetic team of kilowatt salesmen: "You can't sell kilowatts if there's no equipment to use them!"

YOUR MODERN TELEPHONE SERVICE IS

Good for Business

It's good business when a small-town telephone company is able to enlarge its outgrown system and extend service throughout surrounding rural areas. Good business not only for the farm families concerned but also for the owners of the telephone company and for the townspeople.

To the Heins Brothers of Sanford, N. C., this idea is more than a vague aim for some future day. With enthusiastic support from both the urban and rural community and an REA loan, they are putting the idea into action.

Late in February the Heins Telephone Company cut over its Sanford exchange to dial. Besides taking care of Sanford residents, the new central office facilities are adequate to provide toll-free service to the rural subscribers of the company's 3 other rural exchanges, located at Jonesboro, Broadway, and Olivia.

When the new system is completed, it will bring dial service to more than 1,500 rural families now without phones in Lee, Harnett, and Chatham Counties. All subscribers will be able to call anywhere in the system's operating area without paying toll for each call.

Merchants Enthusiastic

Businessmen in the fast-growing community of Sanford are almost as enthusiastic over the prospect of the new area-wide, dial service as their farmer neighbors, according to E. C. Heins, Jr., secretary and treasurer of the telephone company. When he talks before civic organizations regarding the company's expansion plans, he is always pleased by the response of his audience to the big system map which he displays. This map has black pins to show the location of the hundreds of rural subscribers who will be served for the first time by the company's new dial system. To Sanford business and professional men those black dots means hundreds of more customers and clients brought within easy talking distance—and they are pleased.

Citizens of Sanford are looking far beyond their town boundaries for trade and for labor to strengthen their industries and to swell their payrolls. They recognize that, for the town to go forward toward achieving its maximum potentialities for growth and prosperity, the country must go forward too.

This big-town psychology which causes Sanford to look to an ever growing area for support and trade is undoubtedly one of the main reasons it is fast changing from a small town into a big one, in the opinion of telephone company officials.

City Labor Lives on Farms

New industries are coming to the area and old ones are expanding. A large portion of the workers employed by Sanford manufacturing plants live on farms in the three counties which will be served by the Heins Telephone Company's new system. These people need phones in connection with their factory jobs as well as for their farming operations.

Manager L. C. Heins did not have to be sold on the importance of adequate telephone service for rural areas. During the years since E. C. Heins, Sr., founded the company, the family has put back a large share of the earnings into improving and expanding the telephone plant to meet growing community needs.

Demand Exceeds Capacity

But the demand for telephones in Sanford and outlying rural districts was greater than the ability of the company to meet without outside financial assistance. Much

of the common battery central office equipment in Sanford was getting old and in need of replacement. What few rural lines the company had were overcrowded and in a bad state of repair. Many farm subscribers had to be content with old magneto phones and others who wanted service had to be turned down because the company did not have central office facilities to serve them.

Getting a loan for a new dial plant to serve the Sanford subscribers would have been easy enough. But building a new system for town people only wouldn't help rural families get phones. If rural sections were left completely outside of the new system, it would be difficult or impossible later to build an economically sound system to serve rural areas alone.

The Heins Telephone Company felt a responsibility towards its rural subscribers. They were a part of the community too.

As E. C. Heins, Jr., expressed it, "I don't see how I could get along without a phone at home myself, living in town. But I don't need a phone as bad as the man who lives out in the country and has to drive 5 or 6 miles into Sanford every time he wants to talk to someone here."

Farm Areas Strengthen System

The Heins family further felt that the company needed its rural subscribers—that it would be a stronger as well as a larger system in the long run if it could serve the many rural families who wanted service too. They further felt that the town of Sanford needed the closer ties with its rural neighbors which an integrated telephone system would bring. But it wasn't so easy to persuade commercial lending agencies that the returns from



E. C. Heins, Jr., uses map to show Sanford businessmen advantages of new dial system.

building rural lines would be great enough to warrant the risk.

That is where the Rural Electrification Administration came into the picture. With the low interest rates available under the REA rural telephone loan program, an area-wide system was economically feasible.

As telephone poles go up and lines are strung in the outlying rural areas, new applications for service have been coming in far beyond the company's most optimistic forecasts, based on a commercial survey. One section which was expected to have around 50 subscribers at cutover time already has 100 families waiting for service. The prospect of having new dial phones that ring only the person called and no more than eight parties to a line is appealing to rural subscribers even more than Heins company officials expected.

At the rate service applications are pouring in, the company now expects to have about 5,000 subscribers before too long.

"We believe more and more small companies will find REA financing answers their problems," company officials said. "We wanted to serve people, but try as hard as we could, we couldn't have done the job without help from REA."

Community Likes New Service

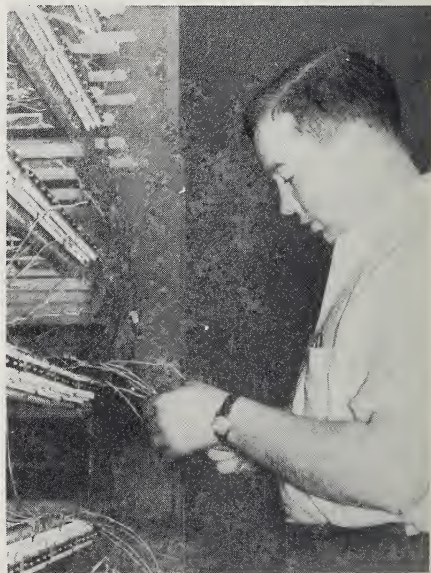
How the whole community feels about being brought closer together by a modern, area-wide telephone system was voiced by a recent editorial in the *Sanford Herald*. The editorial says:

"A Sunday afternoon drive through the countryside in Lee County reveals a phase of our rural progress.

"If you will go out and drive down the Caribton Road you'll see on one side a precise, orderly row of brand new telephone poles carrying a trunkline. On the other side you'll see still standing, but just barely, the knotty, untreated poles bearing two strands of wire which served all the telephone needs for that part of the country for so long. Contrast between the two is almost unbelievable.

"This is just an example of the new system which is stretching out from Sanford in all directions. In many areas of the county the construction work will not be completed for some time but when it is completed the entire county and portions of surrounding counties will be closely tied to Sanford by new rural telephone lines.

"It's encouraging to all of us—city dweller and farmer alike—to see this additional move forward for our county."



Bill Lawrence, head of maintenance, works on new central office equipment.

LOANS APPROVED JULY 1 THROUGH JULY 30, 1954

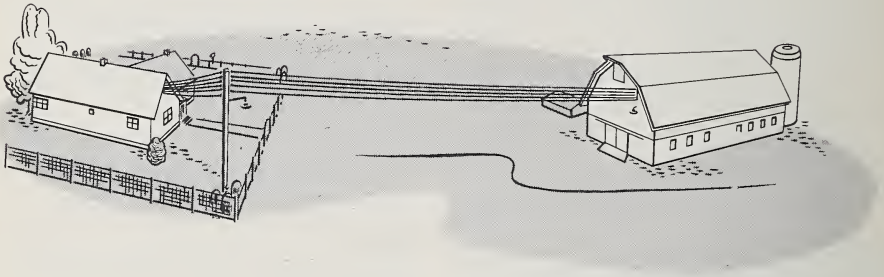
ELECTRIFICATION

\$330,000	Northeast Mississippi Electric Power Association, Oxford, Miss.	88,000	North Arkansas Electric Co-op, Salem, Ark.
300,000	Tishomingo County Electric Power Association, Iuka, Miss.	450,000	Withlacoochee River Electric Co-op, Dade City, Fla.
430,000	Blue Ridge Electric Co-op, Pickens, S. C.	113,000	Monument Electric Company, Trinidad, Colo.
595,000	Laurens Electric Co-op, Laurens, S. C.	100,000	Suwannee Valley Electric Co-op, Live Oak, Fla.
175,000	Lincoln Electric Co-op, Davenport, Wash.	85,000	Otsego Electric Co-op, Hartwick, N. Y.
50,000	C & L Rural Electric Co-op Corp., Star City, Ark.	187,000	New Era Electric Co-op, Athens, Tex.
310,000	Jefferson County Electric Membership Corp., Louisville, Ga.	1,065,000	Lower Colorado River Electric Cooperative, San Marcos, Tex.
470,000	Southern Illinois Electric Co-op, Dongola, Ill.	846,000	Ozarks Rural Electric Co-op Corp., Fayetteville, Ark.
150,000	Harrison County Rural Electric Co-op, Woodbine, Iowa.	50,000	Petit Jean Electric Co-op Corp., Clinton, Ark.
217,000	Sedgwick County Electric Co-op, Cheney, Kans.	360,000	Bossier Rural Electric Membership Corp., Bossier City, La.
422,000	Riceland Electric Co-op, Stuttgart, Ark.	2,055,000	Wheatland Electric Cooperative, Scott City, Kans.
223,000	Red Lake Electric Co-op, Red Lake Falls, Minn.	105,000	North West Missouri Electric Co-op, Savannah, Mo.
50,000	Grand Electric Co-op, Bison, S. Dak.		
128,000	Lamb County Electric Co-op, Littlefield, Tex.	TELEPHONE	
165,000	Tri-County Electric Association, Plankinton, S. Dak.	\$178,000	Bath Telephone Company, Bath, Ill.
340,000	Southeastern Illinois Electric Co-op, Eldorado, Ill.	83,000	Clear Creek Mutual Telephone Co., Oregon City, Oreg.
2,973,000	Alabama Electric Co-op, Andalusia, Ala.	50,000	Emery County Farmers Union Telephone Assoc., Orangeville, Utah.
210,000	Ozark Electric Co-op, Mt. Vernon, Mo.	50,000	Cohasset Beach Telephone Co., Aberdeen, Wash.
275,000	Ashley-Chicot Electric Co-op, Hamburg, Ark.	109,000	Reservation Mutual Aid Telephone Corp., Parshall, N. Dak.
600,000	Scott-New Madrid Mississippi Electric Co-op, Sikeston, Mo.	66,000	Wilkes Telephone and Electric Co., Washington, Ga.
		567,000	Matanuska Telephone Association, Palmer, Alaska.
		924,000	Standard Telephone Company, Cornelia, Ga.

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PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300
(GPO)

OFFICIAL BUSINESS



You Need Adequate Wiring To Use More Power

Every month is adequate wiring month on the power use promotion calendar recently adopted by the Inter-Industry Farm Electric Utilization Council.

Council members, representing electric appliance and farm equipment distributors, electric companies, rural electric cooperatives and other interested groups, agreed that adequate wiring is a pressing problem throughout the year.

It is to the advantage of the consumer from the standpoint of safety, efficiency of equipment operation and economy. It is to the advantage of the borrower from the standpoint of helping consumers get the most efficient use of their electric power. It takes adequate wiring for the best service, and for increased use of electric power. This adds up to increased revenue for the rural electric system.