



1982
Power Program
Summary
Volume II

ANNIVERSARY
1943
TVA
Tennessee Valley Authority

COVER

Light shining from weathered barns across the Tennessee Valley signalled hope for a depressed society and promised progress for the region's development. Cooperation and commitment to improving the standard of living—the goal that marked the early efforts of the 50-year partnership—must continue in the new utility era.

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

1982 "POWER PROGRAM SUMMARY," VOLUME II

Your copy of the "Power Program Summary," Volume II, is enclosed, and I think you will be pleased with this year's special 50th Anniversary issue.

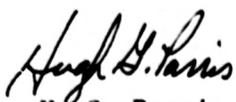
This year is an opportunity to look back at the last 50 years and recognize the indispensable role of the TVA power distributor in the history of TVA as well as the Valley region. With this in mind, we have dedicated Volume II to the 160 TVA power distributors. Inside you will find a special section of in-depth interviews with distributor managers, past and present. We have included early photographs of the "good ole days," which will certainly bring back some memories.

Volume I, which you will receive shortly, includes the usual power financial data and text defining the Power program. Volume I will also include additional interviews with early TVA employees.

I hope you will enjoy this special observance of our 50th Anniversary.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



H. G. Parris
Manager of Power

Enclosure



Tennessee Valley Authority

Power Program Summary Volume II

Fiscal Year Ending June 30, 1982

**1982 Financial And Statistical Report
For Municipal And Cooperative Distributors
Of TVA Power**

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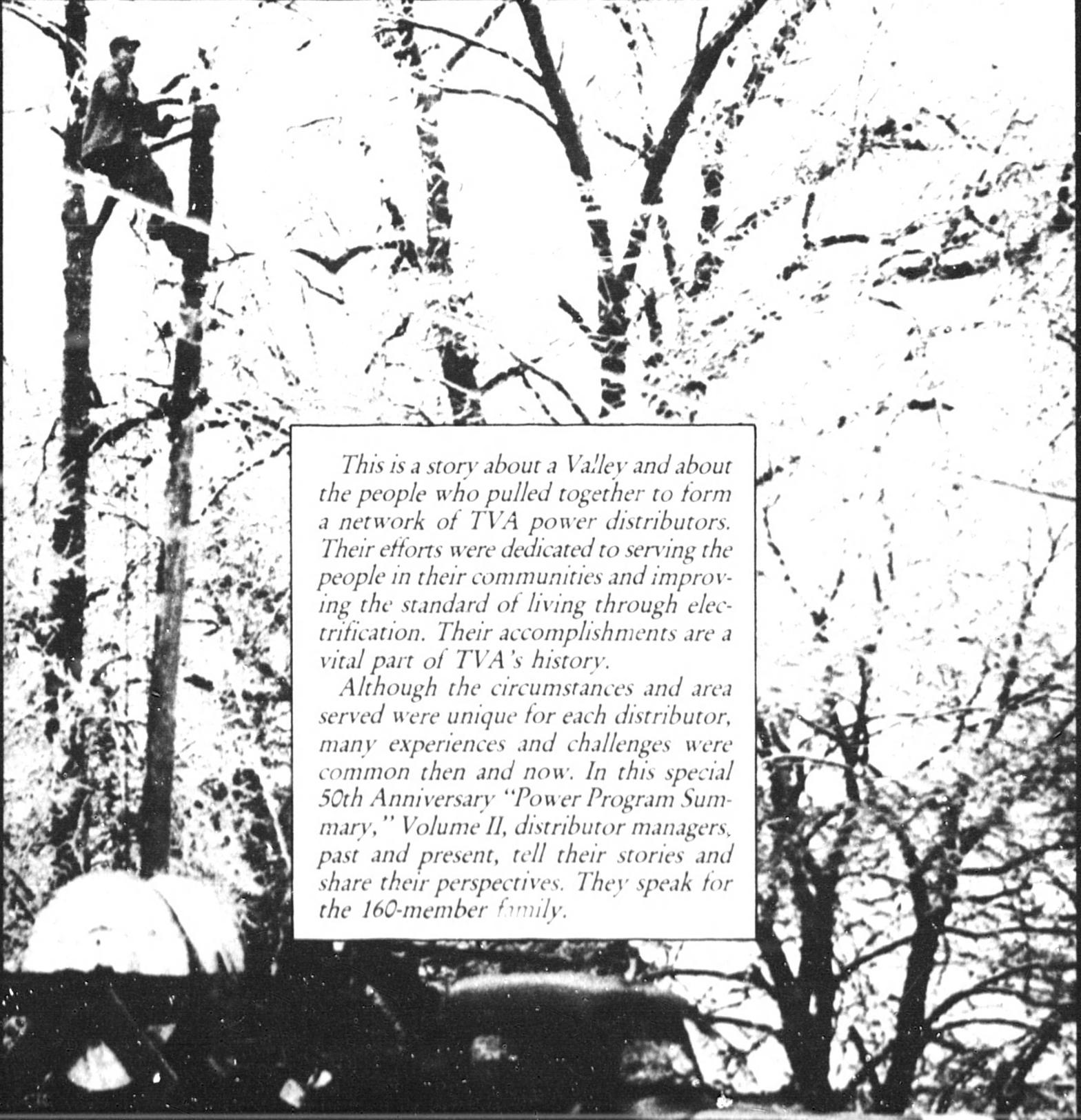
MARK STEINER



FINANCIAL AND STATISTICAL EXPERTS



FINANCIAL AND STATISTICAL EXPERTS



This is a story about a Valley and about the people who pulled together to form a network of TVA power distributors. Their efforts were dedicated to serving the people in their communities and improving the standard of living through electrification. Their accomplishments are a vital part of TVA's history.

Although the circumstances and area served were unique for each distributor, many experiences and challenges were common then and now. In this special 50th Anniversary "Power Program Summary," Volume II, distributor managers, past and present, tell their stories and share their perspectives. They speak for the 160-member family.



"The relationship between the power distributors and TVA has been, and must continue to be, a unique demonstration of cooperation at the grassroots level."

--Tom Wheeler, President, Tennessee Valley Public Power Association

It seems like only a short time ago that groups of farmers and businessmen helped create the municipal and cooperative distributor organizations through which the people of a large geographic area were able to receive power generated by the Tennessee Valley Authority.

But it has been nearly 50 years since May 18, 1933, when President Franklin D. Roosevelt signed legislation creating TVA and a daring experiment in resource development, including the generation and distribution of electric power. For the first time, low-cost electric power would be made available by TVA, through its power distributors, to the people of the Tennessee Valley.

While the generation of electric power was a secondary purpose to TVA's main responsibility of flood control, navigation, fertilizer development, and recreation, it was the catalyst that would provide for the improvement in the overall living conditions of residents in the Valley.

The TVA Act of 1933 directed the Agency to "give preference to States, counties, municipalities, and cooperative organizations of citizens or farmers, not organized or doing business for profit, but primarily for the purpose of supplying electricity to its own citizens or members." The distributor organizations were based on that idea and soon became the primary example of TVA's "grassroots" concept. Power generation and transmission would be controlled by TVA and the distribution of that power to the consumer accomplished by local communities.

On February 7, 1934, Tupelo, Mississippi, became the first city to distribute TVA power to its consumers. It was also the first in a network of 160 power distributors, who were to be the pioneers of TVA's rural electrification program.

When the cooperative distributors began their rural electrification efforts, only 3 out of 100 Valley farms had electricity. Today, virtually every home in the region has the benefits of electricity. It was a project that could not have been accomplished without a spirit of cooperation, a commitment to the betterment of the Valley's people. Looking back, the challenges were many.

The partnership faced legal battles and out-in-the-field struggles to survive attempts of private power companies to delay and abort what they saw as an encroachment into their exclusive domain. The cooperatives were dedicated to the concept of area coverage, that everyone who wanted power should have access to it—an idea rejected by private power companies because they said it just wasn't profitable to run electric lines across miles of land where some of the Nation's poorest people lived out a very sparse existence.

Although the partnership between TVA and the local power distributors was well established during the 1930s, it was after World War II before rural electrification could proceed in earnest. With TVA assisting the rural electric cooperatives and many of the municipal systems by constructing transmission lines and substations, most of the rural farms and homes had electricity by the early 1950s.

For the next 20 years, the use of electricity in the Valley grew by leaps and bounds. Electric heat became a primary method by which homes and businesses were kept comfortable in the winter, and air-conditioning was soon to become in common use. Electricity was cheap, and we sold it like there was to be no tomorrow.

The beginning of the end of cheap electricity really started in the late 1940s with the full use being made of the abundant hydro power. The distributors, through the infant Tennessee

Valley Public Power Association, formed a powerful lobby to support TVA in construction of the "new" Johnsonville Steam Plant and in 1954 were successful in helping defeat the Dixon-Yates proposal for constructing a steam plant in the Valley. This proposal could have led to a fragmentation of TVA and the ultimate take-over of its power facilities by private companies.

The last 50 years have been productive. Since 1933, Valley employment has increased five fold, and per capita income is 50 times greater. Together the distributors and TVA have clearly accomplished one of our primary objectives, to improve the standard of living in this area.

For at least 40 of our 50 years, there has been a close and harmonious working relationship between the distributors and TVA. In recent years, complex changes that were occurring in the economy has placed a strain on the partnership. And at times, it has put the power distributors at odds with TVA as how to best handle the complicated picture.

Today, we face new challenges—declining power sales, increasing power costs. In response to the new era, TVA has reported a number of cost-cutting measures including a reduction in personnel and very tight management controls on all costs. These measures kept the last rate increase to 4.4 percent, the lowest in 12 years. And, from my own experience, I know we distributors have tightened our belts, exploring ways to cut costs and improve efficiency.

We are searching for solutions, and I believe TVA is committed to strengthening the ties with our distributors. It's a time when we have the opportunity to head back toward the strong partnership of the past. And truthfully, we have no other alternative if the Power program is to survive as a fundamental tool for the economic development of the region.

There have been positive signs that the partnership is regaining its strength. Progress has been made on the overall thrust of the rate reform, and the distributors and TVA are negotiating the details of that package. Another point is the strong support that has been given to TVA's Revised Home Insulation Program, the Energy Package, by the distributors.

As we move into the partnership's 50th year, we look back proudly at our past accomplishments and ahead to our future challenges. It's a time to recognize the important, the indispensable, contributions made by all the distributors, past and present, who have worked to meet the goal of providing power to everyone at the least possible cost. With this in mind, TVA has dedicated this report to their partners—the 160 power distributors.

It is a remarkable record of cooperation and achievement—an experiment that has worked and now is known around the world.



Tom Wheeler



"TVA began to build rural lines out of Tupelo in every direction . . ."

--Fred Trout

On February 7, 1934, Tupelo, Mississippi, became the first city to receive low-cost power from the Tennessee Valley Authority. The Tupelo power system was a municipal operation which had bought power from the Mississippi Power Company and the Mississippi Power and Light Company. Fred Trout was working for TVA at Muscle Shoals, Alabama, as an electrician and then transferred to Tupelo to become one of the first TVA employees in substation maintenance.

After witnessing TVA establish the standard for rural construction of powerlines, Mr. Trout left TVA in 1944 to become manager of the Tupelo Water and Light Department. After 2 years as manager and 20 years as chief electrical engineer, Mr. Trout retired in 1966.

I went to work in May 1934 at Muscle Shoals, Alabama, on the rehabilitation of the old nitro plant number two, getting ready to make a fertilizer plant out of it. About five weeks later, TVA's Personnel Department asked if I would work in Mississippi in the newly formed operating department. Tupelo was the first operating district organized by the TVA and the first city to receive TVA power. I told Personnel I would like to go there.

TVA had acquired a small steam plant from the Mississippi Power Company. I was the first TVA employee in substation maintenance. Every morning I would report, and my boss would say, "Go down to the plant and become familiar with the system." Well, it took about 30 minutes to get familiar with the system because there wasn't anything there.

But TVA finally made more acquisitions, and there was a lot of work to do. For nearly a year, the acquisition by the Authority of the power company's property had been bandied about in the courts. Practically all of the maintenance had been deferred. The power company wasn't spending any money in the event that they disposed of the property, which ultimately they did. During that time, my work consisted of trying to keep old transformers that were badly overloaded and in need of maintenance operating.

"When TVA took over, most people in Tupelo didn't know there had been a change except for the difference in the power rates."

When TVA took over, most people in Tupelo didn't know that there had been any change except for the difference in the power rates on their electric bill. Tupelo had been a municipal operation since around 1901. Consumers were still buying electricity from the city. But, of course, Tupelo was now buying it wholesale from the Authority.

Prior to the TVA's coming into the area, the power company's rates and the cost of construction for the type of lines they were using were so high that it was not profitable for them to serve rural folk. Being a private power company in business to make money, they didn't serve anything that wasn't profitable. So there wasn't much electricity served in the rural areas in north Mississippi.

TVA began to build rural lines out of Tupelo in every direction, south, east, north, and west. And the TVA developed the type of construction that ultimately became the standard for rural construction. A good deal of that design was originated here in the Tupelo office. The construction pattern consisted of a 18 to 19 pole per mile spacing using considerable long spans, which reduced the cost of labor, digging holes, and hauling materials.

"They (TVA) scattered the original Tupelo people out to the four winds . . ."

The Tupelo organization, as it was in 1934 and 1935, furnished the nucleus of engineers, division managers, and construction and operating foremen for practically every division that later developed in the Authority. They scattered us, the original Tupelo people, out to the four winds to start what we had done in Tupelo in other places.

When the Authority was formed in 1933 by Roosevelt and Norris, we were still in that major depression. And the electrical department of the TVA was very fortunate in that they could recruit as many experienced power utility men as they needed because they were all available. They'd all been out of work for two, three, or four years. And salary wasn't much of an object. If you could just get any money at all a month, it was that much.

I was working for TVA when the tornado in April 1936 hit Tupelo. And we went through that with a lot of hair-raising experiences. The destructive path of the tornado was probably 500 feet wide and a mile and a half long. The first thing, of course, was to help people. The night of

the storm, as soon as we could get through, I had everybody working on rescue, and they began to pick up the casualties. We hauled them back into the theater, the courthouse, and two churches.

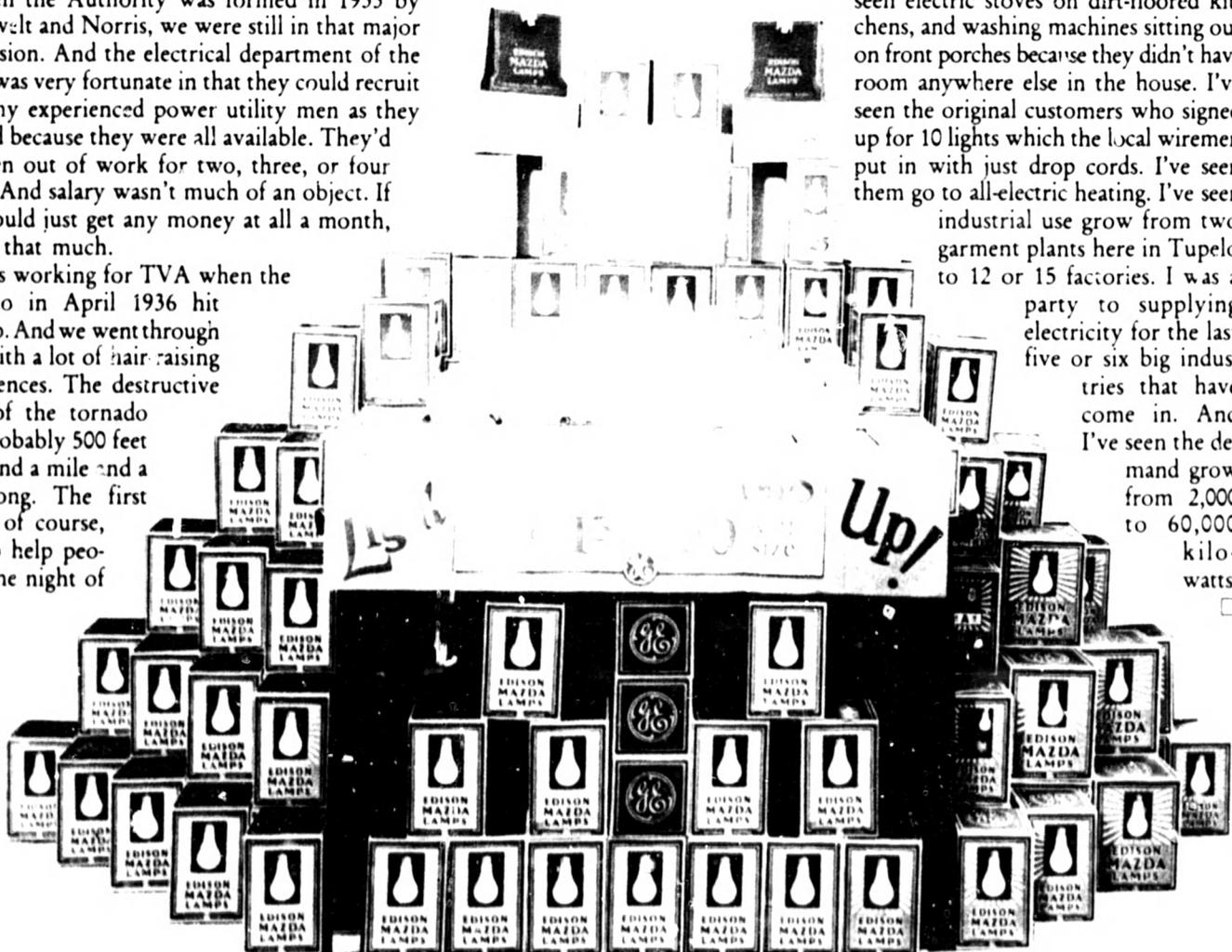
"Hydro is the tail that started the dog wagging."

TVA's top brass in Chattanooga ordered a number of construction crews in here to help us put the system back together. We made surveys of what part of our system was still standing and what was capable of going back into service. We worked about 72 hours with our boots on. It took us about two weeks to get the power back on and almost six months to put the entire system back together.

I resigned from the TVA in 1944 after 10 years and came with the Tupelo Water and Light Department. But I still had close contact with TVA because they were our supplier.

We had a good idea of how TVA might develop. But it's a little bit ironic now that the TVA was organized to utilize the power generation capability of the Tennessee River and its tributaries. Now most of the power generated is by steam, either coal or nuclear—but hydro is the tail that started the dog wagging.

The biggest change that came with electricity was to improve the living of rural people. I've seen electric stoves on dirt-floored kitchens, and washing machines sitting out on front porches because they didn't have room anywhere else in the house. I've seen the original customers who signed up for 10 lights which the local wiremen put in with just drop cords. I've seen them go to all-electric heating. I've seen industrial use grow from two garment plants here in Tupelo to 12 or 15 factories. I was a party to supplying electricity for the last five or six big industries that have come in. And I've seen the demand grow from 2,000 to 60,000 kilowatts.



In February 1934, consumers in Tupelo, Mississippi, began to light up with TVA power.



"... We were going to fight TVA as long as there was breath in our body."

--Fred Key

The Middle Tennessee Electric Membership Corporation became a TVA power distributor December 10, 1936. Fred Key was an employee of the Tennessee Electric Power Company from 1934 until 1939 when they sold their properties to TVA. He then signed up with the Middle Tennessee Electric and "climbed poles, built lines, wired houses, and sold appliances." Mr. Key became manager of the system in 1971, and after 41 years of service, retired in 1980.

The Tennessee Electric Power Company kept telling us employees that we were going to fight TVA as long as there was breath in our body. At the same time, they were negotiating the sale of properties to TVA. The first that we knew about the sale we read in the paper. And there were no provisions made whatsoever for the employees. It was just find a job if you could, and a lot didn't. I transferred over to the Middle Tennessee Electric in 1939, a few days before the transfer of the Tennessee Power properties. As soon as the dust settled and things were more stabilized, the co-op began adding on further extensions of the electric system there.

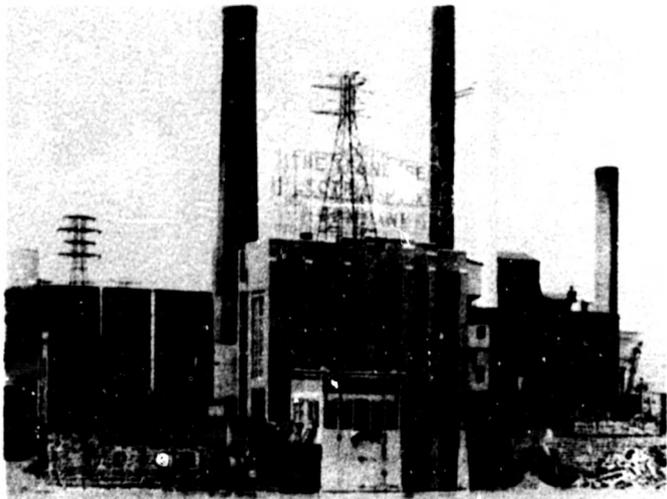
"The REA was the banker who furnished the money."

The basic problem was that there were no means of financing because first, it was an accepted belief that the farmer didn't want electricity, and second, if he had it, he couldn't pay for it. So, there was no financing available until the Government, the pioneer that it was, and Roosevelt, had the vision to see that something needed to be done in providing electric service to rural Americans.

The REA, the Rural Electrification Administration, was the banker who furnished the money. But it was not available for unlimited extensions—you had to compete for every dollar that you could get from REA. It was a problem of taking what resources you had and doing what you could to get the best coverage.

"We bought 15 tons of steel guy strand and strung it for conductor."

In 1940, we built 232 miles of distribution line and further extended the system. A similar project was underway in 1942. In the midst of that project, copper and aluminum was controlled by the military, and there was no opportunity to get the conductor to build those lines. We'd have pole lines erected and no conductor on them. We bought 15 tons of steel guy strand and strung it for conductor and didn't replace it until long after the war was over when material became plentiful.



This Nashville Steam Plant belonged to the Tennessee Electric Power Company (TEPCO), which operated from 1922 until 1939 and served over 700,000 consumers. After intense legal battles over TVA's right to exist, TEPCO sold its properties to TVA and the local distributors.

After the war in 1945, we had a 5-year, built-up demand for electricity. And I'd say that we went from 20- or 25-percent coverage in 1945 to 90 percent in 1949. I have been told that the electrification of America was the greatest works program the world has ever known at that time.

But everybody didn't want electricity because they were afraid of it. Many didn't want encroachments on their properties or they didn't see that they could afford it. They had lived 40, 50, or 60 years without it—electricity was too much of a luxury. I recall we were trying to build a line about 12 to 15 miles to a community. There were two farms, one on either side of the highway. Both were elderly people, and neither wanted electricity and didn't want any encroachments on their property. They had the line blocked to this community. I drove to one gentleman's house about 9 a.m. and told him I'd come to get an easement for the powerline. He said, "You're not going to get it," and I said "I'm going to stay until I do." Well, that night about 10 o'clock, he signed an easement.

"Mister, that's my property line, and I own it sky high and hell deep. You get off and stay off."

Two other elderly women were in the same situation. I went by to see them and told them we were trying to build a line to serve those people down at the other end. The lady stepped down off the porch, walked across the front yard, out to the edge of the highway, set her heel down and said, "Mister, that's my property line, and I own it sky high and hell deep. You get off and stay off." That was the way of the farm people—they were all rugged individuals.

One program we had in the earlier days was meeting with some of the community leaders at rural schools. We'd explain to them what they had to do to get electricity extended to their community. We also selected certain appliances and promoted it by demonstration. For example, we'd have students in schools make study lamps by a kit, and on a given date, we'd gather in the school building and assemble those kits. The lamps improved their ability to study, and they used electricity. We

did the same thing with early milk coolers or little chicken brooders. These were the crudest, makeshift things, but they served a purpose.

And if you'll look at the increased use of electricity, you'll find that Middle Tennessee Electric had the sharpest increase and one of the highest average use per consumer of any cooperative in the Tennessee Valley area. This was accomplished in part by our promotions. We'd give our employees a commission to sell electric appliances—we'd sell electric blankets, percolators, and thousands of fry pans. We take just one item each year and promote its sale.

You were trying to accomplish something—trying to build something for the good of the country, for the good of the people in this area. We were trying to improve the standard of living for the rural people in Middle Tennessee.

"TVA was the white knight in shining armor . . ."

As for TVA, I've always found them to be very helpful. But TVA is a creature of the Government, and they have a mandate from the Congress. You can't divert them from it. But every time I asked them to go to bat, if they can do it within the confines of their responsibilities, they would. Up until the last decade, TVA was the white knight in shining armor, the best thing that came down the road. □



In 1943, a young farmer tries out a chicken brooder, which was promoted in demonstrations by the Middle Tennessee Electric Membership Corporation.



"The co-ops started in a bear trap. We had to work our way out."

--Bill Manton

The North Georgia Electric Membership Corporation (NGEMC) was energized into the TVA power system July 14, 1936, and became the first TVA power distributor in Georgia. In 1936 Bill Manton worked in a TVA construction crew and "set the first pole" for NGEMC. In 1938, TVA persuaded Mr. Manton to become manager of NGEMC, and he was able to negotiate operational issues with the Georgia Power Company for the first time. Mr. Manton retired in 1973.

I owned the Woodland Power and Light, a small plant about 30 miles from Tupelo, Mississippi. I was getting 7 cents a kilowatt-hour for current, and TVA was selling it for 3 cents. I looked them over and decided I couldn't whip them. Werner Thaxton, the division manager at Tupelo, asked me to work for them. I said, "I don't know if I can work for somebody after they just took my property." We joked a bit, but I went to work at TVA as a construction engineer in 1935.

I had four construction crews, about 20 men each. We started putting rural electrification together, and we came up with about four co-ops—Ponotoc, Amory, Corinth, and one in Tupelo.

In 1938, TVA got after me to manage the North Georgia Co-op because they were in trouble down there. The organization was about bankrupt because the Georgia Power Company was smothering them in. They were all around them taking all the business. The co-ops started off in a bear trap, so to speak, and we had to work our way out. We sat down and had a good talk with TVA about what we were going to do. TVA was quite concerned about this unit because it was the first time they had broke over into Georgia.

They felt it would be a terrible slap at them if the only unit they had in Georgia went broke and the power company took over.

"You don't know what you are getting into signing up with this co-op."

One trick used by the power company was to hire the most influential man they could find in the town. They would send him out to talk to the key people in the community and try to stir up doubt. This one man told a customer, "You don't know what you are getting into signing up with this co-op. I bet you didn't know that if you sign up with them, give them right of way, and take power, you become a part of it. Well, if a man gets his horse killed up here in Catoosa County, you have to help pay for it because you are one of the group." It got that man all upset and scared him to death. It just happened that I came along there about 30 minutes later. And I said, "I'll tell you what—we can go up town and get you an attorney. I'll sign an agreement that anytime you have to pay out one penny on somebody's horse or other damage, you just give me the bill, and I will pay it for you." That convinced him.

The Georgia Power Company was owned by the Southern Company, and they had overall control of the power distribution in the State of Georgia, but we became the first TVA distributing unit to negotiate a territorial agreement with them.

“... You had better come in here and play ball with us.”

TVA said to me, “You are doing a pretty good job down there horse trading with the Georgia Power Company. You can trade with them better than we can, and they are looking for a buffer between their operations and ours. You can negotiate with them on problems that concern both of us.”

We discussed it pro and con, and finally it came out that NGEMC would negotiate the interchange points. For example, we may have needed another substation 20 miles down the road, but TVA didn't have transmission lines any closer than Tennessee. They said, “We can't build transmission lines 75 miles just to supply a 1,500 kVA substation.” So I negotiated with the Georgia Power Company for the supply pickup point. I sold them on the basis that you can't whip the TVA because they are too big. They are sitting right up there on top of you, so you had better come in here and play ball with us. Let us stand between you all. We are little—everybody knows you can run over us. But you are not going to do it because we are known as the TVA distributors. We can act as a buffer between your operations and the TVA. Georgia Power decided that was the logical thing to do.

We went over seven counties and worked out divisions—where we were going to serve and where Georgia Power would. They stood on the basis that they had to protect themselves around these towns. It was agreed that we wouldn't offer to serve anything closer than a quarter of a mile of any city limits in the seven counties. We will be the rural people, and you will be the city people. And that was the only salvation of the co-op.

The Government was the only organization big enough to do anything about the utility business because two or three large companies controlled the electric distribution. You had to have somebody like TVA to come in and break up the clique. The people couldn't do it. They didn't know anything about it, and they weren't financially strong enough.

“I am going to do whatever I think is in their best interest, not TVA's.”

Anytime you are dealing with people, I don't care if it is your own family, you are not going to see eye to eye on everything. As far as I looked at TVA, it was a working partner. But I felt like I could not be a good manager if I didn't take issue with them on things I didn't agree with. I am working for those people down there, those farmers, and that is the only reason I am down there. I am going to do whatever I think is in their best interest, not TVA's.

But we never had any serious disagreements. We worked it out. We both had the same interest and that was to see North Georgia Co-op be a very successful operation.□



This home near Chattanooga, Tennessee, was served by the Tennessee Electric Power Company until the family discontinued the service to join the North Georgia Electric Membership Corporation in 1937. At right, the power company line can be seen, and left, the new co-op line is pictured.

“I would get the boys together and talk with them about once a week. I would say, ‘No look, I don’t care how silly or unreasonable some of these farmers’ questions might sound to you, you have got to realize this is important to them. The least you can do is to be kind, considerate, and explain to them in a manner they can understand.’

I remember we set one fellow’s meter late one evening. He didn’t own the house, a fellow named Justice did. I stopped back by the next morning to see if the power was all right. I said, ‘How did you like your power last night?’ He said, ‘It isn’t on.’ ‘Well, you knew you had electricity in the house, didn’t you?’ ‘No, I had seen that thing on the side of the wall, but I didn’t know what it was.’ I said, ‘You have power here. You can go ahead and turn it on.’ ‘Oh no, Mr. Justice hasn’t come over and showed us how it will run yet.’”

-Bill Manton





"We hired young men off the farm with no experience, gave them 'hooks' and said, 'You are linemen.'"

--Bill Roberts

Pickwick Electric Cooperative began receiving TVA power September 1, 1936. Bill Roberts witnessed the electrification program as an agricultural engineer with the Rural Electrification Administration in 1946 and joined the Pioneer Electric Cooperative in Alabama in 1947. Two years later, Mr. Roberts left there to become manager of Pickwick Electric, and after 31 years of service, retired in 1980.

The first distribution lines in the cooperative service area were built by Alcorn County Electric Power Association. They were purchased by the co-op and operated by TVA until June 1936. Then TVA turned the operation over to the co-op. We hired young men off the farm with no experience, gave them "hooks" and said, "You are linemen." TVA and REA "spoon-fed" the distributors for the first 10 or 15 years. If they had not, I doubt seriously if the electrification program would have been a success.

Our first task, our objective, was continuity of service. In those early days, TVA owned and operated the substations. Each station was equipped with oil circuit breakers (OCBs) and a high-speed ground relay. TVA discouraged the distributors from installing any sectionalizing equipment other than fuses. So every time we had an electric storm, scores of fuses would blow, and hundreds of members would be out of power.

"Something had to be done to keep the power on."

We decided something had to be done to keep the power on—farmers had pig and chicken brooders and other electric equipment that were affected adversely when the power was off. We went to a manufacturer of pole top sectionalizing devices known as OCRs and asked if they could help us with our outage problems. The manufacturer said they could, but they didn't tell us that TVA opposed the use of this equipment.

We made a sectionalizing study and started installing OCRs. Our power outages dropped astronomically. But TVA heard about it, and they like to have had a duck-dying fit. Their primary objective was to protect the substation transformers and let the distributors worry about keeping the lines hot. Of course, in those days a \$50,000 transformer was a tremendous, expensive outlay of cash. TVA had a problem, but we had one, too. TVA had engineers who were knowledgeable of the distributor's problems in regard to continuity of service, and it was eventually worked out. TVA's high-speed ground relays were taken out and more sophisticated relay equipment installed. This was in 1950 and the beginning of more reliable service for the rural area.

Many electric cooperative boards thought it was awful to try for area coverage—electric service to everyone. The

Board of Trustees would say, "Bill Roberts, we never will pay the long-term debt with you building a mile of line to serve one member." Well, if we really believed in the concept of electricity for everyone, then we managers just continued to push to get power to everyone.

"My power is off, and all these pigs are going to die!"

As late as 1955, we had one man living in what we call the Big Hill Pond area, an isolated region without electric service and almost no roads.

But he kept coming in and asking about electric service. Eventually we built the powerline to him—about a mile and a half of line, and every foot of it through solid wood. No telling how much it cost the co-op to build that line.

We put the man on a \$15-a-month minimum bill for five years. A few months after he received electricity, he had purchased a refrigerator, a freezer, a washing machine, and an iron and installed a farm water system. His monthly bill, instead of being the \$15 minimum, was running \$20 to \$25 a month. Each time he came in to pay his bill, he would be grinning from ear to ear and still most appreciative of the service.

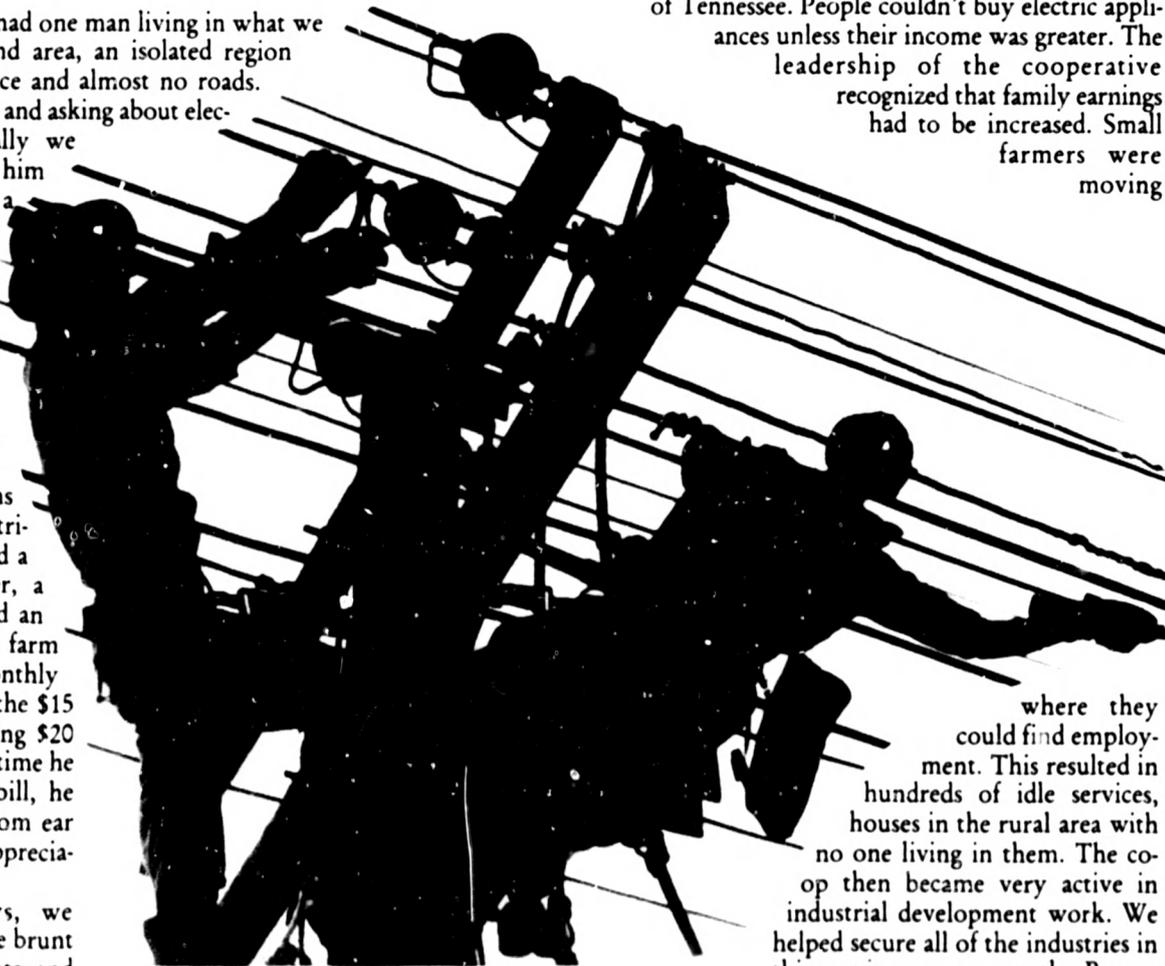
In the early days, we managers did catch the brunt of consumer complaints, and they didn't want to talk to anybody but Bill Roberts, day or night. One of the coldest nights we have had in McNairy County, a farmer called about midnight and said, "I have 10 or 20 sows that just farrowed today. They're under heat lamps, my power is off, and all these pigs are going to die. What in the hell are you going to do about it, Bill?" I went out with the line crew to see if we couldn't get the power back on in a hurry. We managers had a sense of responsibility towards the people we serve.

We had begun to have farmers raise brooder chickens and pigs using electricity as the source of energy. If the power went off, then the chickens would start flocking together and would smother each other. I have gone into a chicken house where there would be as many as 5,000 dead chickens. Sometimes the farmers wouldn't even know that the power had been off. We tried to get them to put in emergency lighting equipment or power-off alarms, but with little success. They thought electric cooperative folks knew when their lights were off.

One of the first promotions I recall was one where the co-op would change out the service entrance. Most of the first services were 30-amp, 2-wire, 120-volt. If the member would buy an electric range during this promotion, the co-op would change the servicing to a 60-amp, 3-wire, 240-volt. As a result of this promotion, a railroad car of electric ranges was sold in this service area.

The co-op had to promote the use of electricity. TVA had the capacity for load building, and the cooperative needed the revenue.

McNairy County was a poor county—per capita income was almost at the bottom of the list for the State of Tennessee. People couldn't buy electric appliances unless their income was greater. The leadership of the cooperative recognized that family earnings had to be increased. Small farmers were moving



where they could find employment. This resulted in hundreds of idle services, houses in the rural area with no one living in them. The co-op then became very active in industrial development work. We helped secure all of the industries in this service area except the Brown

Shoe Company plants. In this area, there was plenty of good labor and low-cost electric power. As manager of Pickwick Electric, I played an important role in the organization of the West Tennessee Industrial Association, and the power distributors still support it. We have some good plants in McNairy County now, and they have been most successful.

One of the major changes in the co-op operation was better qualified, more experienced personnel. Most had a staff, an office manager, a power utilization specialist, and an engineering department headed by a graduate electrical engineer. Most of the early managers maybe hadn't even finished high school, much less have a degree in engineering. As the years went by, the distributors had personnel who were qualified operators. We saw less of TVA.

But we early cooperative managers recognized the tremendous contribution TVA personnel made in the first years of our existence. Without their dedicated assistance, we would have never made it. □



“I recall one time we had built a section of line into a community without electricity. We had energized the line late in the afternoon and thought, ‘We will not set the meters until tomorrow.’ But someone said, ‘We’re too near to having these people with electricity. Let’s just stay here, set all the meters, and give them service tonight.’ In one home, I never will forget it, there was a 4- or 5-year-old child. We set the meter and then asked the mother to turn the light on to make sure everything was okay. When she turned the light on in the living room, she commented, ‘Oh, the spider webs!’ She hurriedly got her broom and started to sweep the spider webs off the ceiling. The child started yelling at his mother saying, ‘Mother, don’t sweep the spider down—he just wants to see the lights, too.’”

-Bill Roberts



"Then TVA power came into the area, and TVA was like the word 'motherhood'—it was on everyone's lips."

—Paul Tidwell

On August 16, 1939, the Meriwether Lewis Electric Cooperative began distribution of TVA power. Paul Tidwell was employed with the Tennessee Electric Power Company until TVA purchased their properties in 1939. Then, when Meriwether Lewis was organized, he was hired as the co-op manager and witnessed the tremendous demand for rural electrification when "everybody wanted it yesterday." He retired as manager in 1973.

When I worked for the Tennessee Electric Power Company, we used every ploy in the book to keep TVA out of this area. When TVA lines began to filter down into the communities, we began to think that the world had come to an end because the big, bad wolf (TVA) was going to devour us all. We were against TVA because it was against our philosophy at that time being a private power company—they were going to put us all out of business.

However, the Tennessee Electric Power Company realized that maybe TVA had something in their theory that powerlines had to be loaded with appliances to make them successful. Our employees began to, in addition to our other duties, sell appliances. We sold merchandise at cost to get it on the line to build load. And this was one way to compete with TVA—to create enough electric use so that rates could be lower through quantity selling. Sure enough, kilowatthours began to flow through the meters, and the power company began to lower its rates. By the time it had reached the selling-out stage, the power company's rates were almost competitive with TVA.

"When TVA lines began to filter down into the communities, we began to think that the world had come to an end . . ."

A lot of people had just accepted the fact that, "Well, electricity is something we'll never have." This was because their approaches to the Tennessee Electric Power Company had always received a negative answer. Then TVA power came into the area, and TVA was like the word "motherhood"—it was on everyone's lips.

Some activity began in 1941. But nothing really happened until 1946-1947 as the boys began to get back home from the war. They had seen the bright lights, and interest began to flow. The county agricultural agents in our five counties became involved. They began to have community meetings to organize volunteer groups to sign applications for electric service. Once these applications began to pour in, we woke up one morning and found ourselves with about 3,500 homes that wanted electricity all at one time. That was one of the biggest problems then—everybody wanted it yesterday.

Materials were still almost unobtainable. And the power companies were our enemies all over the country. They wouldn't let pole suppliers sell us the poles or wire. We had to fight that down.

The Tennessee Rural Electric Cooperative Association was organized as a service organization, and working together we sought the solution to the material shortage problems. We decided to get a group pole order together which might interest suppliers. We had a 50,000 pole order, and I was appointed chairman of the purchasing committee to see if I could interest anybody in selling us poles. I traveled along the Atlantic Coast area and visited all the creosoting plants and timber companies that I could find. Everywhere I went I got the cold shoulder. In some places, I actually got invited out because they said, "Well, this cooperative thing is socialistic, and we're not interested in it. The American Telegraph and Telephone Company and the railroad companies have been our prime customers over the years, and we're going to stay with them." So I didn't make any progress.

But the REA, which was a government body set up to furnish financing for the rural electric cooperatives, was working through the Department of Interior on this problem. They found a man in Texas who wanted to get in the pole-treating business. He told us, "If I could get \$50,000 together, I could get into the pole business. I could ship you fellows in Tennessee poles almost as cheaply as you can get them from the Gulf Coast."

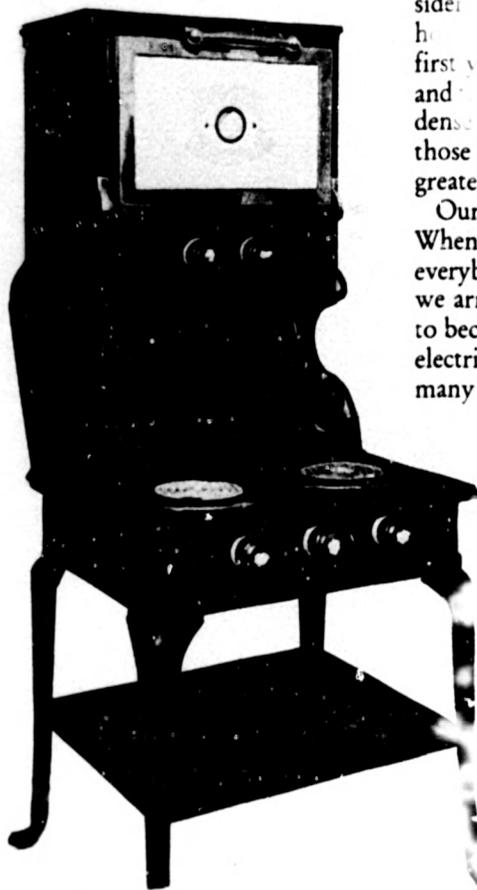
"Well, this cooperative thing is socialistic, and we're not interested in it."

Each of our co-op people who had orders agreed to advance a dollar per pole to supply the needed capital. The creosote company set up their plant, got rolling and shipping poles. When the other people I had visited learned that we were buying poles through this Texas source, then they all began to come in and say, "Look, we've taken a second look at you fellows up here, and we want to sell you some poles." I let them know right off that we didn't particularly need them. They needed us. And that was the breaking of the pole jam.

Even if we could get the materials, just getting rights of way over the property, easements signed, contracts together, and money to finance all that construction at one time was a massive problem.

You can't imagine the pressure I received as a manager from the various counties and community groups who would say, "Let's go over and see Mr. Tidwell about getting electricity for our community."

I called on TVA for help. Jack Eakin, TVA's district manager in Nashville, sent Paul Button to work with me on trying to find an acceptable method of meeting a 5-year construction pro-



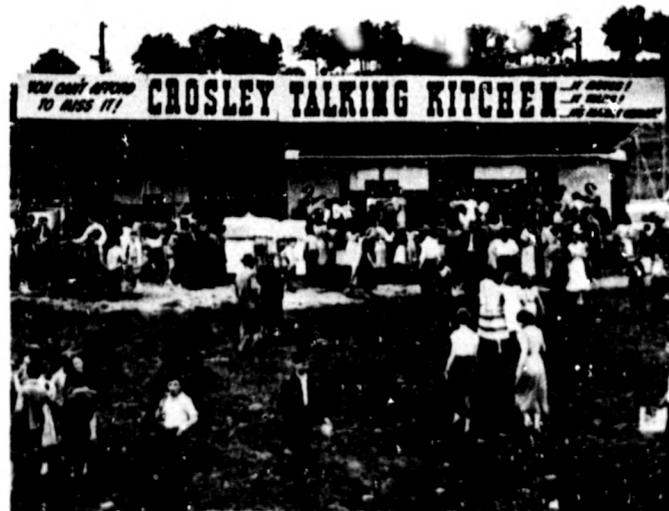
gram. Working with our survey maps, we gave first consideration to those areas where we could get the most homes connected with the fewest miles of line in that first year. We drew a colored line around those areas, and that was project number one. Then we took the less dense areas and drew a different colored line around those areas for the remaining years. That map was the greatest tool we ever had.

Our applicants reacted very sensibly for the most part. When I explained that it was humanly impossible to get everybody hooked up in the first year and explained how we arrived at these areas, it didn't take too long for it to become pretty well accepted. In seven years, we had electrified the homes of the people who had signed, plus many others who signed up as construction progressed.

"They just didn't understand the many uses of electricity."

After we completed a portion of our construction, we began to develop the area economically. We put a lot of emphasis on electrical development. TVA organized a group of people and provided them with appliances to be demonstrated. They purchased a circus-type tent, truck, and all the equipment to establish a caravan of appliance and promotional materials. We were trying to get farmers, then to accept feed grinders and other labor-saving devices. They had to be shown, and it took a lot of selling. The "just didn't understand" and the many uses of electricity.

Then we tried to develop industrially by interest plants in moving into the area. We experimented in establishing the Middle Tennessee Industrial Development Association, and we employed a specialist from the lumber industry and promote our area. We had a lot of resources going for us. □



Circus-style promotions of electric appliances were staged across the Tennessee Valley as pictured at the 1950 annual meeting of Pickwick Electric Cooperative.

Above, the electric range, one of the oldest in Chattanooga, Tennessee, replaced the wood-burning stove as a labor-saving kitchen appliance.



"I think the Lord brought me here for a purpose—to serve the people, to bring in electricity, and to improve the area."

—Mark Stewart

The Sand Mountain Electric Cooperative became part of the TVA distribution network July 19, 1940. Mark Stewart worked two years for the Tennessee Electric Power Company but then came to work for TVA in property records in 1939. Following the recommendation of an REA representative, Mr. Stewart became manager of the Sand Mountain Co-op July 1940 and, after 32 years of service, retired in 1972.

I was with the Tennessee Electric Power Company until they sold out to TVA. Then I worked with TVA in property records during the first part of 1940. At that time, they organized two co-ops, Sand Mountain and North Alabama. The REA man who was working with TVA knew I wanted to get in the management of a co-op, and he recommended me.

I came down to the Sand Mountain Co-op July 1940, and I will never forget that morning we started. We took over an office in the old bank building, which TVA had been using for a warehouse. They were getting stuff out, and we were trying to move in. I remember there was a line a block long with people. So I spent the whole day talking to folks coming in about getting TVA power.

"Ai! right, I'll get you the money."

We started signing folks up, and we had just under 4,000 signups. In early 1944, we had a meeting with the REA application and loan division. The man in charge wanted to know how much each co-op in this area was going to do when the war was over. He called the roll, and most everybody said just 100 to 200 miles of line. Finally, he called on me, and when I said 1,200 miles of line, I bet he jumped that high off the floor (he held his hands two feet apart). He said, "How's that?" I said, "We have 4,000 signed up. We've got the requirements to meet it, and we're going to build it as quick as we can." He said, "All right, I'll get you the money." The other co-ops hadn't signed up, and they didn't know what they could do. We signed ours up, and we knew just exactly where we wanted to put the line.

"I never got so mad at anybody in all my life."

The bad thing was after we got the signups, we found out we weren't going to be able to build the lines all at once. We were going to contract the work out to four different contractors, divide it up about 400 miles each. But the REA engineering department came back and said, "No, you can't do that. Somebody else has to have some materials. You can't have it all." But I said, "We're ready, and they're not." But they wouldn't approve but about 300 miles of line—one contract. They spread us out over five years building 1,200 miles of line. I never got so mad at anybody in all my life.

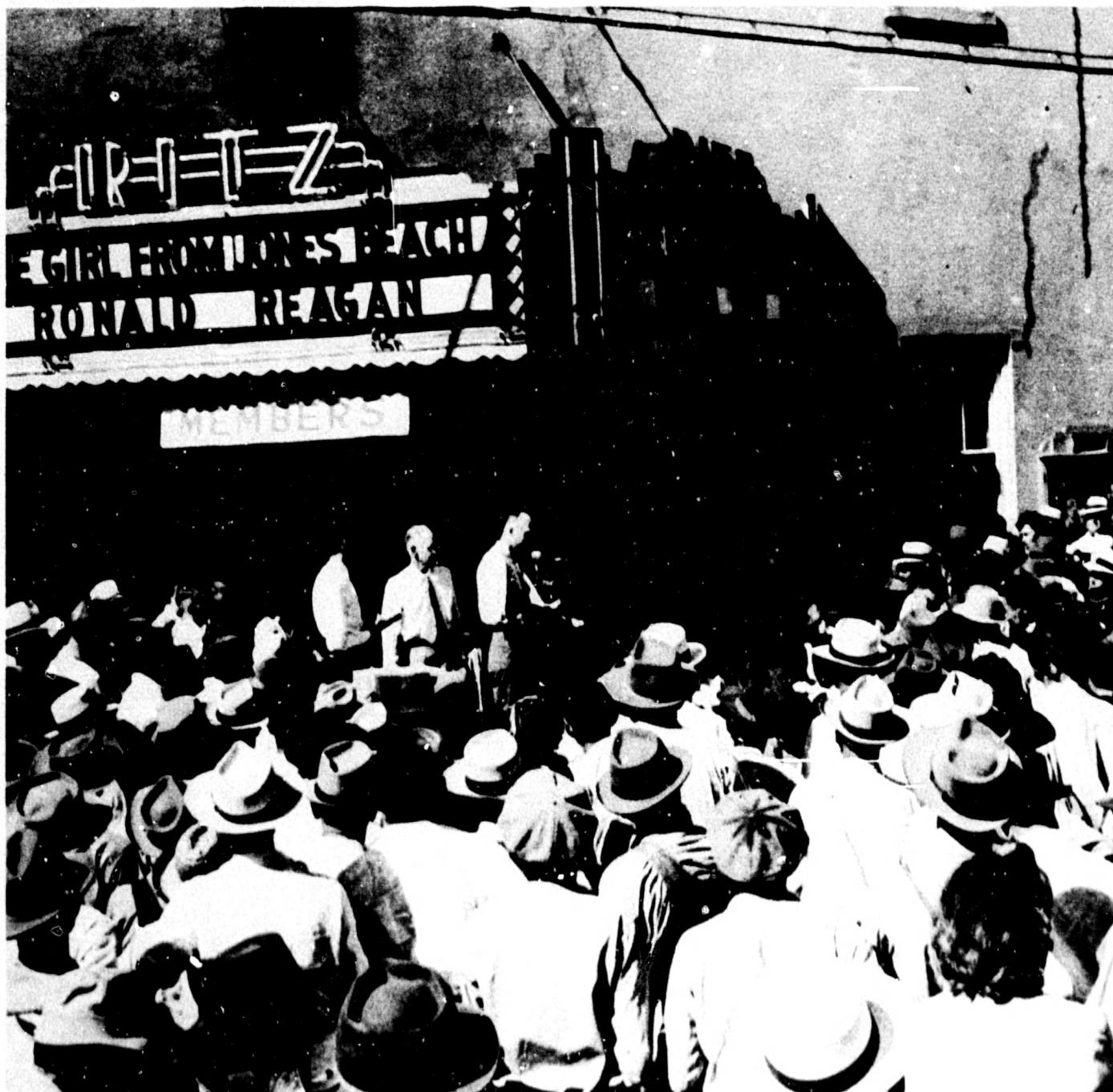
Of course, everybody wanted electricity. Farmers came to me and said, "I've got to have electricity by the time the war is over. My son's already told me, 'Daddy, if you don't get electricity, I'm going somewhere else.'" At least 100 farmers told

"Daddy, if you don't get electricity, I'm going somewhere else."

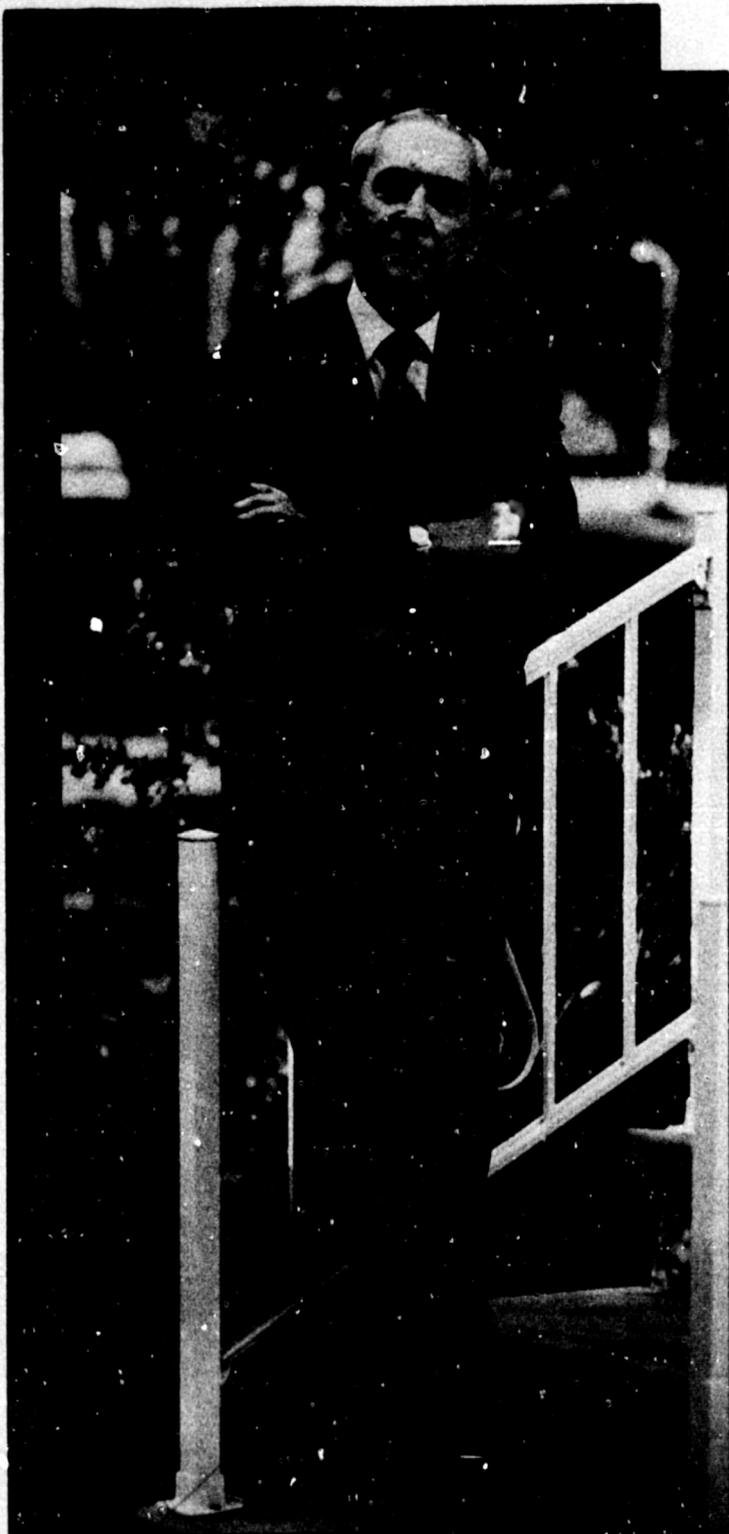
me that. I told them I was awfully sorry, but I was afraid they couldn't get it by the time the war was over. We'd get it to them as soon as we could. They understood, but they weren't happy.

I remember in energizing that first 100 miles, we got down to one house on Christmas Eve. There was a Christmas tree set up with lights on it. They wanted to know if they were going to have electricity for Christmas. I said yes and waited there for a few minutes for it to come on. When that Christmas tree lit up, you never heard such shouts of joy as those children made in all your life.

I was a rural man myself. And I wanted to see the rural folks be in as good shape as the folks in town—I wanted them to have electricity. I see them now, the old folks, and they still appreciate us bringing in electricity and remember what it did for them. It makes you feel good. I have said that I think the Lord brought me here for a purpose—to serve the people, to bring in electricity, and to improve the area. □



The Ritz Theater in Oxford, Mississippi, hosted the 1949 Annual Membership Meeting of the North East Electric Power Association. How times have changed! (Check out the movie star on the marquee billboard.)



"With the price of coal, wages, and money going up, I knew TVA had to raise rates."

Walter Anderson

On January 4, 1935, Pulaski became the first town in Tennessee to receive TVA power. Six years later, Walter Anderson was appointed manager of the system. After World War II, he was authorized by the City Board to expand the rural system, making TVA power available to consumers in Giles County. Although 60 percent of the system's customers were rural or residential, Mr. Anderson was proud to offer low rates to all the consumers. After 33 years of service, Mr. Anderson retired in 1974.

Pulaski (the town itself) had electricity as far back as 1890 with a \$10,000 investment in some small diesel engines. They operated strictly as a municipal system until TVA power was turned on here January 4, 1935. TVA came in here and built rural lines. Later on we paid them off for those. In 1939 we bought the Tennessee Electric Power Company properties in Giles County, which was mostly rural lines. After World War II, we embarked on a program which finally amounted to about 1,000 miles of line, both rural and urban. My problems were very similar to the co-ops because we were 60-percent residential and rural.

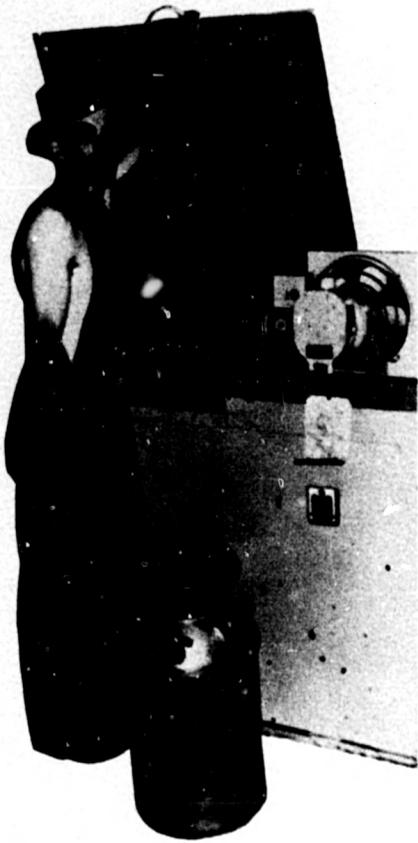
"It really took World War II to sell the farmers on the value of electric current."

But we financed all of our construction with revenue bonds issued in the name of the city of Pulaski Electric System. We never did borrow money from the REA. I was already dealing with one Government agency, the TVA, and I didn't want to get involved with another one because there were occasionally conflicts between the two.

There wasn't any resistance to TVA coming to Pulaski because they were selling power so much cheaper than the city could generate it themselves. They were glad to get out of the generation business because these small power plants would wear out before they could retire the bonds on them. But it really took World War II to sell the farmers on the value of electric current. TVA had a hard time getting people to sign up when they came because first, farmers didn't have the cash monthly income, and second, they didn't realize what it could mean. Back then, this was a big dairy county, and when the war came on, a lot of young men had to go. Then the farmers were left with all the cows to milk and that's when they began to come in and apply for electric service.

After the war, everybody wanted electricity at most any cost. But we couldn't get the transformers or the wire. It was just a battle. Beginning in 1946 when the City Board authorized the first \$600,000 bond issue, I guess it took us eight years or until about 1954 to complete our rural electrification program.

One problem we had was the price of heating oil went up, the price of coal went up, and the price of electricity



stayed the same. Electricity was so much cheaper that the demand for electric heat became overwhelming. There was a lot of pressure to keep the lines in shape. It would turn cold, and there'd be a big rush to the hardware stores that were selling electric heaters. And they'd slap those heaters on. They'd be served by a 5-kVA transformer, put a 4-kW heater on it, and it would blow up that night. When all the electric heat was turned on, you just never knew what was going to happen, whether your substations were going to make it or not.

TVA didn't want to install a second substation until you reached a certain kilowatt demand. But I couldn't afford to wait that long because the load was growing in a different direction from where the power supply was. So in 1962 we signed a lease-purchase agreement with TVA where we could take over the 46-kV lines and stations. That was a big responsibility. We had to do that in order to get sufficient supply of electric power to our industrial park and be able to put substations where we needed them. Another advantage in this was that we could take a substation off the line and still keep service on to our customers when we had maintenance work to perform. You didn't have all your eggs in one basket. As a result, we built four 46-kV stations after the lease-purchase agreement went into effect. We had this town surrounded, and the people were getting better service.

With the lease-purchase agreement, we were also able to attract more industry to this area. I remember one industrial development association manager called me and said he had a prospect who was going to leave the State if he couldn't get power. I said, "Send him down here to us. We can serve him."

This prospective customer had a 2,500-kVA arc furnace, and he wanted to locate in a small town. We already had one furnace on the line, but we could take another one because the substation was large enough. As a result, this customer located in Pulaski, and they're one of the higher paying employers in this immediate area.

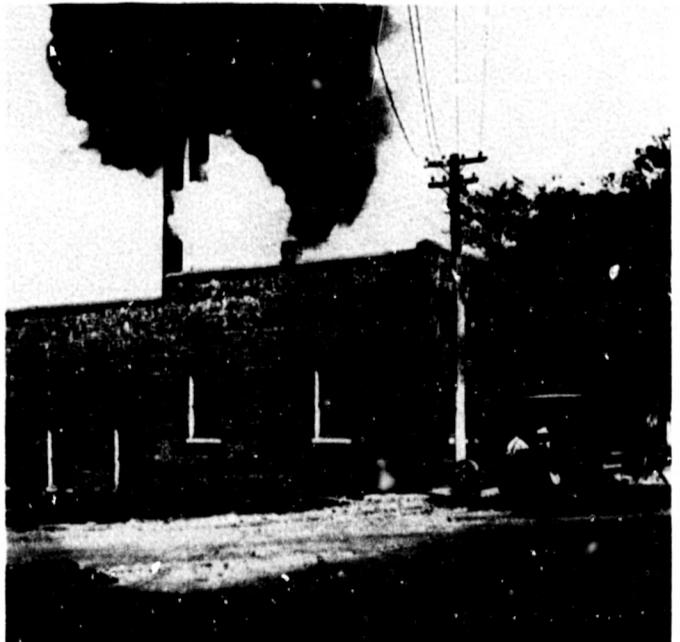
We had to bring industry here because it was strictly a rural area, and farmers couldn't employ everybody. The State had an industrial development department, and then the city set up an industrial commission—they were a big help. One of the first things the industry would want to talk about was our service and what the rates were. It took us a long time to get off the ground. It was a big responsibility to supply a company that's employing 1,200 people because when 7:00 comes every morning, you've got to have the electricity there, and you've got to keep it there all day long.

"There was very little criticism of TVA until the rate increases began."

There was very little criticism of TVA until the rate increases began. TVA had sold everybody on low rates forever, and when rising costs hit, TVA wasn't prepared for it, and the public wasn't either. David Freeman said that low rates were a religion in the Tennessee Valley, and that's why he was having so much resistance to rate increases. But they had to come.

With the price of coal, wages, and money going up, I knew TVA had to raise rates. I disagreed with TVA on some things, but when it came down to the fundamentals, I realized that this was what they had to do. And every time we made a rate change, I put advertisements in the newspaper explaining what the increase would mean to customers using 100, 300, 500, and 1,000 kilowatt-hours per month. Then I'd meet my customers at the front door and explain to them eyeball to eyeball why the rates were going up.

But, all in all, it is very gratifying to know that we have lived and worked in an era when we had an abundant supply of low-cost electricity. We have been a small part of the force that raised the living standards of the people in the Tennessee Valley. □



Pulaski, Tennessee, generated power for its consumers until the city began distribution of TVA electricity January 4, 1935.

Above, dairy farmers soon learned the value of electricity as demonstrated in their use of early milk coolers.



"We were led to believe that the society of cooperatives could never succeed."

-Charles Stewart

On June 11, 1942, the Warren Rural Electric Cooperative Corporation began receiving TVA power. Charles Stewart became the co-op manager in 1948 after working for the Kentucky/Tennessee Light and Power Company and another co-op in Glasgow, Kentucky. Although not intending to stay in power distribution, Mr. Stewart retired as manager in 1980 after 32 years of service. "As it turned out, I don't know of anything that I would have enjoyed more." Stewart said.

As an employee of the Kentucky/Tennessee Light and Power Company, we were very much opposed to the coming of TVA. We were led to believe that the society of cooperatives could never succeed. It would be taken over by the power companies, and we would operate them eventually because they would all go broke. Of course, that didn't happen. Instead the company I worked for sold out all their properties in Kentucky and Tennessee to TVA or the distributors. And the holding company, Associated Gas and Electric, went into the hands of a receiver.

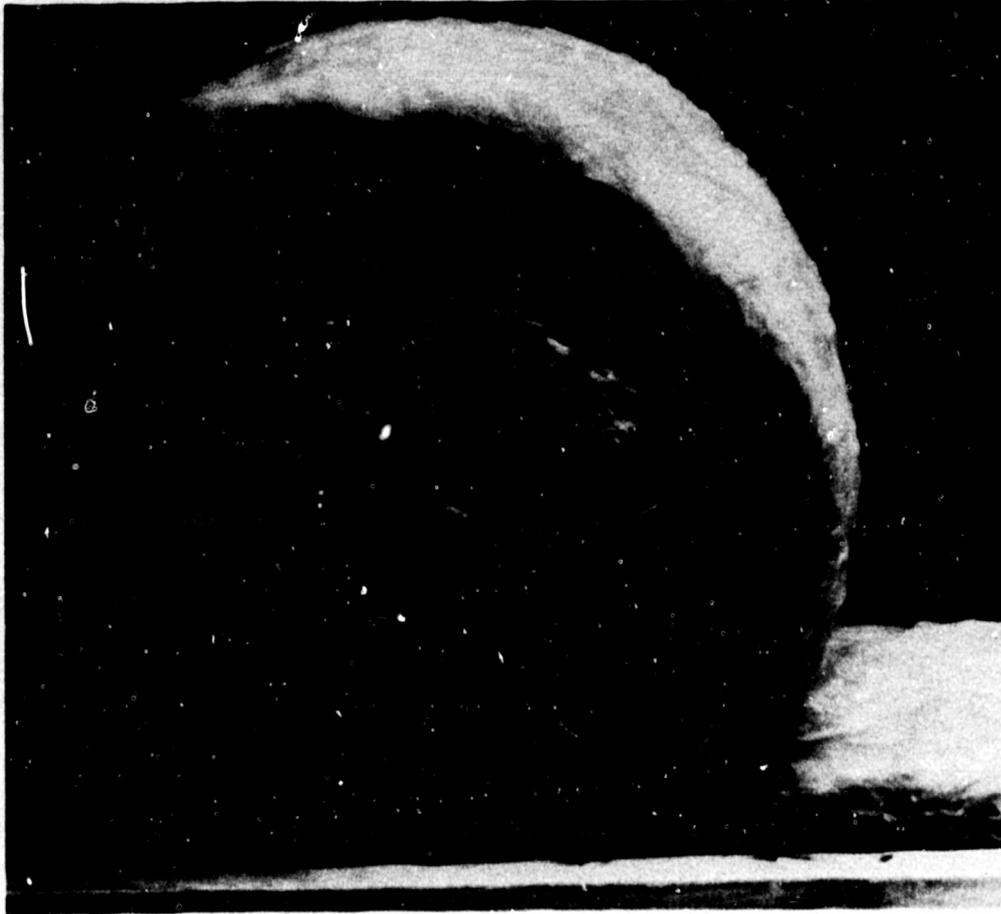
"If you had so many cows or so many hogs, why you could build so many feet of line."

REA was created, first as an executive order of President Roosevelt. Shortly after that, Congress passed the REA Act setting up a loan program for lines to serve rural areas. The first effort was to entice the power company to extend into the rural areas. But most power companies throughout the Nation didn't think that it was economical even though they could borrow money at very cheap rates, maybe around 3 percent. Then the idea developed of forming co-ops, and they had been done in the middle West on one or two occasions. TVA formed a cooperative at Tupelo, and they loaned money to help do this, even before REA. So, a lot of credit goes to TVA for initiating that program.

Kentucky, as most States, passed an REA Act that made it possible to form cooperatives for this purpose and borrow funds. Then, people who were interested in getting service got together with an attorney and formed their own organization. These people who were interested in service, farmers mostly, just rode the roads and got people signed up. Warren was organized in 1938.

When the co-op was formed, about one percent of the people in the rural area had electric service. And during the war years, you were restricted on construction. The only way you could build any extensions was what they called on an animal unit basis. If you had so many cows or so many hogs, why you could build so many feet of line.

The push was for service, but in some cases, the customers didn't understand anything about electricity. We got a letter from a customer who said he came from



Insulation symbolizes a new era in which energy conservation programs lower consumers' power costs and increase efficiency.

the head waters of Dog Creek and had never seen a meter before. He wanted somebody to show him how to read it, and beside that, his lights wouldn't work. A lineman went up there and

"When I get that electric hot plate, I'm going to put my still on that, and it don't make no smoke."

checked it out. He said, "Mr. Clark, you don't have any fuses in there." So, he put in some fuses and said, "Now pull the handle on the pull chain out there." The power still didn't come on. He looked up, and there wasn't even a light bulb in it.

Another time, we had a good old boy who was signing up people in Edmonson County. He went up to a little shotgun house making certain the people wanted service. At one home, our employee said he looked around the yard where the grass was all beat down by the hounds and barefooted kids, and said, "Well, do you understand, it is very expensive? It is going to cost you \$2.75 a month, no matter how little you use." The customer said, "Listen here, bud, don't you worry about me paying that electric bill. When I get that electric hot plate, I'm going to put my still on that, and it don't make no smoke." I understand electricity was used for that purpose.

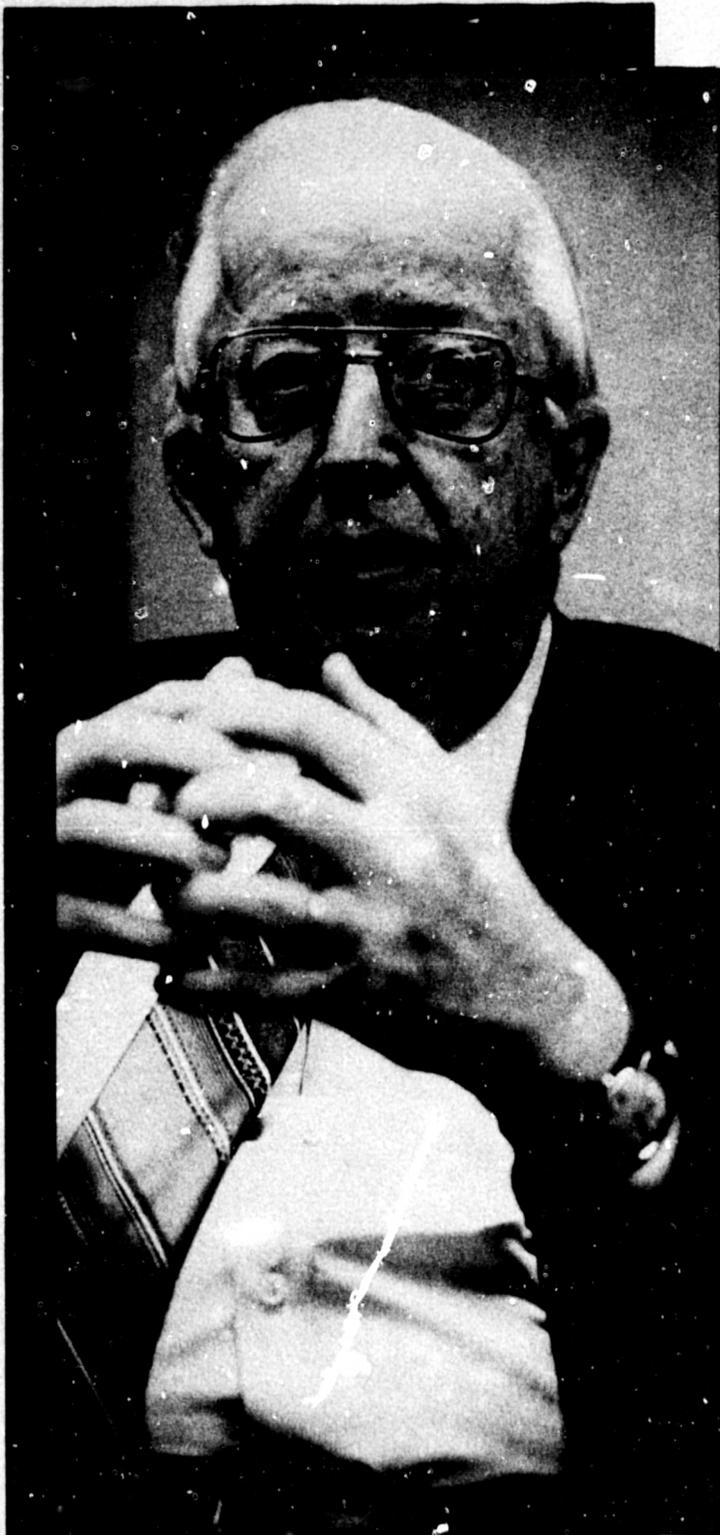
Warren participated with TVA in most of the promotional activities even to the point of paying cash rebate incentives.

When the power started going up then, we put in one of the first insulation programs in this area before TVA was talking about insulation. We have participated in the conservation programs. But we never did try to tell people that if they wouldn't use power, their rates wouldn't go up, which seemed to be the philosophy of TVA.

Back in the early days, the goal was to get service to people who didn't have it as quickly as possible. Now, I think one of the toughest things to do is to get service to people as efficiently and as cheaply as possible because of the big increase in electric rates. One of the problems the distributor has now is that the members of the general public think the distributor has more control over cost than he actually has. People tend to be critical and have a lack of understanding. One thing we did was appoint an advisory committee of leadership throughout the rural area, which met at least once a year. At those meetings we tried to

"We put in one of the first insulation programs in the area before TVA was talking about insulation."

tell them what our problems were and bring them up to date. If they get mad at a grocery store, they can go somewhere else. But if they get mad at us, well, they've got to come back every month. And that's a disadvantage to our public relations. □



"There was a difference in philosophy, and words got a little rough at times."

John McQueen

After two years of negotiation with the Tennessee Electric Power Company, the Chattanooga Electric Power Board began distributing TVA power January 23, 1939. John McQueen first came to work for the Power Board in 1940 as a junior engineer and progressed through engineering, operations and general service. He became system general manager and then general manager in 1971. He stepped down as general manager in 1982 but remains on the Power Board staff as the project manager for a proposed waste disposal system.

The date of birth of the Chattanooga Electric Power Board was 1935 when the Enabling Act was passed. This legislature set up the formation of power boards subject to referendum. It set up the duties, the policies, and told them what they could and couldn't do. There was strong resistance to the passage of the Enabling Act—the Tennessee Electric Power Company (TEPCO) was actively opposing the idea of public power, and it was a bitterly fought referendum.

The Power Board really started August 16, 1939, when we bought out the old TEPCO properties. We bought a system that was actually in existence and serviced the city of Chattanooga and other areas. We had 50,000 or 60,000 customers. So our problems were a little different from those of the rural co-ops that were just getting started. The Power Board's problem was serving the city, taking over from TEPCO people, assimilating the services, and building a staff. They borrowed about \$13.5 million to start the system and pay off TEPCO for the properties. They were just organizing and primarily concerned with serving the customers that they had.

"We aggressively went out and built pole lines to serve these customers."

It was in 1947 and 1948 that the big push was made to go out into the rural areas. At that time, the rural electric co-ops were not coming into the area, and there was a great demand to pick up customers out there. The Power Board was the only viable utility around here able to go out into that area. We aggressively went out and built pole lines to serve these customers. The policy of the board was that the customers needed electric service so give it to them.

Back in those days, both parties (TVA and the distributors) were trying to get started. Relationships were very good. There was growth. And we were helping TVA fight their battles in Congress. We were involved in trying to get money for the building of TVA dams, and TVA itself was limited. They could present the figures, but the distributors were the ones that really lobbied for the legislature in the House and the Senate.

Then in 1967, when TVA passed its first rate increase, I feel there began to be a break in relations. The consumer did not know the difference between the Power Board

and TVA. When they got their electric bill with the rate increases, they blamed the Power Board. As long as the rates were under 1 or 1.5 cents a kilowatt-hour, we had no problems. Now they've increased about 300 percent since 1967, and the customer doesn't know why. When you compare with New England or the mid-west, our rates are still low. But the customer doesn't make that comparison. He makes the comparison of what his bill was last year as compared to this year. He couldn't care less what power costs in New York City.

"He (the consumer) couldn't care less what power costs in New York City."

We've tried to explain to the consumer the reasons for the increases. We know that interest rates have increased the cost of power. Consumers couldn't care less. We've also tried to get across that coal costs have gone from \$5 a ton to \$37 or \$38 a ton. But what it boils down to is—"What is my bill?"

In 1947 through 1965 we sold the all-electric concept. We advertised. We asked them to build all-electric homes. We pushed it. Now the customer says, "You've cut our throats.



In 1939, the Chattanooga Electric Power Board bought the Tennessee Electric Power Company's properties and began to serve approximately 60,000 consumers.



In 1894, Chattanooga received electric service from the Chattanooga Electric Light Company.

You sold us on this. We bought your argument, now you keep the rates down. We don't care how you do it."

So, rates were a problem. Then beginning about four or five years ago, relationships became very strained with TVA. There was a difference in the philosophy, and words got a little rough at times. I'm one of those who was involved. I did not agree with the policies of the TVA Board in those days because I felt like they had missed the main concept of TVA's Power program. TVA embarked on several innovative programs, specifically the conservation programs, which I don't think are cost effective. My comment was that if TVA got the money from Congress, they could spend it any way they wanted to. But unless that program was for the good of the Power program, they should not be using Power funds.

For better or worse in 1979, some distributors began to disassociate themselves from TVA. Up until that time we were partners. But when the distributors could not agree or accept some of TVA's policies, we began to disassociate ourselves from TVA. Also, we were getting all the flak, you might say, from our customers about the rates. That's when we decided to protect our own backyard. What we did, we divorced ourselves of it and fussed. Then in 1981, the Tennessee Valley Public Power Association threatened to sue TVA over the rate restructuring they were proposing. That's had a big impact on TVA. In early 1982, TVA changed their minds and agreed that maybe the way to go was to listen to the distributors.

"We're out of this trough, and we're going up."

TVA is beginning to listen to the distributors. They realize the distributors are their front-line defense as far as public image is concerned. And right now the partnership, which has been fractured, is coming back together again. I think that we've gone over the hump. We had reached a bottom trough as far as relationships between the distributors and TVA. We're out of this trough, and we're going up. There's cooperation between them right now, like it was when I first saw it.

There's no question in my mind that TVA has been a benefit to the Tennessee Valley area. Now we don't always agree with TVA. But looking at the overall picture, I think TVA has been good for the Valley and will continue to be. □



*"We can't divorce ourselves from
TVA..."*

--Charles Ricks

Tuscumbia, Alabama, began receiving TVA power April 1, 1937, after the city's purchase of the Alabama Power Company properties. Charles Ricks graduated in electrical engineering in 1948 and a week after his graduation went to work as an engineer for the Tuscumbia system. He became manager in 1960 and witnessed Tuscumbia move from promoting sales to encouraging conservation. Mr. Ricks remains manager of the system.

We purchased the power system here in Tuscumbia from the Alabama Power Company in 1937. I started to work for the Tuscumbia system in 1948 as an engineer. In June 1948, we had 847 residential customers, and the average total bill for that month was \$2.95.

TVA's theory was to spread the cost of production over as many kilowatthours as you could. And we offered everything from green stamps to cash to small appliances if people would install an air-conditioner or a major appliance. Then it was almost like going over a hill—you go downhill immediately after. We went from promoting sales to promoting conservation.

I don't see that you can encourage kilowatthour usage any more at the prices we're seeing today. That's when TVA began many of its conservation programs. But the consumers who need these programs the most aren't taking advantage of them. It's very difficult to explain to someone who has a very low income that he can make a loan, insulate his house, and make payments on that loan for less money than they would pay for the fuel it takes to heat it uninsulated. We've promoted the Home Insulation Program about every way that we can.

"The price of gas is on a lot faster roller coaster than electric rates."

As far as rates go, I think TVA does a good job. I'm not in a position to say that this is an unfair rate or this rate is punitive.

I hear some people who come in here say, "Oh, I don't know whether I want to come in this place or not, the rates like they are." I say, "Where are you coming from?" And they reply, "Mobile, Alabama." I tell them, "Well, my goodness alive, your rates in Mobile are a lot higher than they are here. You get one of your bills and see how much electricity you were buying in Mobile and how much it cost per unit." TVA's going to wind up, when all this is done, with the lowest rates in the Nation.

Of course, the industrial customers don't like the rates. All you have to do is pick up a newspaper and see that. Our industrial customers don't like our gas rates either, and here in the last six months, we've had a 22-percent and a 17-percent increase in gas rates and are looking for another one in the next six months that size. The price of gas is on a lot faster roller coaster than electric rates have ever been on.

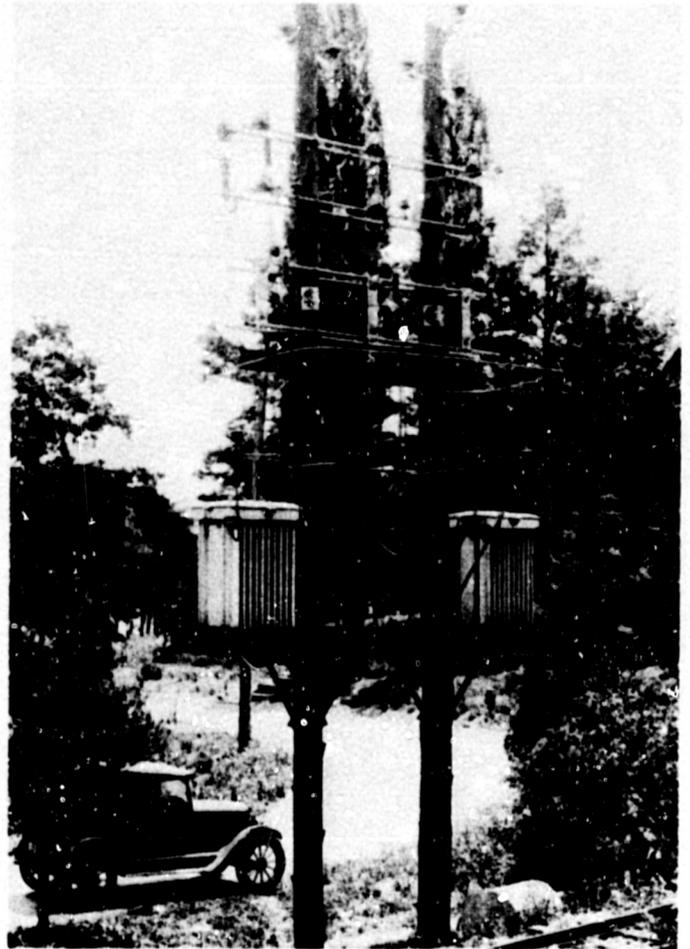
Looking back at the major changes, one of the biggest was TVA's divesting themselves of distribution facilities. I think it's been good for them and for us, too. TVA gave us an option to lease purchase the substations. In some instances, it was not an economical thing because some systems had substations that were old and loaded. But in our instance it was. We're responsible for its maintenance, and they charge us for delivery at 46 kV rather than 12 kV. It's cheaper. So we'll have the option to purchase it at a specified time in our contract.

"It's been good for them and for us, too."

As far as the future goes, it would be nice if I had a crystal ball to look into—but I don't know what the outlook is. I think it has to be better than it is now. Rates might level off, but they're not going to go down. If the price of coal goes back



The "good ole days" saw coal prices as low as \$3 per ton in 1955. Today, the cost of coal has skyrocketed to \$41 per ton.



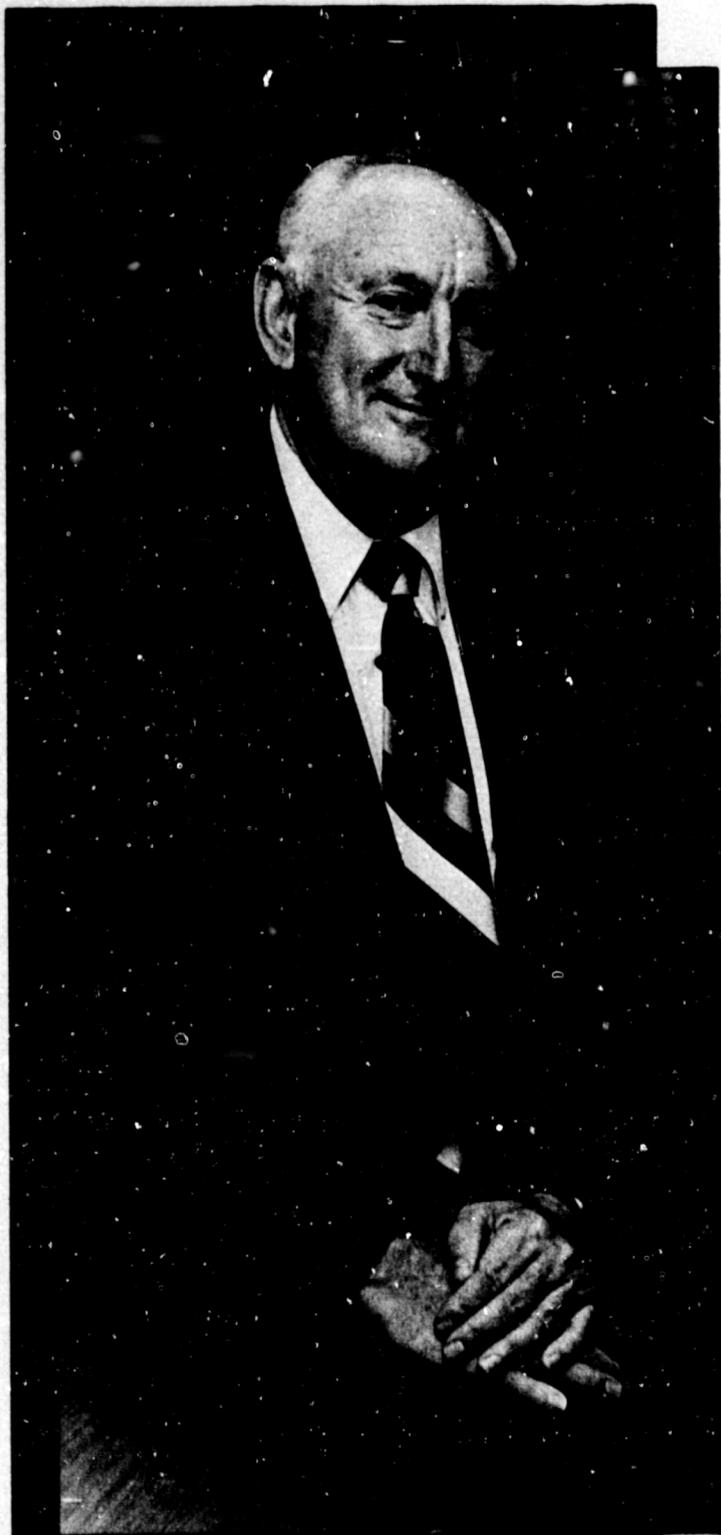
Some transformers were owned by the distributors and were used to lower voltages for consumer service.

to half of what it is now and the price of money goes way back to where TVA could borrow at two percent, then we could see changes. But I think the relationship between TVA and the power distributors is still a viable one. It has to be. We can't divorce ourselves from TVA, go our merry little way, and have our own set of rules and regulations. Some people would like to do that. But it can't happen.

I've seen the times when some TVA people said, "This is the way it's going to be, and there is no alternative." But I think there have been a lot of good changes through our associations and committees. The Tennessee Valley Public Power and the North Alabama Public Power Distributors Associations have been able to work with TVA, to give them a different approach to some of their ideas, even on rates. They've made some concessions, which have been good.

"... they're still the guys with the white hats."

I still think that if people really look at TVA, they're still the guys with the white hats. But they don't look around much. They look at their own set of circumstances and say, "Well, my power bill is as big as it is because TVA is not doing what they should." Nobody could foresee what is going on right now. If we all had as good foresight as most of these people have hindsight, not many of these complaints would come about. □



"When we extend service to someone and keep the service on, we still haven't finished our job."

—Hugh Millraney

On June 1, 1942, the Caney Fork Electric Cooperative was energized into the TVA power system. Unlike other co-ops built from operating systems acquired through purchases, Caney Fork had to set the first pole and meter for their consumers. Hugh Millraney came to the co-op in 1945 shortly after high school graduation, doing "a little bit of everything." He became manager in 1973 and still operates the co-op as a consumer-oriented organization.

After REA was organized, the people in this area began to try to get power. I'm told that they attempted to go with some of the co-ops that were already in operation. But I'm sure geographical problems were involved, and those systems didn't expand into this area. A group of people furnished the leadership and organized an effort to establish Caney Fork. They had problems with TVA. TVA did not feel that the Caney Fork area would be feasible—that it couldn't be a financial success. Since the city of McMinnville was serving some communities in the rural area and the small towns, that didn't leave a lot for Caney Fork to build on. But the people being as determined as they were, went ahead and TVA agreed to give them a power contract.

"You see very few people who ever get into rural electrification and get out of it."

A lot of the co-ops had a nucleus of a system operating when they acquired it. They built from that, organizing and developing the area. Here we had to set the first pole and install the first meter. It has been a challenge to us, and we look back with a good feeling of success.

Whatever position I've had with the cooperative, it has been a rewarding experience to me to have been a part of something that has done so much for the rural areas. It grows on you—you see very few people who ever get into rural electrification and get out of it.

The people at that time weren't as dependent upon electric service as they are today. We had our problems in the winter of 1949 with a snowstorm and ice conditions that broke down our system. We had people who were without service for three weeks. While it was an inconvenience to the members, it was taken in great stride. They would come into the office and want to know what they could do. In certain instances where it could be done safely, they got instructions to go take all the hardware off the poles when they were down. When we got there, they would have the crossarm dismantled, all the hardware and insulators off the pole and piled up at the base. This saved time. They'd help get the downed pole to the side, use a tractor or whatever they had to help you. It was just a cooperative effort from everybody.

We promoted the use of electricity in ways that it was cost beneficial to the customer. But I can recall on several



Ice storms were a common problem for the TVA distributors in providing reliable power to their consumers. Pictured above is the "great ice storm" of 1960 in Boaz, Alabama, where 1,100 poles fell and hundreds of miles of line sagged. Line crews of the Marshall DeKalb Electric Cooperative repaired the system for two weeks and assessed the damage at one-half million dollars.

instances when we advised people not to install resistant heat because of the type of building they were attempting to heat. We weren't in the business just to sell electricity. And we took this position on promoting the use of electricity in every respect, including various appliances. When we extend service to someone and keep the service on, we still haven't finished our job. We should help our member any way we can to use this power efficiently and avoid waste.

"... it took 95.4 percent of all the revenue that we got from the sale of power just to pay TVA."

Operations today are much more sophisticated. Years ago, we weren't as concerned with such things as load management. So much of our power cost today is in demand charges. It is mandatory if you are going to show a black figure for a month's operation that you maintain a load factor somewhere in the 60-percent range.

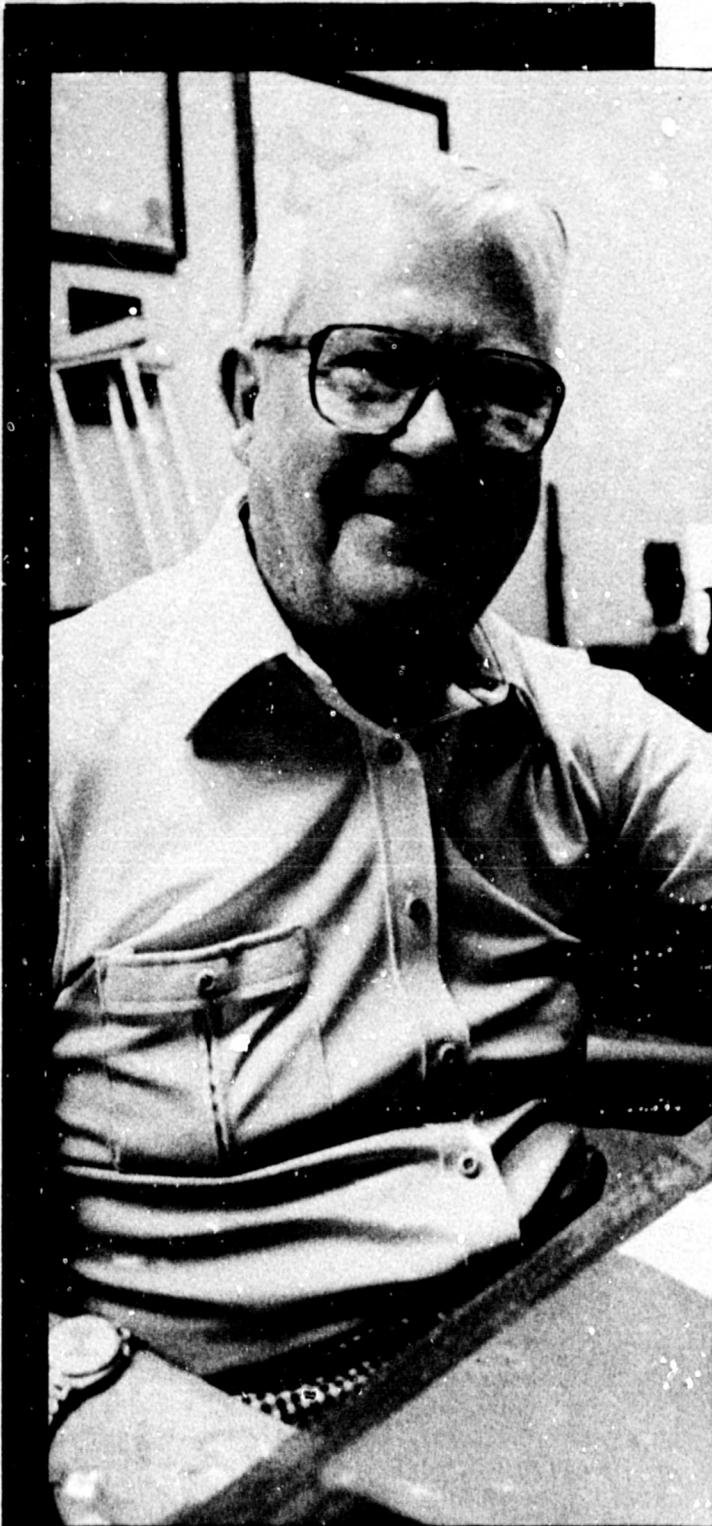
For instance, one month, this past year when we had extreme cold weather for a few days, after we established demand at the substation, which influenced our power cost, it took 95.4 percent of all the revenue that we got from the sale of power just

to pay TVA. That meant we had 4.6 percent left that month to pay for our cost of operation, furnish money for capital additions, and pay on long-term indebtedness. This makes it imperative that you look towards some form of load management, trying to shave your demands in order to lower your power costs.

As I look back, I suppose the distributors were more dependent upon TVA. Everybody was struggling, growing fast, and didn't have the technology that we have today. We have gone through some times where we had problems and differences of opinion. As a result, it has probably brought about good or better working relations—maybe because we made a little fuss when we felt like we needed to make a little fuss.

I think TVA's role is still the same. There have been some times when we felt like maybe we should have had a greater voice in some decisionmaking because we think of ourselves as the people out there in the trenches, out there with the consumers. We are working with him, seeing his problems, and trying to find solutions.

Here at the cooperative, we are walking on new ground every day. We are in a no-growth environment. Our sales this past fiscal year, which ended June 30, were 8.5 percent less than they were last year. This is the fourth consecutive year that we have sold less power. Part of that is because of conservation, but a lot of it is because of the increased cost of our services. We realize that TVA has to increase their rates, and that's passed on to our customers. We don't like that, but we can understand the reason for it. □



"... Squeeze the most value out of a kilowatt hour that you possibly can."

--John Edd Walker

The West Kentucky Rural Electric Cooperative Corporation began receiving TVA power June 11, 1942. John Edd Walker began working for TVA in 1941 for 50 cents an hour to help clear the reservoir for Kentucky Lake. He left TVA in 1945 and came to the West Kentucky Co-op as a staking engineer. He became manager in 1948 and believes "TVA is the greatest thing that ever happened to West Kentucky." Mr. Walker is the present manager of the system.

I went to work for TVA in 1941 helping clear the reservoir for Kentucky Lake for 50 cents an hour. I was glad to get it because there weren't any jobs in this part of the country. The only people who were working anywhere were working for TVA.

Then in 1945 I came to the West Kentucky Co-op as a staking engineer. Very little of this area was electrified at that time. The small towns were served by the Kentucky/Tennessee Light and Power Company. When TVA came into the area, about 38 far-sighted farmers got together and organized the co-op. On June 11, 1942, they became a TVA power distributor.

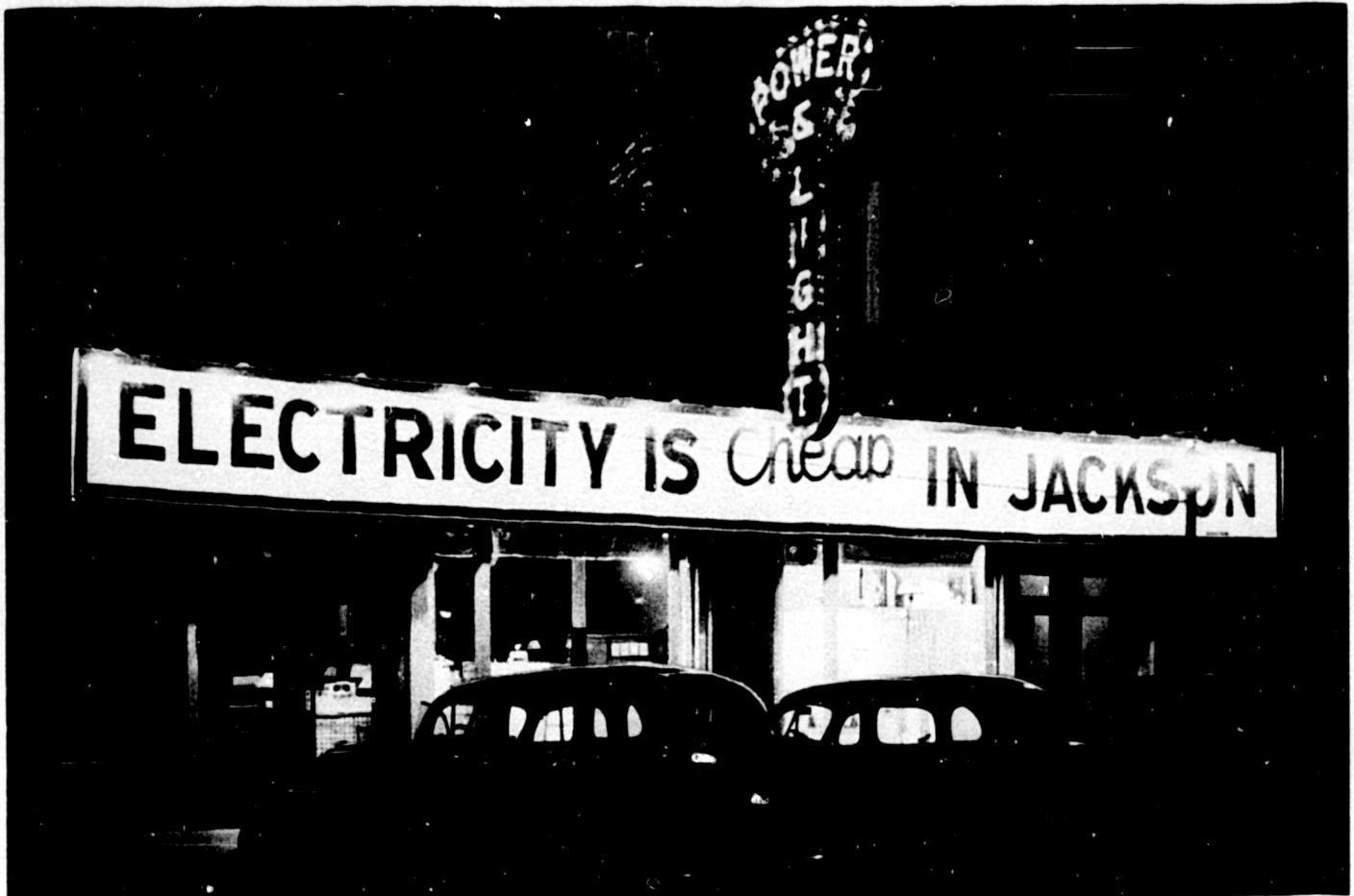
The big problem was to get enough money and materials. After World War II, we just got geared up, and then the Korean War came along. That slowed down the situation a lot. During that time, I remember very distinctly that REA came out with the idea that we had to buy all of the transformers, the wire, the poles, and have them on the ground before we could let a contract because these materials were in short supply. Everybody in the whole United States was building. On one occasion, the co-op president and I went to Chattanooga and negotiated during the Korean War for a contract for enough wire to build 650 miles of line.

"Folks would just almost come out and hug your neck when you plugged in the meter."

The coming of TVA has been the greatest thing that ever happened to western Kentucky. I think most of us who grew up here just don't really go back and recognize the real changes that were made. We didn't know anything about trying to take care of the mosquitoes to eradicate malaria. All we did at night was build a little smoke outside to keep the mosquitoes from eating you up, but TVA sprayed the houses.

The lakes were built, the recreation started, people moved in, and the fishing was good. We were the people in the white hats then. We could do no wrong. There were no problems getting rights of way—everybody was good to us. People had lived in poverty, and folks would just almost come out and hug your neck when you plugged in the meter.

We covered our area fairly fast. The problem at one time was being able to build lines big enough and fast enough



Private power companies advertised "cheap" electricity to compete against TVA and its distributors.

to take care of the load growth. About the time we constructed the system, we had to busy ourselves with going back and rebuilding it. But we never promoted electricity for the sake of using more of it. From an educational standpoint, we told people to use it wisely and squeeze the most value out of the kilowatthour that you possibly can.

"...We talked, we begged, we twisted arms."

We were selling energy at such a low rate that we just didn't build the houses to take care of the higher costs. Then, all of a sudden, we catch ourselves in some high usage, and the cost begins to go up, even though we are still way below the national average. So we are in the process now of trying to educate, help people conserve, and keep our own ship afloat more than we were back in the early days.

We're living in an altogether different day. Just to be honest, we've had it too good. We sold energy here for years at \$4 for 1,000 kilowatthours. We bought it for \$5, but we made up the \$1 loss in the early part of the first 500. As long as you had a zero balance at the end of the year, you didn't care. You were growing fast enough.

Then the recession, conservation, and all of these things came in on us at once. It changed the whole picture. I'm afraid that a lot of us haven't taken advantage of the partnership in the last few years as we ought to. We've become critical. But I still

say that the partnership between TVA and the power distributors has worked well, with everybody going in the same direction, trying to deliver power at the lowest possible cost.

It really has been a partnership, and the distributor has had an active role. I remember when we were trying to get the new Johnsonville Steam Plant—everybody went together. We had a horrible fight to get Congress to appropriate enough money to build a steam plant here. They said, "You've got all the dams, why do you want to build this?" But we were growing by leaps and bounds. We went to Congress—we talked, we begged, we twisted arms. The fact is, if it hadn't been for the active role of the power distributors, I don't know whether we would have ever gotten new Johnsonville. I'm not sure TVA by itself could have done it. We used to say that we fought one another behind closed doors, but when we went out, most of the time, we would fight anybody who said anything against TVA.

"...90 percent of the folks told me they were on our side."

I think the distributor will be a strong, if not stronger, force as we go down the pike. Of course, the co-op and TVA are not as popular as they were in the years before electric rates went up. It's no fault of ours or TVA's. I think our image is a lot better in this vicinity than it is in some. At our last annual meeting, I would say that 90 percent of the folks told me they were on our side. □



"Sometimes on both sides of the fence we lose sight that we are in this together."

-Tom Wheeler

Marshall DeKalb Electric Cooperative became a TVA power distributor February 28, 1942. Tom Wheeler first worked as an engineer for the Sand Mountain Cooperative in 1948 and later became the assistant manager. After completing rural electrification there, Mr. Wheeler moved to the Marshall DeKalb Co-op as manager in 1952. He remains in that position and is also the twice-elected president of the Tennessee Valley Public Power Association (TVPPA), the trade group representing most local power distributors of the Valley.

I went to Sand Mountain Co-op in Fort Payne, Alabama, in 1948. They were in the process of constructing rural lines all over Sand Mountain, Lookout Mountain, and the area they serve. We pretty well completed the job while I was over there. Then when I came down here in 1952 to Marshall DeKalb Co-op, they were in the process of finishing up the job.

When we were getting people signed up, we had to make a little place for a wiring school. We were expecting maybe 75 to 100 people. We had over 800 people packed in that schoolhouse that afternoon. Of course, they had nothing else to do up there. There were no picture shows. It was before the days of television. So this was a big event, and they all came out. We asked them to bring their property deeds so we could locate their property on our map and get them to sign easements so we could cross their property. Finally about dark, they turned on kerosene lanterns all over the small auditorium, and we began to tell them what had to be done to get their houses wired.

It was a completely responsive group—but they did not know enough about electricity to ask questions. We had a planned presentation where we went through the process of what was involved and the kind of services available to them.

"We had a blue million customers out there who were going to get electricity and didn't have appliances."

The appliance dealers really got busy and were a big help to Sand Mountain Electric Cooperative. We had a fleet of pickup trucks, and there was one appliance dealer in Fort Payne who would load up appliances and take off in the morning. He would go out in the areas where we were building lines. Of course, we had a blue million customers out there who were going to get electricity and didn't have any appliances. They really couldn't have benefitted much from electricity unless they had some. The dealer would sell all the appliances out of the truck, go back, and get another load. That was a great help. The idea was that there was a whole lot of money spent to build powerlines, and the only way those lines could conceivably pay for themselves was for us to sell electricity. The Electrical Development Section of the TVPPA played an important role in increasing the sales of electricity.

Finally about 10 or 15 years ago, it seemed we began to reach the point of diminishing returns. The more we sold, the less profitable it was.

One of our services is to help our people use electricity wisely. If you have a house that is heated with electricity, not insulated, and the bill is \$300 a month, it could be half that with insulation.

In the earlier years, nobody thought about insulation. Electricity was cheap—it was too cheap. Particularly in the TVA area, we were spoiled.

People who have never lived anywhere else got the idea that \$10 worth of electricity was all that you ought to have to buy. When the price went up to \$20, \$30, \$40, \$50 and on up, they just couldn't believe it. But, they were dealing with something that was too cheap to start with.

I think the worst time we all had was in the period between 1974 and 1976 when the rates went up so fast. People couldn't believe what was happening. Now I think people accept that rates are going up—it's not so much that they doubt it, but it's a matter of "How am I going to pay my bill?" We've got to try and work out some way to help them if we can.

It came as a shock to all the distributors when TVA raised rates in 1967. At that time, I was the TVPPA president, and nobody had ever heard of a rate increase. We had a meeting that day with the TVA Board and the TVPPA Executive Director, Wiley Bowers, met me out front and said, "We've got troubles. TVA is going to announce that they've got to raise rates." I said, "You're kidding."

Sure enough we went in there and during our discussion, TVA informed us that they were going to raise rates—they needed a \$25 to \$30 million-a-year increase. It was traumatic. We had never had anything like this to happen. And keep in mind that the total distributor's revenues to TVA was only about \$250 million.

We met 40 or 50 days in the next few months discussing rate changes, not just to get more money, but there were some changes that needed to be done in rate structures and load concepts. A lot of people thought these meetings were just a way for TVA to make the distributors feel like they were contributing when all the time TVA had the rate package ready. But that wasn't true. We came up with the idea, not TVA, of increasing the rate levels to eight instead of four. So when the distributor needed a little more revenue, they could go up one step, and he wouldn't have to make such a big jump.

Since then, the TVPPA rate committee has been in constant consultations with TVA.

"People couldn't believe what was happening."

I believe we all support conservation to the extent that first, it's not good to waste anything, and second, it helps keep our consumers' power bills down. For many years, we didn't think about the abundant supply of resources that we had, didn't think that they could never be replaced.

But I can argue against some of the programs—conserving for conservation's sake is not a good idea. We should use what we need, but use it wisely. For years in the TVA area, we were able to keep rates as low as we did because we used more electricity and could spread the cost of production over more kilowatt-hours. We were able to keep costs down, and as a result, keep our rates low, lower than anywhere else.

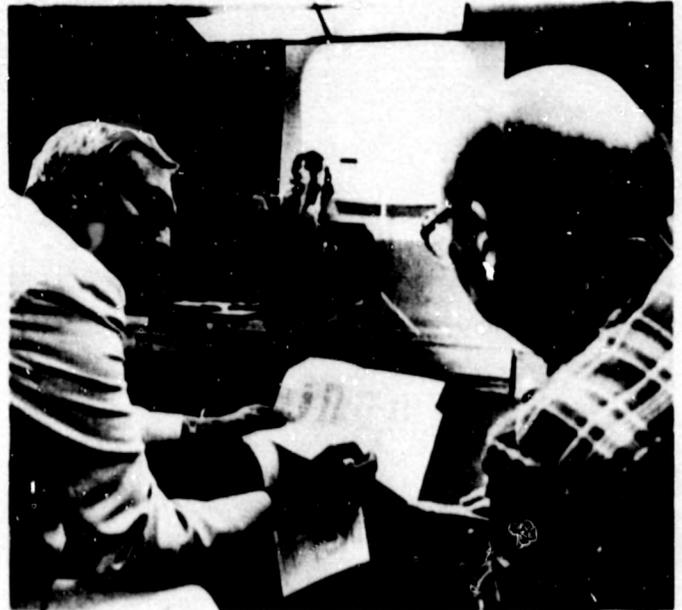
Now all of us are selling less electricity than the year before, and where this is all going to end, nobody can tell. But I think it's going to catch up with us somewhere down the line. To continue to sell less electricity but still have to meet increasing power costs, we would have to keep increasing rates. That's not good. It's like a dog chasing its own tail—the more we conserve, the more we have to raise rates. It's a never-ending cycle.

"It's like a dog chasing its own tail—the more we conserve, the more we have to raise rates."

As far as the relationship between TVA and the distributors, there will always be breaks with certain distributors, even 50 years from now. Sometimes on both sides of the fence, we lose sight that we are in this together. As we go into the coming years, we're going to have to work together to solve the problems we face.

I foresee a much closer relationship between TVA and the power distributors. This will be necessary for us to meet the problems of the future. Neither one can do it alone. One thing that has helped is there is now a former distributor manager on the TVA Board. He knows our problems. He knows what we have to do because he's talked to the consumer across his desk back when he was a distributor manager. When there's a rate increase passed in Knoxville, we're the ones who have to collect that increase and take the flak. We see firsthand how these increases affect our customer.

There is a definite need for a strong TVA in the future. TVA is the best thing that ever happened to this region, and it's not served out its purpose yet. It must continue to help develop this region just as it has done in the past. □



Cooperation will be necessary between TVA and the power distributors to meet challenges of the future. Left to right, Bill Towers, then Manager of Holston Electric Cooperative, and Ralph Miner, Manager of Powell Valley Electric Cooperative, discussed proposed rate changes during initial negotiations with TVA in September 1981.



50 Years In The Tennessee Valley —A Pilgrimage Of Progress

With the taming of the Tennessee River came the by-product of electricity—into the homes, farms, and industries of the Valley region. (1) Hales Bar, one of the early dams purchased by TVA, helped generate low-cost hydro power, which increased home electrical use (2) and created a demand for rural electrification (3). Distributor line crews (4) became a familiar sight as service was extended, even to the most isolated regions (5). All-electric homes, equipped with labor-saving kitchen appliances (6), also became common during the rapid growth of electricity. Economic development, as well as employment and per capita income, increased as large industries (7) located in the Valley, attracted by low electric rates and available labor.

Although the historical photographs end here, the journey is not over. To continue the pilgrimage, new challenges to progress—primarily the increased cost of doing business—must be faced with flexibility, commitment, and above all, cooperation. □

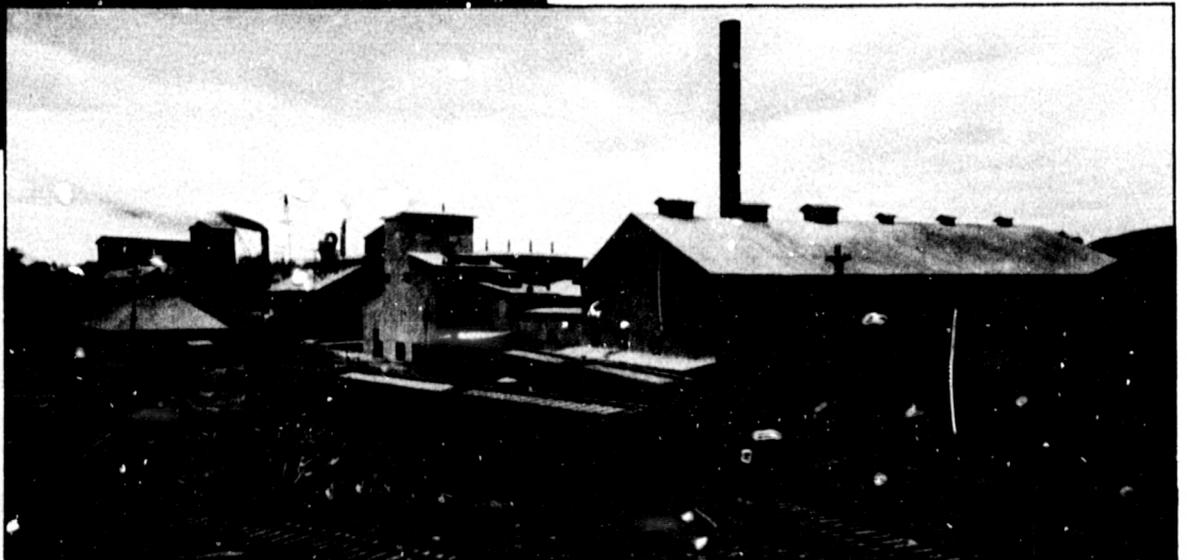
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Power Program Summary, Volume II

1982 Financial and Statistical Report

For Municipal And Cooperative Distributors Of TVA Power

The Tennessee Valley Authority provides power to 110 municipal and 50 cooperative electric systems for distribution to 2.9 million customers. The locally owned distributors serve an 80,000-square-mile area in parts of seven states with a population of an estimated 6.9 million.

This report reflects the operations of those distributors during their fiscal year ending June 30, 1982. TVA gathered the

data from annual reports and other material prepared by each of the 160 distributors.

The "Power Program Summary," Volume I, deals with TVA electric power activities. Since fiscal year 1977, all Federal agencies have operated on a fiscal year ending September 30. Therefore, some data in Volume I may vary slightly from Volume II.

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TVA is an equal opportunity employer and is committed to ensuring that the benefits of programs receiving TVA financial assistance are available to all persons regardless of race, color, national origin, handicap, or age.

TVA/OP/PINF-83/5

Statistical Review

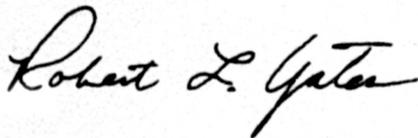
	Fiscal Years—		
	1982	1981	1980
Number of distributors	160	160	160
Customers added	33,780	51,197	52,899
Customers served—June			
Residential	2,530,594	2,503,100	2,454,774
Commercial and industrial	308,004	301,770	298,983
Other	3,503	3,451	3,367
Total	2,842,101	2,808,321	2,757,124
Degree days—heating	3,717	3,644	3,719
Degree days—cooling	1,754	2,235	1,665
Sales—millions of kWh			
Residential	34,989	36,784	34,977
Commercial and industrial	35,734	35,946	35,275
Street and outdoor lighting	1,140	1,120	1,079
Total sales	71,863	73,850	71,331
Revenue—millions			
Residential	\$1,581.5	\$1,416.4	\$1,121.1
Commercial and industrial	1,665.7	1,444.4	1,167.5
Street and outdoor lighting	61.4	53.5	47.6
Other	43.1	39.6	32.5
Total revenue	\$3,351.7	\$2,953.9	\$2,368.7
Expenses—millions			
Expenses for power	\$2,768.0	\$2,391.2	\$1,885.8
Other operating expenses	489.5	445.6	402.1
Nonoperating income and expense—net	(19.9)	(9.2)	(2.4)
Total expenses	\$3,237.6	\$2,827.6	\$2,285.5
Net income—millions	\$ 114.1	\$ 126.3	\$ 83.1
Total assets—millions	\$3,160.6	\$2,876.4	\$2,529.9
Long-term debt—millions	\$ 707.7	\$ 672.9	\$ 653.6
Accumulated earnings—millions	\$1,744.3	\$1,630.2	\$1,503.9
Construction expenditures—millions	\$ 213.2	\$ 218.3	\$ 219.9
Monthly peak load—thousands of kW	18,453	17,364	16,483
Average residential use—kWh per year	13,890	14,800	14,340
Average residential cost—cents per kWh	4.52	3.85	3.21
Average wholesale cost—cents per kWh	3.64	3.05	2.49

1979	1978	1977	1976	1975	1974	1973
160	160	160	160	160	160	160
67,421	57,900	57,000	63,100	57,300	76,400	89,000
2,407,628	2,347,100	2,296,600	2,248,500	2,193,000	2,139,400	2,068,100
293,318	286,500	279,300	270,500	263,000	259,400	254,400
3,279	3,200	3,000	2,900	2,800	2,700	2,600
2,704,225	2,636,800	2,578,900	2,521,900	2,458,800	2,401,500	2,325,100
3,642	4,129	4,197	3,292	3,514	2,943	3,635
1,788	2,031	1,697	1,547	1,640	1,793	1,599
36,071	37,810	36,115	31,986	31,785	30,602	30,627
35,711	34,447	32,840	29,942	28,295	29,335	28,692
1,038	997	970	913	849	841	783
73,820	73,254	69,925	62,841	60,929	60,778	60,112
\$1,100.1	\$ 977.5	\$ 828.8	\$ 724.0	\$ 559.4	\$442.6	\$398.3
1,097.9	872.5	687.4	611.9	445.2	365.5	320.6
44.1	39.1	34.9	31.3	26.9	24.4	21.6
30.1	25.9	21.9	20.0	17.0	14.8	13.6
\$2,272.2	\$1,915.0	\$1,573.0	\$1,387.2	\$1,048.5	\$847.3	\$754.1
\$1,798.5	\$1,449.4	\$1,181.3	\$1,053.7	\$ 737.2	\$556.2	\$476.3
374.2	347.1	308.5	276.6	254.7	234.0	215.2
.4	4.8	(6.7)	6.7	2.9	.7	2.6
\$2,173.1	\$1,801.3	\$1,483.1	\$1,337.0	\$ 994.8	\$790.9	\$694.1
\$ 99.1	\$ 113.7	\$ 89.9	\$ 50.2	\$ 53.7	\$ 56.4	\$ 60.0
\$2,311.0	\$2,159.4	\$1,968.4	\$1,864.6	\$ 1,746	\$1,656	\$1,570
\$ 612.7	\$ 595.0	\$ 562.0	\$ 575.7	\$ 525	\$ 516	\$ 501
\$1,420.8	\$1,321.7	\$1,095.2	\$1,005.3	\$ 955	\$ 901	\$ 845
\$ 200.2	\$ 182.0	\$ 152.0	\$ 141.4	\$ 157.7	\$159.4	\$139.7
17,451	17,212	17,570	15,944	13,491	13,342	13,803
15,130	16,250	15,820	14,370	14,540	14,480	15,080
3.05	2.59	2.29	2.26	1.76	1.45	1.30
2.33	1.87	1.59	1.59	1.14	.87	.75

Comptroller's Letter

The following statements present the financial position at June 30, 1982, of the 160 locally owned and locally managed electric systems that distribute TVA power, together with the results of their operations for the fiscal year ended on that date. The statements are submitted to TVA annually by each municipal electric department and electric cooperative.

All of the 110 municipal systems and 50 cooperatives reported to TVA that their financial statements for the year ended June 30, 1982 had been examined or reviewed by independent certified public accountants. TVA accountants review and assist the distributors with accounting practices or procedures but do not audit the accounts or reports.



Robert Yates, Acting Comptroller
Tennessee Valley Authority

Exhibit I—Financial Statements

BALANCE SHEET - JUNE 30, 1982		ALL DISTRIBUTORS		MUNICIPALITIES		COOPERATIVES
ASSETS	INITIAL TVA SERVICE	TOTAL	TOTAL	FOUR LARGEST (NOTE 6)	OTHER	TOTAL
ELECTRIC PLANT (NOTE 1)						
AT ORIGINAL COST		3,091,778,980	1,996,170,315	1,031,914,403	944,255,912	1,095,608,265
LESS ACCUMULATED DEPRECIATION		989,883,826	666,424,450	348,723,241	317,700,909	320,459,278
		2,104,894,754	1,329,745,865	683,190,862	626,555,003	775,148,987
UNADJUSTED ACQUISITION ADJUSTMENTS		12,149,392	10,927,704	0	10,927,704	1,221,688
		2,117,044,146	1,340,673,569	683,190,862	637,482,707	776,370,675
INVESTMENTS AND SPECIAL FUNDS						
OTHER INVESTMENTS		66,328,207	36,384,895	24,152,488	12,232,407	29,943,312
RENEWAL AND REPLACEMENT		32,652,454	24,349,584	14,644,738	9,724,846	8,282,870
DEBT-SERVICE		35,075,554	34,671,808	10,706,405	23,965,403	403,748
OTHER SPECIAL		70,370,808	67,878,492	37,338,451	30,742,041	2,622,316
		204,427,023	163,104,779	86,840,082	76,264,697	41,322,246
CURRENT ASSETS						
CASH AND TEMPORARY CASH INVESTMENTS		251,482,654	188,292,647	79,628,131	108,664,516	63,190,207
RECEIVABLES		251,512,678	183,499,004	80,388,057	105,130,947	66,013,674
MATERIALS AND SUPPLIES AT COST		57,646,528	39,343,054	17,921,373	21,441,681	18,283,474
OTHER CURRENT ASSETS		278,519,655	198,458,400	99,258,880	99,258,880	80,021,235
		839,161,715	611,653,102	277,165,941	334,487,164	227,508,610
TOTAL ASSETS		3,160,632,886	2,115,431,453	1,047,196,885	1,068,234,568	1,045,201,433

LIABILITIES

CAPITAL						
INVESTMENT OF MUNICIPALITIES		61,772	61,772	0	61,772	0
MEMBERSHIPS OF COOPERATIVES		10,184,220	0	0	0	10,184,220
		10,246,001	61,772	0	61,772	10,184,220
EARNINGS REINVESTED IN SYSTEM ASSETS						
BEGINNING OF YEAR		1,630,242,458	1,189,983,205	533,157,599	656,825,606	440,259,253
CURRENT YEAR		114,089,177	89,053,460	32,078,836	56,974,624	25,035,717
		1,744,331,635	1,279,036,665	565,236,435	713,800,230	465,294,970
LONG-TERM DEBT						
RURAL ELECTRIFICATION ADMINISTRATION		321,822,316	10,095,339	0	10,095,339	311,726,977
NRU-COOPERATIVE FINANCE CORPORATION		66,146,797	0	0	0	66,146,797
BANK FOR COOPERATIVES		20,637,574	0	0	0	20,637,574
BONDS HELD BY PUBLIC AND OTHER		299,104,837	298,868,405	261,773,900	97,094,505	234,432
		707,713,524	308,963,744	261,773,900	107,189,844	398,749,780
ADVANCES FROM OTHERS						
CONSERVATION		293,974,617	183,031,514	89,274,927	92,756,587	70,943,103
CURRENT LIABILITIES						
ACCOUNTS PAYABLE		329,829,684	262,977,831	149,240,358	113,737,473	66,851,853
CONSUMER DEPOSITS		44,384,846	27,836,260	5,764,239	22,072,021	16,548,586
TAXES AND INTEREST ACCRUED		15,041,216	9,496,521	6,029,582	3,466,939	5,544,695
OTHER CURRENT LIABILITIES		55,111,363	44,077,156	29,877,444	14,149,702	11,084,217
		444,367,109	344,337,768	190,911,623	153,426,135	100,029,351
TOTAL LIABILITIES		3,160,632,886	2,115,431,453	1,047,196,885	1,068,234,568	1,045,201,433

STATEMENT OF REVENUE AND EXPENSE YEAR ENDED JUNE 30, 1982

OPERATING REVENUE	3,351,704,600	2,402,885,639	1,115,228,679	1,287,656,960	948,818,901
OPERATING EXPENSE					
PURCHASED POWER	2,768,007,276	2,067,009,839	929,497,097	1,077,512,742	760,947,437
FACILITIES RENTAL (NOTE 3)	3,534,584	570,482	3,158,098	3,728,580	2,964,106
DISTRIBUTION - OPERATION	74,851,815	52,132,861	24,980,139	27,152,722	22,718,954
CONSUMER ACCOUNTS	65,770,702	40,776,986	18,020,231	22,756,755	24,993,716
CUSTOMER SERVICE & INFORMATION ACCTS	7,809,084	4,416,434	2,835,283	1,581,151	3,342,650
SALES	1,391,745	1,017,574	466,707	550,867	374,171
ADMINISTRATIVE & GENERAL - OPERATION	81,634,234	56,139,590	31,090,665	25,498,925	25,498,648
	3,003,003,448	2,162,063,766	1,003,732,024	1,158,331,742	840,939,682
DISTRIBUTION - MAINTENANCE	89,135,389	61,196,943	33,488,994	27,707,949	27,938,446
ADMINISTRATIVE & GENERAL - MAINT	5,631,672	4,080,994	2,323,708	1,757,286	1,550,678
	3,097,770,509	2,227,341,703	1,039,544,726	1,187,796,977	870,428,806
PROVISION FOR DEPRECIATION	90,783,244	57,488,874	28,795,012	28,693,862	33,294,370
AMORTIZATION OF ACQUISITION ADJ.	1,818,565	1,584,079	0	1,584,079	234,486
TAXES AND TAX EQUIVALENTS (NOTE 4)	67,181,923	53,746,304	27,830,894	25,934,410	13,418,619
	3,257,554,241	2,340,179,960	1,096,170,632	1,244,009,326	917,374,281
OPERATING INCOME	94,150,359	62,705,679	19,058,047	43,647,632	31,444,680
INTEREST EARNED AND OTHER INCOME - NET	54,768,153	43,422,119	27,639,446	20,782,673	11,346,034
TOTAL INCOME	148,918,512	106,127,798	46,697,493	64,430,305	42,790,714
INTEREST AND DEBT EXPENSE	41,297,954	21,500,598	14,517,050	6,983,548	19,897,356
INCOME BEFORE EXTRAORDINARY ITEMS	107,620,558	84,627,200	32,180,443	57,446,757	22,893,358
EXTRAORDINARY ITEMS (NOTE 5)	6,568,619	4,426,260	4,898,393	472,133	2,142,359
NET INCOME FOR THE YEAR	114,089,177	89,053,460	32,078,836	56,974,624	25,035,717

ABERDEEN MISSISSIPPI APRIL 24 1929	ALBERTVILLE ALABAMA SEPT. 14 1928	ALCOA TENNESSEE JAN. 1 1926	AMORY MISSISSIPPI SEPT. 2 1924	ATHENS ALABAMA-19 JUNE 1 1924	ATHENS TENNESSEE AUG. 16 1929	BENTON KENTUCKY JULY 1 1945	BENTON COUNTY TENNESSEE APRIL 22 1940	BESSEMER ALABAMA DEC. 14 1929
2,553,490	6,412,408	9,920,183	4,024,330	16,238,080	9,601,947	1,972,024	9,012,209	13,069,311
988,615	1,803,700	3,187,010	1,264,928	6,153,912	3,577,686	703,472	2,427,690	3,877,742
1,564,875	4,608,703	6,733,167	2,659,392	10,084,167	6,024,261	1,268,552	6,584,319	9,191,516
0	53,623	0	0	0	9,330	0	0	473,722
1,564,875	4,662,326	6,733,167	2,659,392	10,084,167	6,033,595	1,268,552	6,584,319	9,665,238
0	0	0	0	0	422,336	0	57,222	1,707,600
18,000	79,272	177,361	0	206,813	194,178	1,795	200,000	0
307,240	147,195	0	0	726,229	109,633	18,585	236,929	0
0	0	0	3,077	0	0	36,091	582,274	0
125,240	226,467	177,361	3,077	933,042	726,147	56,469	1,076,525	1,707,600
163,929	890,274	425,326	913,079	1,394,940	1,936,690	51,303	85,802	281,360
574,879	1,077,432	1,307,690	529,264	1,935,465	1,208,306	187,624	702,826	1,262,631
82,867	145,247	156,170	116,298	151,597	271,537	41,594	113,345	286,321
344,252	491,049	1,968,590	293,144	2,943,236	1,926,528	151,197	276,513	764,712
1,162,927	2,606,002	3,857,776	1,861,785	6,423,238	5,343,061	431,718	1,172,466	2,593,024
2,856,042	7,492,795	10,768,304	4,504,254	17,442,447	12,102,803	1,756,739	8,933,330	13,765,872

0	0	0	26,310	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	26,310	0	0	0	0	0
1,568,818	4,382,944	5,980,370	3,305,022	8,396,334	7,141,319	1,337,655	5,332,971	10,370,747
88,399	456,026	121,897	265,454	611,503	1,005,989	20,808	495,200	529,065
1,657,217	4,838,970	6,102,267	3,570,476	9,007,837	8,147,308	1,358,463	5,828,171	10,899,812
0	0	0	0	1,951,000	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
225,139	345,000	1,075,000	0	1,025,000	884,232	58,000	1,800,000	0
225,139	345,000	1,075,000	0	2,976,000	884,232	58,000	1,800,000	0
351,258	588,969	1,971,735	290,666	3,285,002	1,583,905	151,313	226,120	766,000
498,005	1,410,857	1,134,190	472,994	1,655,685	1,236,751	139,129	545,970	1,503,196
101,414	2,21,986	431,862	135,108	373,788	0	35,408	136,375	526,167
8,806	3,560	0	0	8,609	114,816	11,391	49,867	1,654
14,203	83,453	53,250	8,700	135,526	135,791	2,535	194,827	68,843
627,428	1,719,856	1,619,302	616,802	2,173,608	1,487,358	188,963	979,039	2,100,060
2,856,042	7,492,795	10,768,304	4,504,254	17,442,447	12,102,803	1,756,739	8,933,330	13,765,872

5,354,932	13,252,341	14,682,529	4,538,644	18,590,952	10,484,293	2,265,727	7,923,856	11,798,494
4,616,266	11,479,889	12,153,448	3,634,618	15,747,048	13,742,930	1,814,340	6,253,834	9,289,858
72,696	105,512	223,971	409	282,099	4,324	40,307	83,930	123,873
73,231	179,511	327,974	110,973	383,211	498,003	32,688	141,008	115,081
75,755	178,799	428,211	74,654	408,424	254,562	48,712	259,272	322,659
16,981	15,895	12,324	5,491	5,551	35,953	2,036	8,089	9,370
0	7,125	1,041	6,935	12,092	0	0	0	0
119,701	240,716	438,953	113,152	228,577	321,621	116,438	173,627	278,601
4,974,630	12,207,447	13,585,922	3,945,414	17,067,002	14,857,393	2,053,921	6,751,900	10,139,442
79,535	250,694	468,845	58,723	249,378	228,644	104,818	245,663	284,478
3,946	9,054	11,419	19,341	2,050	27,878	110	2,474	33,437
5,058,111	12,467,195	14,066,186	4,023,478	17,318,430	15,113,915	2,158,855	7,000,037	10,457,757
81,523	218,164	285,592	113,496	430,941	276,023	56,889	276,684	367,110
0	18,668	0	0	0	3,111	0	0	55,704
136,869	209,347	244,087	215,040	380,112	271,996	35,236	158,819	556,561
5,276,503	12,913,374	14,595,865	4,352,014	18,129,483	15,665,045	2,250,982	7,435,540	11,437,132
78,429	338,967	86,664	186,630	461,469	819,248	14,745	488,316	561,362
23,302	174,195	91,963	79,613	258,848	241,873	9,783	110,247	167,703
101,731	513,162	178,627	266,243	720,317	1,061,121	24,528	598,563	529,065
13,332	57,136	56,730	789	108,814	55,132	3,720	103,363	0
88,399	456,026	121,897	265,454	611,503	1,005,989	20,808	495,200	529,065
0	0	0	0	0	0	0	0	0
88,399	456,026	121,897	265,454	611,503	1,005,989	20,808	495,200	529,065

Exhibit I—Financial Statements

BALANCE SHEET - JUNE 30, 1962		BOLIVAR TENNESSEE JULY 30 1936	BOWLING GREEN KENTUCKY JUNE 11 1942	BRISTOL TENNESSEE JUNE 30 1945	BRISTOL VIRGINIA JUNE 30 1945	BROWNSVILLE TENNESSEE JAN. 10 1939	CARROLL COUNTY TENNESSEE DEC. 29 1938
ASSETS	INITIAL TVA SERVICE						
ELECTRIC PLANT (NOTE 1)							
AT ORIGINAL COST		7,002,463	15,919,582	25,034,643	15,431,611	3,953,463	9,210,876
LESS ACCUMULATED DEPRECIATION		2,462,591	4,175,879	7,609,895	5,410,645	845,309	3,310,826
		4,539,872	11,743,703	17,424,748	10,016,966	3,108,154	5,900,050
UNAMORTIZED ACQUISITION ADJUSTMENTS		0	252,713	0	0	0	0
		4,539,872	11,997,416	17,424,748	10,016,966	3,108,154	5,900,050
INVESTMENTS AND SPECIAL FUNDS							
OTHER INVESTMENTS		0	5,000	0	0	0	147,292
RENEWAL AND REPLACEMENT		0	100,000	550,000	0	0	0
DEBT-SERVICE		0	248,831	300,000	179,213	106,132	0
OTHER SPECIAL		0	0	0	1,903,344	659,302	0
		0	353,831	850,000	2,082,557	765,434	147,292
CURRENT ASSETS							
CASH AND TEMPORARY CASH INVESTMENTS		917,303	998,270	3,245,401	2,799,562	947,540	1,006,412
RECEIVABLES		848,029	1,539,386	962,241	429,532	584,713	1,008,372
MATERIALS AND SUPPLIES AT COST		136,548	342,832	280,148	202,033	99,968	288,644
OTHER CURRENT ASSETS		621,501	1,032,962	1,226,982	912,414	264,936	830,421
		2,517,381	3,913,430	5,714,772	4,343,546	1,897,155	3,133,849
TOTAL ASSETS		7,157,253	16,264,677	21,989,520	16,443,069	5,770,743	9,181,191

LIABILITIES

CAPITAL							
INVESTMENT OF MUNICIPALITIES		0	0	0	0	0	0
MEMBERSHIPS OF COOPERATIVES		0	0	0	0	0	0
		0	0	0	0	0	0
EARNINGS REINVESTED IN SYSTEM ASSETS							
BEGINNING OF YEAR		4,270,740	9,524,700	14,822,218	11,224,719	2,895,396	6,352,937
CURRENT YEAR		292,763	959,916	1,375,537	1,107,717	329,131	798,230
		4,563,503	10,484,616	16,197,755	12,332,436	3,224,527	7,151,167
LONG-TERM DEBT							
RURAL ELECTRIFICATION ADMINISTRATION		967,000	0	0	0	0	0
NRU-COOPERATIVE FINANCE CORPORATION		0	0	0	0	0	0
BANK FOR COOPERATIVES		0	0	0	0	0	0
BONDS HELD BY PUBLIC AND OTHER		0	1,265,000	1,965,729	1,882,545	1,410,000	0
		967,000	1,265,000	1,965,729	1,882,545	1,410,000	0
ADVANCES FROM OTHERS							
CONSERVATION		611,286	1,015,888	1,319,509	806,369	267,480	773,920
CURRENT LIABILITIES							
ACCOUNTS PAYABLE		773,036	2,200,239	1,632,728	1,047,165	736,104	942,908
CONSUMER DEPOSITS		108,192	973,016	271,133	16,686	121,553	217,061
TAXES AND INTEREST ACCRUED		4,637	105,837	424,595	146,770	6,605	66,952
OTHER CURRENT LIABILITIES		129,599	220,081	178,071	209,098	4,274	29,183
		1,015,464	3,499,173	2,506,527	1,421,719	868,736	1,256,104
TOTAL LIABILITIES		7,157,253	16,264,677	21,989,520	16,443,069	5,770,743	9,181,191

STATEMENT OF REVENUE AND EXPENSE YEAR ENDED JUNE 30, 1962

OPERATING REVENUE	8,127,702	22,492,694	27,191,167	17,484,053	4,741,181	13,186,391
OPERATING EXPENSE						
PURCHASED POWER	6,634,479	18,762,772	22,358,730	14,780,997	3,939,685	10,381,643
FACILITIES RENTAL (NOTE 3)	25,237-	179,634-	16,000-	16,000-	51,605-	170,724
DISTRIBUTION - OPERATION	190,212	696,752	705,575	458,405	188,579	352,033
CONSUMER ACCOUNTS	173,068	290,629	528,857	403,608	96,316	343,347
CUSTOMER SERVICE & INFORMATION ACCTS	9,712	113,147	33,917	4,369	4,769	24,684
SALES	11,239	10,277	0	11,220	6,475	9,182
ADMINISTRATIVE & GENERAL - OPERATION	246,185	375,144	469,156	289,244	88,108	314,039
	7,239,658	20,069,087	24,078,235	15,929,843	4,232,127	11,595,055
DISTRIBUTION - MAINTENANCE	227,489	554,240	542,955	304,653	28,292	448,380
ADMINISTRATIVE & GENERAL - MAINT	5,629	60,225	33,968	0	4,419	3,209
	7,472,776	20,683,552	24,655,158	16,234,496	4,264,838	12,047,304
PROVISION FOR DEPRECIATION	213,591	535,202	914,411	427,080	76,442	251,763
AMORTIZATION OF ACQUISITION ADJ.	0	58,201	0	0	3,682	0
TAXES AND TAX EQUIVALENTS (NOTE 4)	144,802	234,088	648,637	250,092	72,885	172,239
	7,831,169	21,511,043	26,218,206	14,911,668	4,417,847	12,471,326
OPERATING INCOME	296,533	981,651	972,961	572,385	323,334	715,065
INTEREST EARNED AND OTHER INCOME - NET	128,257	139,939	510,101	637,922	90,249	83,165
TOTAL INCOME	424,790	1,121,590	1,483,062	1,210,307	413,623	798,230
INTEREST AND DEBT EXPENSE	20,372	161,674	107,525	102,590	84,492	0
INCOME BEFORE EXTRAORDINARY ITEMS	404,418	959,916	1,375,537	1,107,717	329,131	798,230
EXTRAORDINARY ITEMS (NOTE 5)	111,655-	0	0	0	0	0
NET INCOME FOR THE YEAR	292,763	959,916	1,375,537	1,107,717	329,131	798,230

CHATTANOOGA TENNESSEE JAN. 23 1939	CHICKAMAUGA GEORGIA AUG. 8 1963	CLARKSVILLE TENNESSEE NOV. 23 1938	CLEVELAND TENNESSEE AUG. 16 1939	CLINTON TENNESSEE AUG. 16 1939	COLUMBIA TENNESSEE AUG. 16 1939	COLUMBUS MISSISSIPPI OCT. 20 1939	COOKEVILLE TENNESSEE DEC. 1 1944	COURTLAND ALABAMA OCT. 6 1938
144,259,002	666,761	14,840,801	20,504,450	15,917,360	11,195,251	10,037,776	6,780,644	496,423
50,631,481	276,465	4,671,916	6,364,526	4,968,062	4,315,309	3,736,905	2,082,584	209,897
93,627,521	388,296	10,168,885	13,939,924	10,949,298	6,879,942	6,300,871	4,698,060	286,526
0	0	2,715,272	105,975	0	0	614,208	790,600	0
93,627,521	388,296	12,884,157	14,045,949	10,949,298	6,879,942	6,915,079	5,398,660	286,526
0	0	0	0	700	0	0	62	25,419
14,643,738	0	0	20,000	0	0	0	0	0
566,750	0	2,317	51,226	0	0	0	1,790	0
1,710,200	0	5,197,762	64,023	680,000	15,801	6,203	612,375	0
16,922,688	0	5,200,079	135,249	680,700	15,801	6,203	614,067	25,419
18,374,267	177,817	2,661,733	3,039,497	1,010,966	2,606,547	2,682,363	1,684,099	10,755
13,629,156	176,267	1,425,659	2,318,423	1,607,421	1,396,625	1,415,607	1,229,665	57,675
1,643,578	8,976	283,176	452,539	234,412	311,873	498,401	177,928	13,764
21,084,266	99,708	2,669,722	2,896,724	1,120,907	1,369,957	888,612	416,109	50,116
54,731,557	462,770	6,620,290	6,709,183	3,973,706	5,687,007	5,464,883	3,507,821	132,310
165,277,766	851,066	24,904,526	22,890,331	15,603,704	12,582,745	12,408,165	9,520,548	444,259
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
98,221,252	553,827	9,101,386	16,307,490	12,605,501	10,121,369	8,299,425	5,818,836	334,614
8,122,894	21,520	984,841	745,517	977,633	451,980	1,024,752	793,871	22,496
106,344,146	575,347	10,086,227	17,053,007	13,583,134	10,573,349	9,324,177	6,612,707	357,110
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3,353,900	0	4,616,175	280,000	0	0	0	240,000	0
3,353,900	0	4,616,175	280,000	0	0	0	240,000	0
20,810,045	103,194	2,444,347	2,701,607	1,055,989	1,443,484	825,796	363,376	57,491
28,661,340	153,611	5,418,933	2,311,050	416,916	298,096	1,713,440	1,147,171	0
2,003,192	18,914	725,559	402,346	461,952	145,656	493,199	384,404	8,982
2,185,628	0	129,944	8,035	3,833	6,721	4,469	7,548	9,490
1,919,515	0	1,483,341	134,286	81,880	115,437	47,084	765,342	11,182
34,769,675	172,525	7,757,777	2,855,717	964,581	565,912	2,258,192	2,304,465	29,654
165,277,766	851,066	24,904,526	22,890,331	15,603,704	12,582,745	12,408,165	9,520,548	444,259
217,215,441	1,393,621	23,674,945	26,587,113	20,944,078	17,533,154	15,801,452	13,808,324	610,601
181,638,944	1,256,746	19,690,307	22,820,625	17,070,389	14,995,841	13,327,905	11,522,799	498,447
1,025,392	20,063	32,484	18,000	286,181	18,999	36,923	41,869	5,235
5,234,519	17,755	612,184	615,837	408,798	538,625	183,214	414,988	17,200
3,913,325	17,901	497,520	379,626	528,739	328,305	216,143	218,425	15,358
525,120	728	34,280	40,733	17,539	44,660	8,311	2,757	595
0	0	3,906	0	6,500	6,400	6,568	0	0
5,594,819	30,432	429,403	498,599	425,745	307,886	314,275	187,423	17,265
195,881,335	1,343,625	21,591,474	24,337,420	18,743,891	16,202,718	14,319,493	12,388,261	554,100
6,702,863	8,954	519,644	680,667	532,532	507,654	284,769	212,178	18,067
18,159	528	20,589	33,631	13,165	7,176	16,839	5,633	0
202,602,357	1,353,107	22,131,107	25,051,718	19,289,528	16,717,548	14,321,101	12,606,072	572,767
5,214,647	19,869	381,250	589,176	490,491	369,528	263,786	228,523	13,432
0	0	250,539	13,975	0	0	26,705	200,467	0
4,454,299	11,006	419,734	532,527	520,656	253,049	494,788	171,716	3,393
212,271,303	1,383,980	23,182,630	26,187,396	20,300,735	17,340,125	15,106,390	13,206,778	589,592
4,944,138	9,641	492,315	399,717	643,343	193,029	695,072	601,546	20,409
4,107,646	11,879	853,353	363,370	348,393	258,951	357,805	249,629	2,087
9,051,784	21,520	1,345,668	763,087	991,736	451,980	1,052,877	851,175	22,496
303,166	0	360,827	17,570	14,103	0	28,125	57,304	0
8,748,618	21,520	984,841	745,517	977,633	451,980	1,024,752	793,871	22,496
625,724	0	0	0	0	0	0	0	0
8,122,894	21,520	984,841	745,517	977,633	451,980	1,024,752	793,871	22,496