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## SECTION 3




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# Lines to Nowhere — and Everywhere

It certainly does look odd. If you study a map showing just the transmission lines owned by Associated, much of it appears to be a jumble of unconnected lines starting nowhere and going nowhere. If you look at a map of just the circuits owned by investor-owned companies, you see some more of the same broken spaghetti. Only when you overlay the IOU map on the cooperative map do you no longer see gaps, but continuous lines that form the strongest interconnected system in the Midwest, perhaps in the nation. To get the complete picture, of course, you must add the lines or portions of lines owned by SWPA, municipal systems and the out-of-state ties.

"Now you see the integrated system we use to serve loads," Jim McNabb says, "... a good-looking system that starts somewhere and goes

Adopting a philosophy of cooperation enables Associated to develop an integrated system without duplicating facilities of neighboring utilities. Working with municipal and investor-owned utilities, Associated has built one of the strongest interconnected transmission systems in the nation, according to Jim McNabb.

Establishing an interconnection between Associated and the Tennessee Valley Authority in 1993 requires stretching a 161-kV transmission line 3,600 feet across the Mississippi River. On the Tennessee side of the river, after a sky-crane helicopter lifts a pre-assembled section to the top of the tower, workers bolt the section into place.

somewhere and does some good." He calls it "the envy of the Midwest." He volunteers, "The explanation is working with neighbors. If a line needs to be built somewhere, we decide who should build it not on the basis of service territory or any other traditional basis; we just give the job to whoever is in the best position to build it. Then we serve everybody off this integrated system."
Elaborating further, McNabb says, "The philosophy we were able to establish back in those early days – and it was Neil Adams who laid the groundwork – was that if we have a system that needs improvements and a load to be served, let's try to make the investment balance the use and not necessarily build our own. So if one of us had more load in an area than we had investment, we'd put in the next piece of investment. We ended up with an integrated system that is hell for stout. It's a tremendously strong system, and there are not many unneeded facilities out there. In fact, I don't know where there is any duplication."

From the beginning, McNabb says those who organized Associated wanted the super-super cooperative to be part of an integrated system. "They worked it out with the western Missouri companies first," he said. "Later on, we had to establish that principle with Union Electric and another Missouri company, Ark-Mo."

In no other part of the country are sections of continuous power lines owned by so many different parties. A line that might not be economically justified for one owner gets built by several for the benefit of all. New opportunities are created to buy or sell temporarily surplus power. Everybody shares the savings – customers and owners of public and private power systems alike. Individual power systems need not carry so much of their own reserves. A power system that gets in trouble – suppose a generator fails – can get instant help from others.

In no other part of the country are sections of continuous power lines owned by so many different parties.

"Associated will buy from anybody and sell to anybody, public or private." Gerry Diddle delights in making a point of that. "If Union Electric has a shortage, Associated will check the market, tell UE where it can buy, for how much and how much Associated will charge to deliver it. Resulting revenues, of course, help keep Associated rates low. The Associated transmission network is a moneymaker that helps reduce costs to the ultimate consumer."

Diddle, the AECI general manager who all through his 18-year tenure preached the gospel of good transmission deeds, and McNabb, AECI's chief engineer who did so many of them by a combination of planning and negotiation, acknowledge that luck and happenstance played a part. The first of Associated's four big out-of-state interconnections, the 345-kV line from St. Louis to Tulsa, is a case in point.

The way McNabb remembers it, a man in a sports shirt walked into his office in Springfield one day in 1970 and said, "I was just driving down Interstate 44 thinking how nice it would be to have a line all the way from St. Louis to Tulsa." His name was Jim Dyer. He and his wife were on vacation, en route back to Tulsa where he was an officer of Public Service of Oklahoma (PSO).

Dyer, who once had been a transmission planner for PSO, said he remembered seeing a map showing a 345-kV line from St. Louis out into the middle of cooperative territory. It was a line Associated had been showing on its planning model for some time. Dyer said his company's plans showed a line from Tulsa about 60 miles in the general direction of St. Louis and said cheerfully that there was "only" about 200 miles in between.

McNabb continued: "He thought what a good idea to interconnect with them – they had all that low-cost gas in Oklahoma, and we had all that high-priced coal in Missouri. It was a good idea, and what especially appealed to me was that here would be a line going right through the middle of the Associated system, and it would give us capability to buy and sell power with PSO and Kansas Gas & Electric Co. which we did not have at that time."

When completed in 1974, the line became a backbone line for the entire Associated network. "It was a line that eventually had to be built," McNabb said. "But, you know, we had not even been remotely thinking of such a line when this guy walked in and triggered the thinking of a whole lot of people."

Some of the participation expected from others "fell apart," McNabb said, and Associated wound up having to build 160 of the 200 miles. "The way this was equalized," he said, "was that PSO sold Associated a block of power for 15 years at a very attractive rate. They could build gas-fired generators then for $100 per installed kilowatt compared to $250 to $300 per kW for us to build coal-fired units, and the fuel was cheaper too. They didn't lose any money, and we made some – another win-win situation."

What McNabb thinks is "probably the best of the interregional ties we ever made" is called the MINT line, an acronym for the Missouri-Iowa-Nebraska-Transmission agreement. It is only 101 miles long, 100 in northwest Missouri and one in Nebraska, but with seven owners – Associated, KCP&L, St. Joseph Light & Power Co., Iowa Power & Light Co. (now called MidAmerica Energy), the Omaha Public Power District, the Nebraska Public Power District and a municipal, the Lincoln Electric System.

McNabb says it all started in the mid-'80s when former AECI General Manager Neil Adams, then an engineering consultant, was trying to promote a generating facility in Wyoming with a coal-by-wire line all the way to Arkansas. "The idea was a little ahead of its time," McNabb says,

Fairport substation

"Of all the interregional lines, this one has been the most profitable for us. It paid for itself in 18 months."

Jim McNabb

"because we didn't need the power then. But he got us talking with utilities all along the path from Wyoming to Arkansas. We got acquainted with a fellow named Clint Johannes who was investigating the idea for the Nebraska Public Power District. We got to talking how wonderful it would be if we had a connection between Nebraska and Missouri, so we could move what we didn't need on down to Arkansas and make a profit from it."

Now Diddle picks up the story: "Jim (McNabb) was always telling me we needed a line to the north, one reason being that we were thinking seriously about a coal-fired power generating plant at Watson in NW G&T's territory. Jim and Johannes were convinced we could build the line ourselves, but then all these other utilities got interested. We took the approach we've always used on joint projects – to seek as many partners as we can get. In this case the others agreed that Associated should build and operate the line, each with an undivided one-seventh interest. The two IOUs, in effect, leased, paying us annually the debt service and O&M on their one-seventh each. The two Nebraska public power districts were not allowed to make an investment in facilities in Missouri, but gave us kilowatt-hours instead of dollars – their generating costs were about 4 mills per kilowatt-hour cheaper than ours. We accepted power from their low-cost generating units and we offset that against our higher cost units, and we both came out ahead."

McNabb continues: "Of all the interregional lines, this one has been the most profitable for us. It paid for itself in 18 months. We just owned one-seventh but we got a whole bunch of benefits with it. For example, one of the reasons we were able to close the Thomas Hill coal mine in February 1993, a year earlier than otherwise planned, was because we were able to buy a lot of energy over this new line."

The very first transmission line Associated built, early in 1965, was just 1.5 miles long, but oh so necessary. To serve its loads, M&A G&T down in the bootheel of

Missouri had been dependent for years on an SWPA radial line from Norfork Dam to the SWPA substation at Idalia. UE had a nearby 115-kV line. Associated paid UE to upgrade the line from 115 kV to 161 kV, then built a 1.5-mile connection between the Idalia substation and a place called Stoddard, tying the M&A system to the UE system. To the dismay of the other parties, SWPA engineer George Simpson refused to allow the switch to be closed, saying it might suck all the power out of the government's system over into the UE system. As related in Chapter 5, this forced Associated to put in the necessary telemetering and start dispatching its own system. Only then did the 1.5-mile line do the job it was intended to do.

"What it did," M&A Manager Bob Stagner says, "was to tie down all of this long network all the way from Norfork, 150 miles away, and provide a second source of power. Suddenly, we were in the middle of a strong system. Reliability of the M&A system improved immediately by quantum leaps."

Next came the Associated agreement with Union Electric to provide outlet capacity for Thomas Hill Unit 1, as described in Chapter 4, followed by a series of smaller but very important interconnections between UE, Associated and the G&Ts. On the map of Associated line ownership, McNabb points to a spot near Palmyra. "For example," he says, "see this line that goes from nowhere to nowhere? It's an important link that ties our system to Union Electric for mutual support. This line goes from Kirksville where it ties into a Union Electric line to a place near Palmyra, another Union Electric location. Northeast's 69-kV system goes all over this area and it needed support. Union Electric's 161-kV line also needed support in the area. UE also has a 345-kV line that goes from St. Louis to Minneapolis. Associated built a 345-kV substation on the UE line and tied it into UE's 161-kV system, and for that, Associated was able to build a 161-kV line right through the heart of Northeast's service area. It is one of the many arrangements between Associated and Union Electric that followed the agreement of 1966 – the foundation agreement that allowed Associated to move Thomas Hill Unit 1 power over Union Electric lines.

Bob Wingo, left, and Jim McNabb in AECI's first dispatch center.

SWPA engineer George Simpson refused to allow the switch to be closed, saying it might suck all the power out of the government's system over into the UE system. This forced Associated to put in the necessary telemetering and start dispatching its own system.

Another example: M&A has a 69-kV system that serves southeast Missouri. UE had a 161-kV line that went through Fredericktown, the place M&A needed support the most. As part of the Thomas Hill-UE package, M&A was allowed to build a 161-kV substation to connect to UE's line and support its 69-kV system at a point distant from anyplace Associated could have provided direct help. Associated paid UE in kilowatt-hours for use of its transmission system. More importantly, it set up a condition by which Associated could tap UE's system for low-voltage support and conversely UE could tap the cooperative system in other areas to support its system.

McNabb said, "This agreement set the pattern – UE can do something for us way up here, and we can do something for them way down there. Now we have five or six places where we use Union Electric's transmission system in this manner, and they have four or five places where they use our system in the same manner. It's a pattern of integration we have followed with others."

A somewhat similar situation existed in central Missouri. Central G&T's 161-kV line from Bull Shoals to Chamois was also a radial line, subject to all the failings of a line fed from only one end.

At Maries, Central had a substation next door to a UE 138-kV line. "There was no technical reason the two systems were not tied together," McNabb says, and Associated soon did the job. "Partly it was not done earlier because of the old public power-private power philosophies, but mainly it was because the individual G&Ts were not strong enough to go to a company like UE and say, 'We'd like to make a connection and here is something we can do for you somewhere else.' They could help only in their own service areas. Because the coordination agreements gave Associated control over the facilities of all the G&Ts, we could go beyond, and we did."

McNabb said the coordination agreements also let Associated integrate the G&T systems that were separate and standing alone without support or backup from one another.

Both M&A G&T and the Arkansas-Missouri Power Co. were serving the general area of southeast Missouri where, in 1965, a very large lead deposit was discovered. But neither had transmission lines to the wide area of the deposits near the town of Potosi. And if there was one thing needed by the half-dozen mining companies that rushed in to try to develop the deposits, it was electricity.

Associated's Neil Adams and his longtime friend at Ark-Mo, Charlie Czeschin, agreed to build a joint transmission system of several lines and substations to serve the area. Unlike other Associated joint transmission projects, ownership was to be divided, with each paying a part of the cost in proportion to use of the network. It was an unusual arrangement by which two utilities could each use the other's lines to compete for the same business.

It also was another of those good decisions turned bad that, in time, brought good results. The lead-mining operation never got as big as Associated had hoped. The major use for lead then was in gasoline. Just as the joint transmission project was completed, the nation went to no-lead gasoline. "But," said McNabb, "it got us established with Middle-South Utilities, and arrangements with Middle-South saved our hides in the early '80s." That's when Associated's loads flattened just as Thomas Hill Unit 3 was coming on-line, creating a huge surplus.

At the same time Middle-South – owner of Ark-Mo and four larger companies: Arkansas Power & Light, Mississippi Power & Light, Louisiana Power & Light and New Orleans Public Service Co. – was hard hit by the Arab Oil Embargo. Middle-South was heavily dependent on oil-fired generation, and the embargo sent its costs skyrocketing. "We were able to sell our surplus on a year-to-year basis to Middle-South, which was glad to substitute all the coal-fired generation we could sell them to replace more expensive oil-fired generation," McNabb said. "Win-win."

500-kV line

"We, along with UE and Middle-South Utilities, put together one of those three-party deals, resulting in the first 500-kV line in Missouri. It also was the first 500-kV line to be financed by REA."
Gerry Diddle

The next transmission highlight saw Associated building the first 345-kV line owned by a cooperative anywhere in the nation. It provided a bonus benefit to Associated and Noranda Aluminum. UE owned a 345-kV line ending at Lutesville that offered a logical connection for a 345-kV line to be built by Associated from the first unit at New Madrid. Such a connection would provide outlet capacity for that unit to be delivered to an array of customers over the integrated system of public and private power entities. The 40-mile tie was completed in 1970. The Noranda Aluminum project was ready to receive power then, but the power plant was two years away from being ready to provide it. Associated was able to serve Noranda's 125-MW load immediately, thanks to the integrated system and displacement.

Transmission technology was advancing, and Associated was keeping pace. Another of its big out-of-state ties was a 45-mile stretch of 500-kV line connecting the New Madrid power plant with a 500-kV line owned by Arkansas Power & Light. "Our basic extra-high-voltage system was 345-kV," McNabb recalls, "but the Arkansas company had a big 500-kV network. We had a lot of business relationships with that company, and we ended up building a 500-kV line from New Madrid to the Arkansas-Missouri state line."

Diddle chimed in: "It took a tremendous investment. We, along with UE and Middle-South Utilities, put together one of those three-party deals resulting in the first 500-kV line in Missouri. It also was the first 500-kV line to be financed by REA."

No other G&T in the nation has the interregional tie capacity of Associated. The third of its four big out-of-state ties was a 345-kV connection with the St. Louis-Tulsa 345-kV line at a place called Morgan near Springfield. It goes through Springfield to a place called Flint Creek in northwest Arkansas, thence to its terminus at Pryor on the

Grand River Dam Authority system about 40 miles into Oklahoma.

"The interesting thing about this line," McNabb says, "is the number of different parties who shared its construction. The part in Oklahoma was built by the Grand River Dam Authority, a state agency, and the part across Arkansas by Southwestern Electric Power Co., one of the Dallas-based Central and South West Services operating companies. In Missouri, Associated built about 40 miles, Empire District Electric Co. of Joplin about 20 miles and the city of Springfield about 30 miles. Thus you have a state agency, two investor-owned companies, a municipal and a cooperative – you can't find this kind of cooperation anywhere else."

Associated was the unifying force in this case, as it was for the MINT line, the fourth of its major interregional connections described earlier in this chapter.

Completion in mid-1993 of a 161-kV connection with TVA, including a 3,588-foot span across the Mississippi River, ended 25 years of frustration for Associated in its desire to tie the two systems. The line runs from New Madrid to Tiptonville, Tenn. It opens up new opportunities for buying and selling power with TVA itself and all the entities tied to the TVA system.

McNabb remembers that in 1968, he and Neil Adams visited TVA headquarters to try to sell the idea of a connection to New Madrid. Failing then, Associated tried four or five times more over the next 20 years, all without success. TVA's reasons were always the same – they didn't need such a line, and they didn't want IOUs on the Missouri side of the Mississippi thinking the TVA camel might try to nose its way into their tent. People who feared an expansion of TVA had successfully promoted a law that limited TVA sales to its existing territory, and TVA had not made a connection with a new entity since 1968.

Then in 1990, Associated's Jim Kistner was in Chicago for a regional meeting of transmission planners. He asked the question again: What were the chances of a high-voltage connection at New Madrid? His TVA counterpart, Charles Aderholdt, responded, "Well, this might be the time to talk about that." TVA was building a line from Union City to Tiptonville and, consequently, was coming most of the way toward Associated. And by this time, old fears about TVA expansion had turned into latter-day realities about the win-win economics of such a tie.

Charlie Czeschin, 1960s

"Gentlemen, we need this line; this is the time to get it, and if you force me to prove to you beyond a reasonable doubt, you're asking me to look into the future and I cannot do that."

Jim McNabb

Diddle and board President O.B. Clark can't give McNabb high enough marks for his seeing the ultimate value of transmission and pushing it when others had doubts. "Build the transmission highways," McNabb was saying in effect, "and the business will come."

Clark smiles at the recollection how, when he was a young board member, "Jim would come in with a new transmission project, and we'd look at the design and drawings and we'd study all the flow charts and then we'd ask, 'Will this pay itself off? Show us the numbers.' I remember well Jim saying, time and time again, 'Gentlemen, we need this line; this is the time to get it, and if you force me to prove to you beyond a reasonable doubt, you're asking me to look into the future and I cannot do that.' We'd say to Jim, 'We're going to approve this project, and we hope it's half as good as you say it is.' Well, not only would it turn out half as good as Jim said it would be, it would be twice as good!"

McNabb says that's not quite the way he remembers it. "The board would ask if I had a study showing these lines would pay for themselves. I would say no, but if they wanted one, I could probably make one up."

Building "transmission highways" is an investment that has paid off for Associated, netting a transmission system envied by other utilities. The Missouri-Iowa-Nebraska Transmission (MINT) line connects Associated with six neighboring utilities, strengthening the reliability of electric service in the region. The 345-kV line stretches 100 miles through northern Missouri and one mile across the state border into Nebraska.

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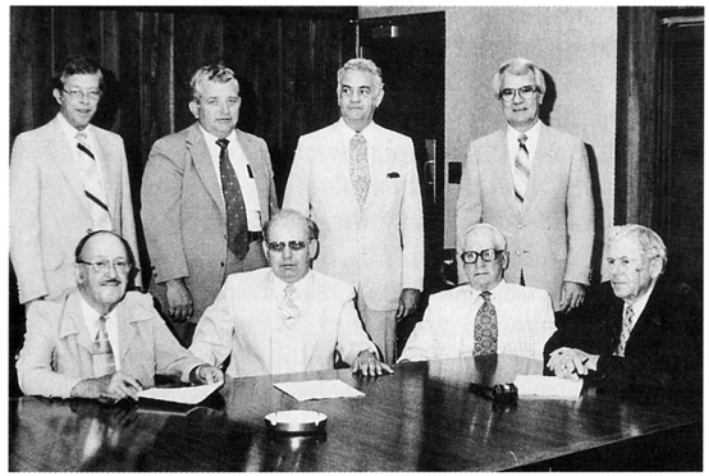
# City Cousins

A dozen years before the federal government adopted its "open-access" policy, Associated started allowing the cities and towns of Missouri to make use of its marvelous transmission system.

Since 1992 the federal government has required all owners of transmission lines to allow any power supplier to use those lines – for a fee, of course. The Federal Energy Regulatory Commission (FERC) imposed its open-access rule in order to stimulate greater competition among power suppliers. But way back in 1981, Associated gave unlimited access to Missouri's municipal systems for use of its transmission system. Associated did it voluntarily and for two different reasons. One was to enable the newly established Municipal Pooling Commission to carry out its intended purpose of



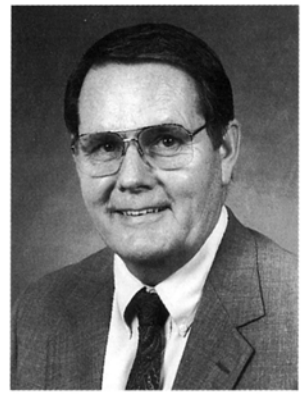
To ensure joint planning of future generation and transmission facilities, Associated joins the Missouri Joint Municipal Electric Utility Commission. April 29, 1981, gathered for the contract signing are, from left, standing, Jim McNabb, Gerald McHaffie, Keith Beardmore, Gerry Diddle, and seated, John Bates, Dick Malon, R.D. Pennewell and Rudie Slaughter.

doing the supply job for the towns and cities of Missouri that Associated does for the cooperatives. The other was to help one particular city, Sikeston, market power from the 235-MW power plant which that municipal completed in September 1981 to serve its own needs and those of several other municipals.

Not a win-win situation but a case of "win-win-win." That's the way Frank Stork, head of the Association of Missouri Electric Cooperatives (AMEC), views establishment of the Municipal Pooling Commission and Associated's decision to open its lines to its city cousins. By that he simply means there were benefits for all the power suppliers of Missouri – investor-owned systems, as well as Associated and the municipals.

There are two parts to the story of Associated's relationship with the commission. One has to do with the creation of the commission, the other with the transmission arrangements. Sikeston is a related but separate story told at the end of this chapter.

Many of Missouri's municipal power systems, including some that had helped supply the infant distribution cooperatives in the 1930s and 1940s, were by the '70s themselves running into supply problems. Loads for the municipals, like those of the cooperatives and private power companies, were growing at a double-digit percentage rate. To augment their power supply, the municipals were buying what they could from the IOUs, SWPA and some cooperatives, all of whom were having their own supply problems and thus in no position to assure the municipals of the larger supply they might require in the future. Worse, the municipal systems were severely handicapped by a provision of the Missouri State Constitution prohibiting any municipals from owning power facilities jointly with anyone else. They could build their own power plants. They could buy power from another municipality or other producer and build the lines necessary to bring it to their own territories. But not the other way around. That is, if a municipal were to build a power plant to serve its own needs and have some left over to offer others, it was not allowed to build lines to deliver power to the others – the others would have to come and get it. In short, the municipals were on a tight tether.



Frank Stork

Many of Missouri's municipal power systems, including some that had helped supply the infant distribution cooperatives in the 1930s and 1940s, were by the '70s themselves running into supply problems.

Keith Beardmore, then utilities director for Chillicothe, was at the same time chairman of the Missouri Association of Municipal Utilities (MAMU). It was an organization somewhat like the AMEC, but without the staff and the legislative muscle. At least twice MAMU tried and failed to get action from the state legislature that would put a constitutional amendment on the ballot to permit joint ownership and, in particular, allow creation of what is commonly called the Municipal Pooling Commission. Formally named the Missouri Joint Municipal Electric Utility Commission, it was planned "to operate as an electric utility for the benefit of the combined requirements of its members," and needed authorization "to construct, operate and maintain jointly owned generation and transmission facilities and to enter into contracts for power supply, transmission service and other services necessary for the operation of an electric utility." The investor-owned utilities opposed the idea, even though the IOUs later came to see the advantages of having a new supplier to share the risks ahead and to relieve them of any pressure to serve the municipal load growth at a time their own needs were straining their resources. AMEC and Associated neither opposed nor supported the initial MAMU efforts.

But Beardmore and Stork talked many times. After some time on the sidelines, Stork decided AMEC should join the fray. "I told Keith I didn't yet have board approval so I couldn't commit, but I thought that perhaps AMEC could and should take over strategy on the necessary legislation – find a sponsor, line up support, that sort of thing. Keith readily agreed. The municipals had strong individual leaders, but they did not have a strong association and at the time did not even have a full-time executive.

"I worked with Gerry Diddle and Gene Andereck and others at Associated and came up with some language that

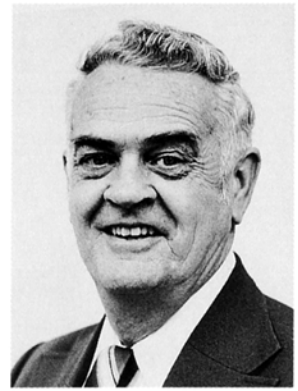
would get the job done, and then my board and the Associated board gave us the authority to go ahead with MAMU in pushing for the legislation."

Stork found a key member of the House willing to sponsor a bill. It was Jim Riley of St. Louis County, chairman of the Consumer Protection Committee through which all utility legislation flowed. "Riley did not have any rural electrics or municipals in his district, but he knew it would be good for the state," Stork said. "The IOUs, not yet convinced it was in their best interests, fought us all the way. And we didn't even have the support of all the municipals – some just lay back. But enough of them supported the effort that both houses passed a joint resolution referring the constitutional change to the voters." That was in 1978.

A companion piece of enabling legislation also passed. It allowed individual cities to spend money outside their corporate limits. And it spelled out how the pooling commission would operate for the benefit of its members – six cities and towns at the outset, 54 in 1995. The referendum was put on the ballot at the next general election, and prospects looked good.

"But we ran into a surprise," Stork recalls, "a fluke." Another proposed constitutional amendment appeared on the same ballot. Although not related in any way to the municipals' amendment, by sheer coincidence it amended the same section of the constitution. It was only then that Beardmore and Stork became aware of another provision in the Missouri Constitution that says if two issues dealing with the same section are on the ballot at the same time, only the one getting the most votes can be adopted.

"I knew we were in trouble," Stork remembers. "I knew there wasn't much interest in our amendment compared to the other one. We needed to get the voters' attention. For that, we needed air time, and not only was money hard to come by, but most of the air time had already been sold. Fortunately, we had a good relationship with the Missouri Net and the Brownfield Network, and they sold us all the air time they could. Whether that was the main reason, I'm not completely sure, but we won."



Keith Beardmore

**The Missouri Joint Municipal Electric Utility Commission was planned "to operate as an electric utility for the benefit of the combined requirements of its members."**

Beardmore doesn't go so far as to say the municipals' victory could not have been achieved without the support of the cooperatives, but he said, "No doubt about it, support from the cooperatives was very important – very important."

The commission began operation in January 1980 when a joint contract was signed by the six charter members. Then bad timing showed its ugly face. Load growth came to a screeching halt and, for the first few years, there was little of the need for added power supply that had spurred the municipals to create the commission. For a long time the new commission did not even have a manager. Beardmore, its first president, and other officers ran things. But by the time the first manager was hired in 1983, the officers had increased membership from six to 31 and had completed a major engineering study. The study, with input from all the then-members, covered existing power supply, including transmission, and assessed future needs. The officers had also worked out with Associated the contract that would enable the commission to grow into the job it was created to do.

The first pooling commission manager, Bob Barnett, was hired away from his job as head of the municipal system in Independence, where Harry Truman and the Truman Library were among his customers. During his 11 years as manager, Barnett dealt with Associated, SWPA and the Sho-Me, M&A, Central and NW G&Ts to convert the separate transmission contracts of individual cities and towns with those suppliers into contracts with the commission. The commission, authorized to build and own generating and transmission facilities itself, but not having done so, in turn contracted with Associated for the power supply it needed to serve some of the needs of 19 of its 54 members. Unlike Associated, it has no "full-requirements" contracts with its members.

Ken Weisel, who grew up in New York City and graduated from Massachusetts Institute of Technology (MIT), came from a municipal utility in California to succeed Barnett in April 1994. He almost immediately had to face the challenge of making the commission an owner of generating facilities for the first time and thus move it closer to its ultimate role as the principal, if not exclusive, supplier for all its members. In 1995, he was close to agreements for the commission to join in a multiparty power plant. He also was negotiating to make additional purchases of power from other parties for the again-growing needs of the pooling commission members. Those 54 members in 1994 served 7,000 more customers than in 1993 – a total of 331,000 customers (meters) in households totaling about 1 million people.

In addition to the 19 members served by the commission with power supplies it purchases from Associated, the city of Chillicothe is served directly by Associated. Of the other municipals, a handful supply all of their own needs and the rest are served by various suppliers – IOUs, distribution cooperatives and Sho-Me – depending on the control area in which they are located. Weisel agrees with Beardmore's assessment that "the true test of the commission still lies ahead." Then, Weisel is quick to add, "In today's utility world, nobody, not even Associated, stands alone without connections or contracts with others."

Weisel is pleased with the "continuing and expanding" relationship he found between the municipals and cooperatives in Missouri. "We all share the same ideal," he said, "the ideal of consumers benefiting from ownership of their utilities."

"We wanted to help the commission through its growing pains and hasten the day when it can do for the municipals much of what we do for the cooperatives," said Jim McNabb, explaining why Associated in 1981 opened its transmission system to the brand new pooling commission. "But because of the long period of little or no load growth, that day has been slow arriving, and the commission has not been able to use our system to the extent we thought it would."

Ken Weisel, 1996

"We wanted to help the commission through its growing pains and hasten the day when it can do for the municipals much of what we do for the cooperatives."

Jim McNabb

The first thing Associated and the pooling commission talked about back then was a transmission concept. Some of the municipals bought from cooperatives, and some from the private companies, but there was no municipal transmission system. "They were all connected to somebody," McNabb explained, "but they weren't linked, and that's an important distinction." If the commission was to produce or buy a joint power supply, it needed transmission linkage to all its members.

Associated provided it, and the arrangement was unique at the time: The pooling commission could use all of Associated's transmission system to move power to or from any utility to which Associated was connected. It could buy from Associated. Associated was not obligated to deal with individual municipalities, nor was it required to build any facilities for the pooling commission. But if the commission had an opportunity to buy or generate power and found the Associated transmission system inadequate, the commission could step in and expand the Associated system in any way it needed to.

Once all this had been worked out with Associated, the commission negotiated similar arrangements with the G&Ts for use of their 69-kV and other lines.

Today, Associated also has contracts to sell energy and, in some cases, capacity to the commission for 19 of its members. These cities and towns had been buying some of their power from some of the distribution cooperatives and G&Ts. The commission had not been involved in this loop in any way. Associated was selling to the cooperatives who were selling to the municipals. Over a period of several years, contracts involving those towns were transferred in such a way as to make the commission the supplier, using Associated lines. The new arrangement relieves the cooperatives from a responsibility that most of them no longer relished.

Associated treated the city of Sikeston like kinfolks too. The pooling commission had not yet been created when Sikeston planned and started construction on its 235-MW coal-fired power plant and contracted to sell much of the 207-MW net output to six other municipals. Another half-dozen municipals buy power from Sikeston now, as does the pooling commission which never has been deeply or directly involved in that project.

Associated helped in two ways. First, it enabled Sikeston to gain some economies of scale when it agreed to take an amount of power at the start that permitted the plant to be built at twice the size otherwise justified. "It got to the point," McNabb remembers, "where they had to finalize the size of the plant. We agreed to buy the difference, whatever it might be, between what they had sold to others and the capability of the plant."

The Associated contract allowed Sikeston 20 years to grow into using or selling Associated's initial take elsewhere. Next, Associated did for Sikeston what it did for the pooling commission, entering into a separate contract that allowed Sikeston to use its transmission system. Over these lines, Sikeston moves power to cities and towns within Associated's control area. Sikeston also uses SWPA lines to sell power within that federal agency's control area.

Dick Inman, Sikeston's longtime director of utilities who retired in January 1995, says he wasn't even thinking of building a power plant when, in the early '70s, SWPA gave notice. When its contract with Sikeston ran out in 1986, SWPA warned, the city would have to look elsewhere for firm power. "They suggested rather strongly that we start making plans for another source of supply."

Inman turned down an offer from an IOU and instead had feasibility studies made by two consultants. The studies showed what it would take to make a plant of different sizes feasible. Then he started talking with utility directors of other municipals he knew to be in need of power supply – Trenton, Carthage, Kennett, Jackson and, in

Dick Inman

"They (SWPA) suggested rather strongly that we start making plans for another source of supply."
Dick Inman

Arkansas, Gainesville. Of course, with the old constitutional prohibition still in effect, the others could not own shares of the plant – they could only buy from it – and as a municipal itself, Sikeston was not allowed to build lines to deliver power to them. Inman turned to Associated, which he appreciatively says made it all possible.

But not easy.

First, a challenge of legality to sell bonds went all the way to the state Supreme Court before being decided in Sikeston's favor. "It was called a 'friendly suit,'" Inman recalls, "but I didn't think it was very friendly." A bond issue of $250 million was approved by the city's voters in 1976, construction commenced in 1978 and the project was completed on schedule in September 1981. To be assured of standby power provided for in its contract with Associated, Sikeston was allowed to build a 26-mile line from its new plant to the New Madrid units operated by Associated.

Standby is another of the services existing utilities are now required by FERC to provide for new power suppliers entering the market. Associated did it long ago.

Before construction commenced, the local state senator, John Dennis, called the construction trades together and got a pledge of "no strike." Within 30 days after groundbreaking, the project was shut down by a jurisdictional dispute. Happily, it was resolved in less than a week.

Getting the plant financed and constructed turned out to be the least of the project's troubles. A couple of cities counted on to buy power from Sikeston dropped out before construction. Worse, some of the original purchasers, as load growth stopped in the '80s, could not use and would not pay for all they had contracted for.

At one point Sikeston was technically in default on its bonds.

**Keeping the plant in operation may have been more of an accomplishment than getting it built.**

McNabb said Associated agreed to buy the Sikeston excess at the outset because Associated thought doing so would enable it to defer building additional generation of its own. "But by the time Sikeston came on-line we had a lot of excess capacity ourselves and this just added to it."

Still, McNabb had high marks for Inman's handling of the project. He said that "keeping the plant in operation may have been more of an accomplishment than getting it built." McNabb added: "Dick Inman showed amazing ingenuity in finding ways to sell power and keep the project from being taken over by creditors. I remember one bond house calling me every three months or so for three or four years wanting to know over and over again what was going to happen down there. I told them truthfully that sooner or later this plant was going to be all right."

For his own part, Inman said, "We were counting on Associated all along and they never blinked an eye."



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# The Odd Couple-ing

Could anybody else have done for the Missouri cooperative what Associated did? Probably not. One of the six G&Ts – Sho-Me, with headquarters in Marshfield – was formed shortly before World War II with the intention of trying to do just that. But it really never got the chance.

It never got the chance because the early-on purchase of a private power company backfired. Missouri law exempts cooperatives from regulation by the Public Service Commission (PSC), but in this case the purchase included not just electric properties but an ice plant and other things that enabled the Public Service Commission to claim jurisdiction over Sho-Me. That led to a long court battle and a state Supreme Court decision that for many years left Sho-Me technically classified as a public utility subject to regulation and not a cooperative.

The 1950s are a time of expansion for Sho-Me Power with the construction of 69-kV lines and a new headquarters in Marshfield. In the photograph above, Sho-Me employees work during the 1950s in the operations and dispatch center. It is also in the late 1950s when Sho-Me and the other G&T managers start to discuss the idea of a statewide G&T – Associated.

As such, it was still eligible for REA financing, and there was no legal reason it could not have carried on with all its good intentions to be a statewide supplier of electricity for the distribution cooperatives. But as a practical matter, regulation by the Public Service Commission was an onerous and time-consuming process that neither Sho-Me nor the little cooperatives wished to accept. By the time Sho-Me sold off the offending properties and won its long battle to regain status as a cooperative and to get out from under the jurisdiction of the PSC, time had passed its big dreams by. Needs that could not wait led to the formation of the other five G&Ts in the interim and, ultimately, to the creation of Associated. M&A and Northeast were organized in 1948, Central and NW in 1949. KAMO, which serves cooperatives in both Missouri and Oklahoma, serves none in Arkansas where it was incorporated in 1941, the same year Sho-Me first drew breath. These five commenced to do major parts of the job Sho-Me was created to do and did so until Associated was incorporated and chartered in 1961.

This what-might-have-been tale started with the 1941 creation of Sho-Me Power Cooperative by representatives of 26 Missouri cooperatives as a statewide G&T. Not long after, the investor-owned Missouri Electric Co. became available for purchase, and with REA money Sho-Me bought it in 1943. That was the new G&T's first move to fulfill its stated reason for existence: to acquire or build all the facilities necessary to serve all the distribution cooperatives in the state. Missouri Electric, which served parts of southeast Missouri and the southern Ozarks, had been required – after complicated court action stemming from the Public Utility Holding Company Act of 1935 – to divest itself of all its properties. The REA's Elbert Karnes helped negotiate Sho-Me's purchase for a base price of $2,350,000, plus modest additional sums for inventory items. REA then agreed to lend Sho-Me $4.2 million to cover the purchase, with the balance in the form of a "future loan" to launch Sho-Me on a construction program of one or more tiny (5-MW) power plants and related transmission facilities. The PSC which had had jurisdiction over the company now claimed jurisdiction over Sho-Me mainly because of the non-electric, physical assets acquired as part of the deal.

John Davis, 1975

"Sho-Me's role in the Missouri cooperative movement was twice as hard as any of the other G&Ts or Associated because we had to satisfy our bankers on the one hand and the commission on the other."

John Davis

The loan contract required REA approval for just about anything Sho-Me might do with its newly acquired properties. But the parties to the loan foolishly agreed to an amendment that entirely subordinated all the REA powers and restrictions to the powers and regulation of the state's Public Service Commission.

Sho-Me soon learned the welcome mat was no longer out among the distribution cooperatives. Charlie Boulson, a former manager of Sho-Me and one of the 15 incorporators of Associated, puts it this way: "Sho-Me being dragged through the courts didn't give REA, or anyone else for that matter, a good feeling about Sho-Me having the stability needed. REA was reluctant to lend to us, but as the other five G&Ts were formed, REA was willing to lend to them the money for lines and generation that we couldn't get."

The issue of non-electric properties ignited court action but was not the basis of the state Supreme Court's decision. In his book, "The Farmer Took a Hand in Missouri," Boulson wrote: "On Jan. 14, 1946, the Missouri Supreme Court affirmed its writ of ouster of Sho-Me Power Cooperative to do business but granted Sho-Me one year in which to effectuate a reorganization. The case was decided on the narrow issue of whether or not electricity was an agricultural commodity in the sense in which the same might be construed under the Agricultural Chapter of the Cooperative Companies Act, under which Sho-Me was organized. The Supreme Court decided electricity was not a commodity in this sense. Under this decision there was nothing else for Sho-Me to do but reorganize under the general business laws of the state of Missouri, and this it proceeded to do." The reorganization was approved by the court July 31, 1947.

Now the life of the Sho-Me Power Cooperative was ended after just six years, and life was begun as the Sho-Me

Power Corp., tightly regulated by the Public Service Commission and limited by the commission's molasses approval procedures to what it could do for the other cooperatives. A 69-kV line built by SWPA in 1947 from Norfork Dam to Willow Springs on the Sho-Me system, and power purchased from The Empire District Electric Co. helped some, but by 1947 the reorganized Sho-Me, with its limited resources, was serving only seven cooperatives and two cities – a long cry from the statewide G&T it was planned to be.

Nevertheless, Sho-Me was left with a 25-county area that still makes it Associated's biggest customer, both in terms of area (one-third of the state) and electric demand (600,000 kW). In 1948, Sho-Me was given a 50,000-kW contract by SWPA, but that had to be turned over to Central in the early '50s under terms of the SWPA lease arrangements with Sho-Me, Central and NW (see Chapter 3). Sho-Me actually became a customer of Central and, until Associated came along, purchased all its power requirements from Central.

It was quite a turnabout.

And it was quite awkward, this status as a business corporation. John Davis, in 1995 starting his 21st year as Sho-Me manager, lamented the odd coupling: "Sho-Me's role in the Missouri cooperative movement was twice as hard as any of the other G&Ts or Associated because we had to satisfy our bankers on the one hand and the commission on the other. We were under the jurisdiction of the Public Service Commission for nearly 50 years, like a private power company; yet with REA as our banker, we were subject to the REA regulation that had been subordinated to the PSC. We didn't fit like a regular utility company. We had to operate with a lower equity and lots of other limitations."

Over a period of several years, Sho-Me divested itself of all those holdings that kept it from being a cooperative. Then in its efforts to get out from under PSC jurisdiction, it went quietly to the secretary of state's office to change its charter and only then announced what it had done. It told the PSC it no longer was a corporation, but a cooperative, and no longer subject to PSC regulation.

David Hamil, New Madrid Unit 2 dedication, 1977

"If you've never met David Hamil, well, he's like the tallest, strongest, straightest senator-type you'll ever see. He's a classy gentleman and evokes the kind of authority Doug Wright used to."

John Davis

John Davis remembers: "That's when the fight started. On two occasions during my watch, the commission decided to come after Associated through one of our rate cases. We beat 'em down the first time. The last time, in about 1990, I mean they were almost crazy they were so determined to get Associated. We represented 25 percent of Associated and they knew if they could turn the screws hard enough on Sho-Me, they could force Associated to submit to auditing by the commission.

"They came after the all-requirements contract. They said, 'You have an all-requirements contract with Associated which we're not going to consider valid because we never approved it.' Now you've got to understand that the all-requirements contract is the bread and butter of our mortgages with the federal government – it's like the Bible."

Davis turned to REA Administrator David Hamil for help. "If you've never met David Hamil, well, he's like the tallest, strongest, straightest senator-type you'll ever see. He's a classy gentleman and evokes the kind of authority Doug Wright used to. He sat at one end of the table opposite the PSC people and talked about the rural electrification program, and finally he said: 'Let me tell you how this works. The Rural Electrification Administration has a first mortgage on everything that Sho-Me owns, and we regulate Sho-Me's business and we do it well; we extend to the Missouri Public Service Commission the courtesy of setting Sho-Me's rates. But if you give Sho-Me trouble and if you cause them any undue financial hardship, I will step in and I will take over the operation of Sho-Me, and I will set the rates where I want them to be, and you will have nothing to say about it.' Everybody on that commission knew he was not joking. They said nothing and when they walked out of that room, we had another six or seven years of reprieve."

# Let me tell you how this works.

The commission membership turned over two or three times before it went after Sho-Me again on the all-requirements contract issue. This time Sho-Me did not have a strong REA administrator like Hamil to come to Jefferson City and threaten federal preemption if necessary to protect the REA mortgages.

"We got into one of those Mexican standoffs," Davis continued the story. "But after a while we gave a little and they gave a little. The commission said to us, 'If you will say we have jurisdiction, we will write an order that says we give up jurisdiction.'

"We said, 'If we do that, and if you renege on us, then we can't go to court claiming you don't have jurisdiction; we'll lose our position in court if we voluntarily give you the jurisdiction to write the order.'

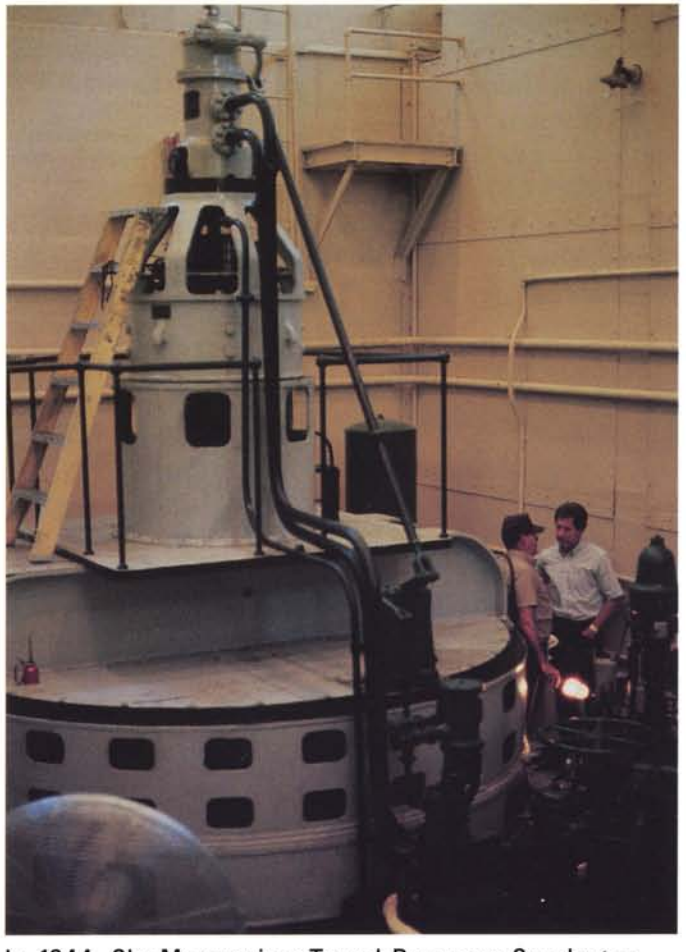
"This went on for about a year and one-half. Finally, we felt comfortable enough to give a little, and they gave a little. We would not admit the commission had jurisdiction except subpoena power – because they can subpoena anybody they want. We said we would come to any hearing and provide any information they requested if they would subpoena us. They said, 'We don't have to do that because we regulate you.'

"In the end, we agreed to take part in hearings that would lead to a commission order. Our attorneys did it in such a way that we felt we had not given up our position that they did not regulate us, that we had just participated. They saved enough face that they wrote the order."

Sho-Me even owns a dam. Built in 1932 by the holding company from which Sho-Me purchased Missouri Electric Co., it is called Tunnel Dam, taking its name from the fact its water supply falls 40 feet through a tunnel cut through the rock of the Niangua River. It was built with mules and a lot of hand work by people living at the site near Camdenton and with large quantities of explosives but no big drilling machinery. Davis says you might call it "more or less primitive" but that its two turbine-generators are still running. Its capacity of 3,000 kW was once enough to serve all of Sho-Me's loads that now require 600,000-kW capacity.

Davis points out that Sho-Me is now the only supplier in its territory, except the cities of Rolla and St. James, served by UE.

Nine cooperatives account for two-thirds of Sho-Me's sales and 17 municipals and Fort Leonard Wood the rest.



In 1944, Sho-Me acquires Tunnel Dam near Camdenton when it purchases Missouri Electric Power Co. To build the dam, which has a capacity of 3,000 kW, workers in the 1920s used explosives to blast through rock, creating a tunnel 800 feet long. The dam's turbine generators, one is shown above, are still operating.

The 25-county Sho-Me service territory of 1995 stretches from the eastern edge of Springfield to within 60 miles of St. Louis and from Lake of the Ozarks south to the Arkansas border. Near Springfield, the topography starts with flat land and soon moves into the Ozarks. In the middle of the Sho-Me territory is the Mark Twain National Forest with the most rugged terrain in the state. Sho-Me

uses 6-by-6 trucks to build and maintain facilities in this part of its territory and then sometimes needs bulldozers to get them up and down the hills.

Economically, much of the Sho-Me territory is agricultural, and the rest has low-pay stability. A local joke has it that "the economy doesn't affect us because all of our people are poor." And that is relatively true, John Davis says, "because as one moves away from many of the towns, we're into pretty heavy logging areas. They cut trees and work in the mills at the minimum wage or below." Clothing is the most prevalent industry, with substantial employment in mills that make jeans. The shoe business comes and goes with the world economy. They make baseball gloves and caps in the rural areas. But mainly the Sho-Me territory is agricultural.

Davis and Boulson, his predecessor as the G&T's manager, compete in friendly fashion for bragging rights to Sho-Me.

Boulson is strong on the early days: "When Sho-Me took over the company properties on December 31, 1943, the system was not in very good shape – mostly 33-kV with maintenance gone to pot. We had an awful time during World War II with people being called into service and others leaving for better pay in war plants. I was the only engineer left, with one line crew consisting of a foreman and a groundman-truck driver, and 300 miles of line and 25 substations to maintain. Everything that could go wrong did – fires that burned lines down, drunks who ran off the road and knocked poles down, airplanes that flew into the lines. All in all, it was a miracle that we could maintain service. After the war, people drifted back, and we were able gradually to build a cadre of capable people."

Boulson remembers the strain Fort Leonard Wood put on the Sho-Me system. Lacking facilities to serve the fast-growing wartime load there, Sho-Me negotiated with Union Electric to tap its 132-kV line from Bagnell Dam to southeast Missouri at a place called Maries. A 30-kV line carried power the rest of the way to Fort Leonard Wood.

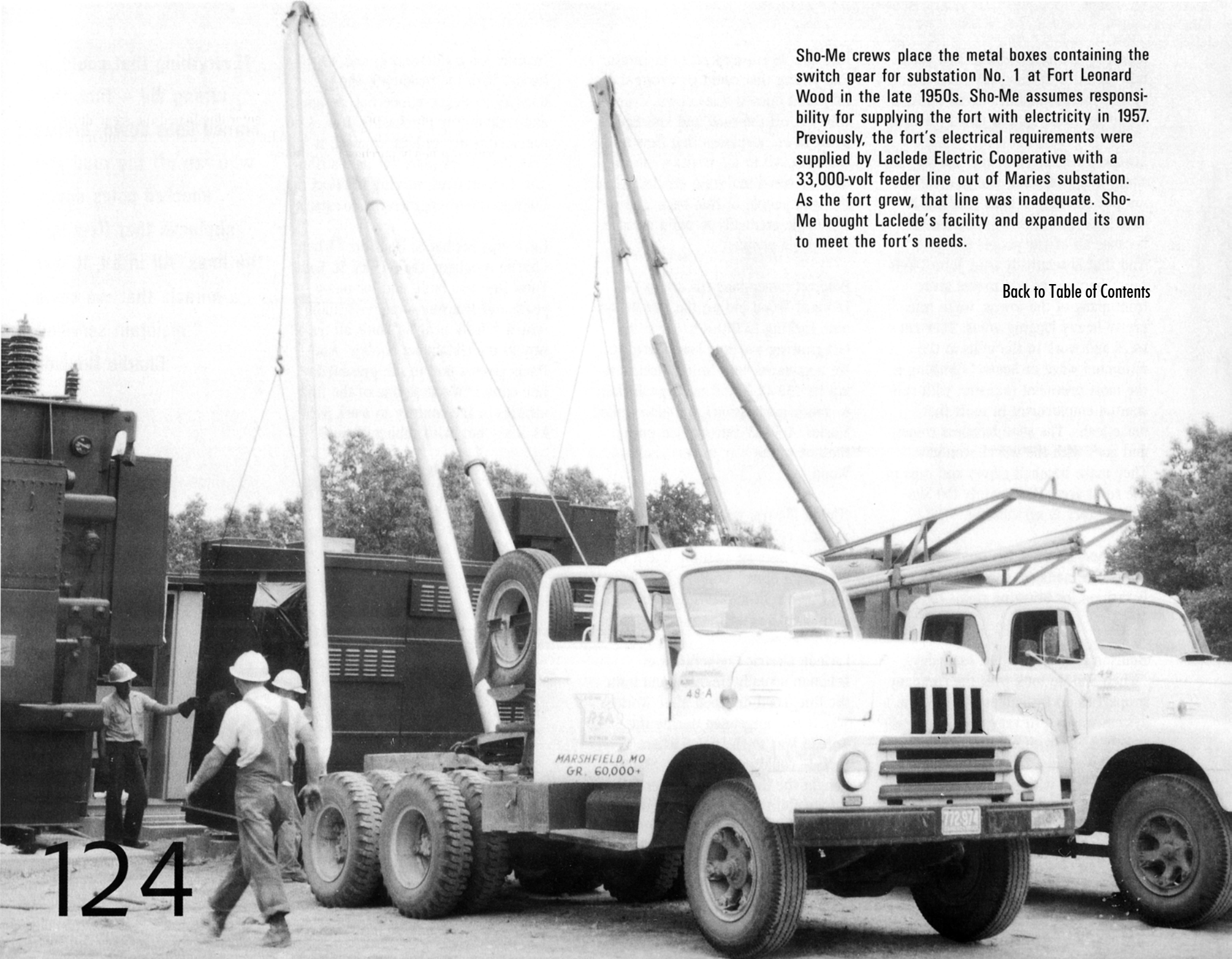
"Union Electric was not too keen about serving any kind of load off that line because nothing like it had ever been done," Boulson recalled, "but with a little pressure from the military, UE agreed."

Laclede Electric Cooperative of Lebanon actually financed and built the line. Load declined after World War II but burgeoned during the Korean War to the point where Laclede could not handle it. Sho-Me bought the line and took over full responsibility for Fort Leonard Wood, later building an additional line.

Davis takes pride that Sho-Me does its job with 100 employees, 60 outside (mainly for maintenance) and 40 inside. With the inside 40, Sho-Me does all its own engineering, design and right-of-way purchasing. It uses no consultants except legal counsel. It even does work plans for its distribution cooperatives, serving in effect as their approved engineering company.

Davis tips his hat to Boulson: "When Charlie was here, the 345-kV St. Louis-Tulsa line was built, and for many years, our transmission crews maintained it from near St. Louis all the way to the Oklahoma border." And Davis gives a nod to the present-day line crews: "We were one of the first utilities in the country to work 345-kV lines 'hot' with rubber gloves."

"Everything that could go wrong did – fires that burned lines down, drunks who ran off the road and knocked poles down, airplanes that flew into the lines. All in all, it was a miracle that we could maintain service."
Charlie Boulson




Sho-Me crews place the metal boxes containing the switch gear for substation No. 1 at Fort Leonard Wood in the late 1950s. Sho-Me assumes responsibility for supplying the fort with electricity in 1957. Previously, the fort's electrical requirements were supplied by Laclede Electric Cooperative with a 33,000-volt feeder line out of Maries substation. As the fort grew, that line was inadequate. Sho-Me bought Laclede's facility and expanded its own to meet the fort's needs.

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# THE 1980S IN PHOTOGRAPHS

Expansion at Thomas Hill Energy Center dominated the scene during the 1980s as Associated brought on-line its fifth generating unit and modernized a newly purchased coal mine.

Construction efforts during 1980 were the largest in Associated's operating history. Total utility plant (fixed assets including the power plants, transmission facilities and Headquarters, but excluding the mine) increased $260 million and represented a greater investment in new facilities than Associated made in its first 14 years of operating history. The majority of those funds were expended in constructing the 670-megawatt Thomas Hill Unit 3. The final cost of the unit was estimated at $470 million to $490 million.

Also during the early 1980s, Associated invested considerable sums in a surface coal mine adjacent to Thomas Hill Power Division. In 1978 Associated bought the mine from Peabody Coal Co. for $20 million.

The first few years following Associated's acquisition of the mine, the cooperative added new equipment: three draglines equipped with 95-cubic-yard buckets, a modern preparation plant and new haul trucks. Associated's investment in adequately equipping the mine paid off in lower fuel costs. The cost of coal per million British thermal unit dropped from $1.527 in 1980 to $1.438 in 1989.

Other milestones from the 1980s deserve mention:

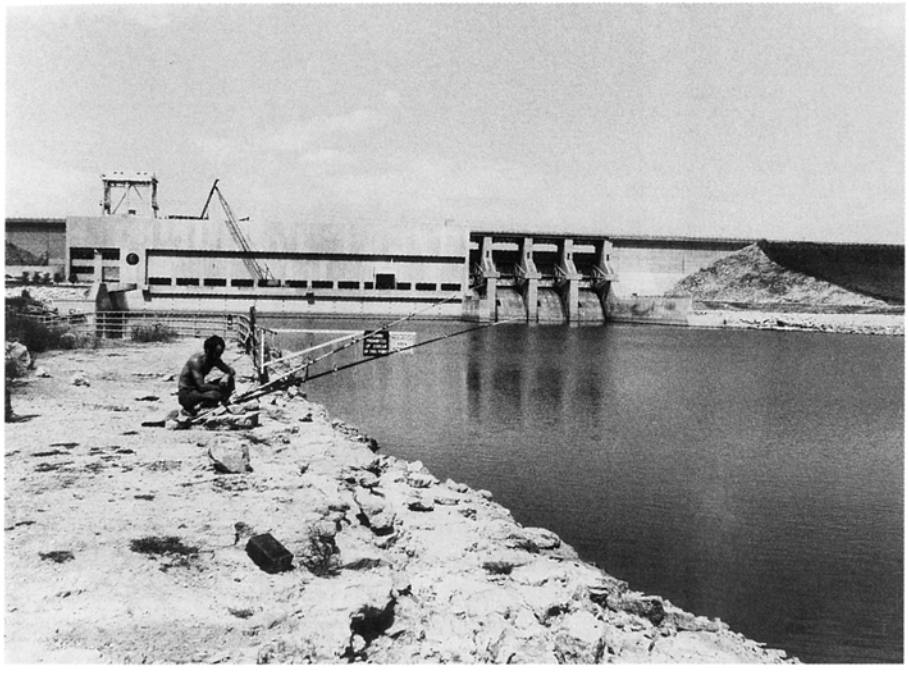
- The total number of employees jumped to 750 in 1980, compared with 102 in 1970 as a result of adding a generating unit and the coal mine to Associated's operations. In 1990, Associated had 1,051 employees.
- Associated implemented an 8 percent rate increase effective Jan. 1, 1980. The average cost to members was 23.36 mills per kWh in 1980. In 1990, it was 37.02 mills per kWh with 3.74 mills per kWh deferred to a reserve fund for compliance with clean air legislation.
- Anticipating the financial burden of complying with Clean Air Act amendments, Associated in 1989 set aside $4.4 million in a special fund to offset compliance costs.
- During 1989, employees helped Associated save more than $400,000 by suggesting ways to do their work more efficiently and effectively.
- Operating revenues more than doubled by the end of the decade. In 1980 revenues were $205.6 million, but by 1989 the figure escalated to $434 million.
- Associated served 406,600 meters in 1980 and 482,233 in 1990.
- Construction of transmission lines continued at a steady pace. In 1980, Associated owned 1,770 miles of transmission lines, increasing that to 2,190 miles in 1990.

One of Associated's three draglines uncovers coal at the end of a long pit near the power plant at the Thomas Hill Energy Center in the mid-1980s.

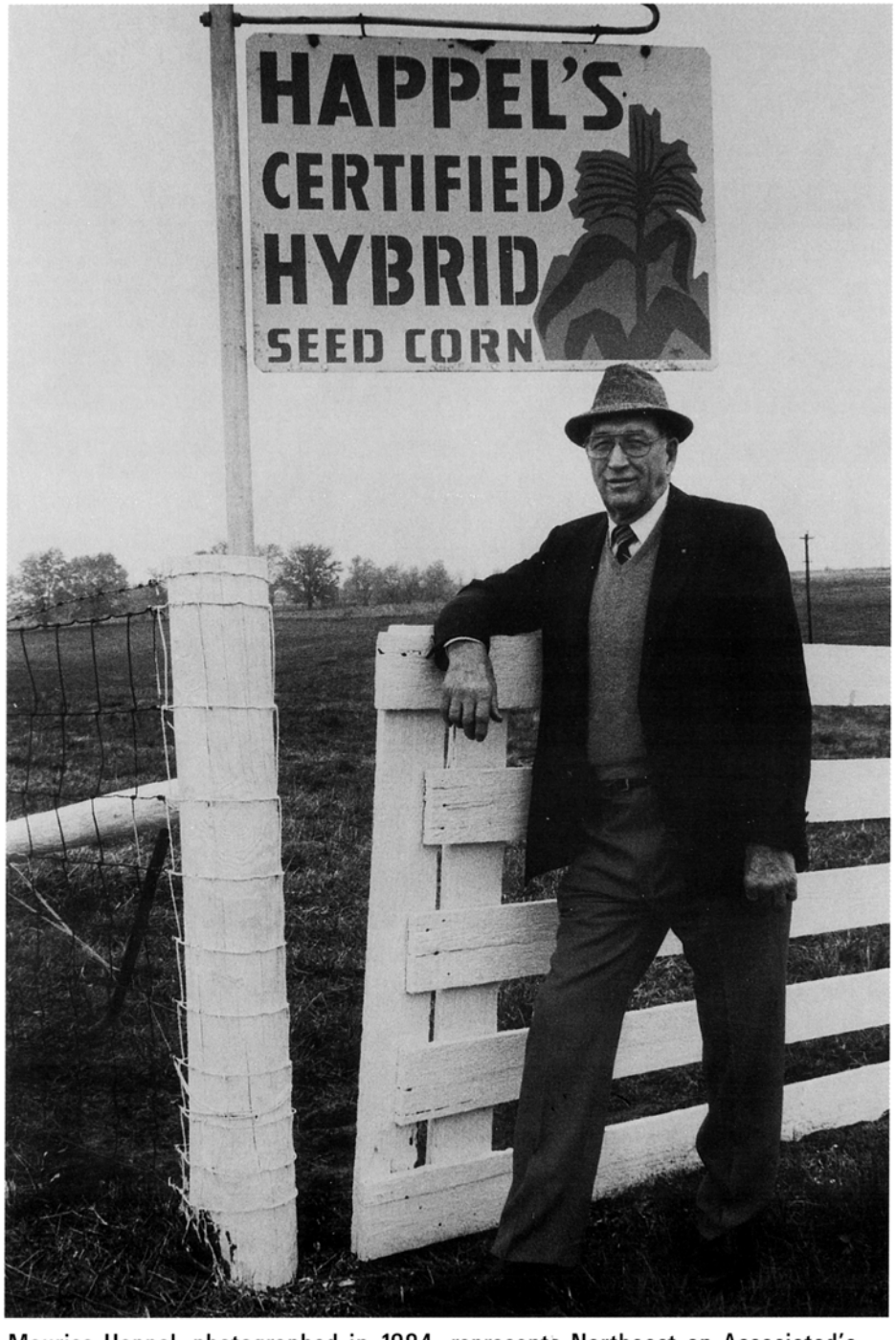
To clean debris from New Madrid Unit 1's circulating water pit, a group of workers is lowered in a basket. Among them is Elmer Coffey, center back. Tommy Sides, far right, watches them descend.

An elaborate system of conveyors delivers southern Illinois coal from barges on the Mississippi River to the New Madrid Power Plant coal yard. At full production, New Madrid burns 12,000 tons of this high-sulfur coal each day during the 1980s.

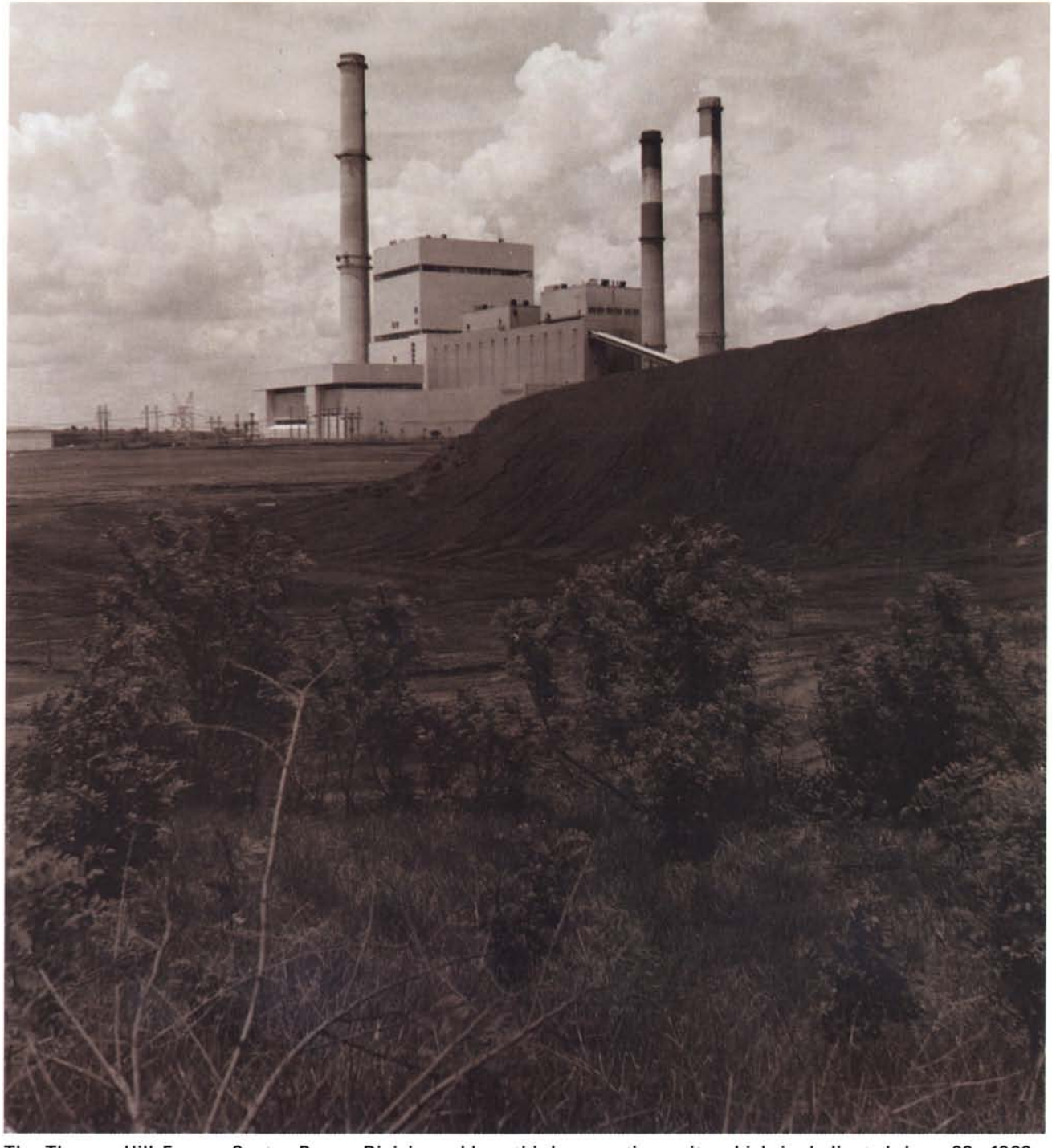
Associated President Rudie Slaughter, left, and James Hammett, Southwestern Power Administration administrator, sign a power supply contract amendment March 6, 1981, that results from several years of negotiations between both parties.



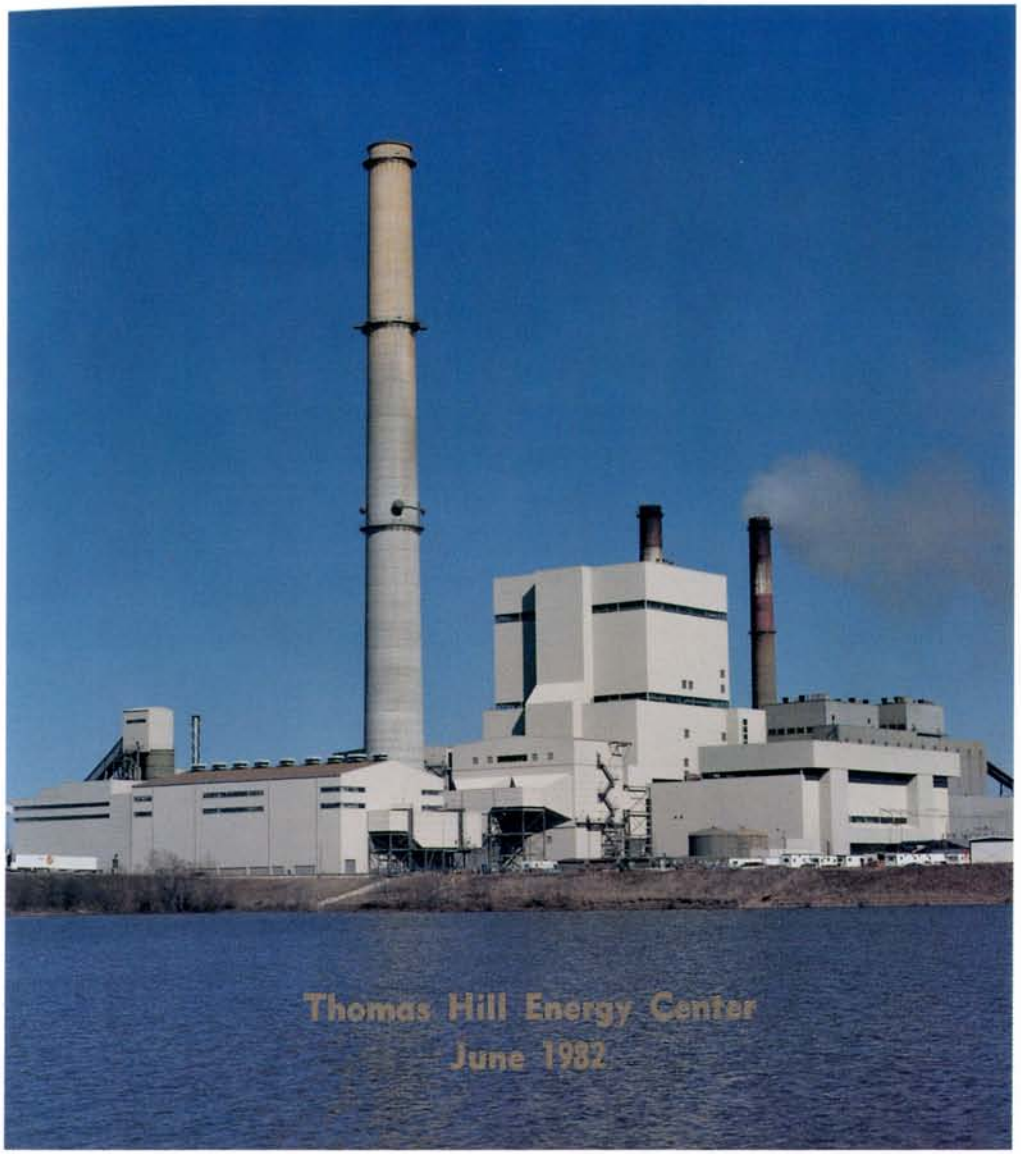
The $500 million Truman Dam is a recreational resource for the state of Missouri, but its hydropower potential is never fully used. The dam's pump-back feature, which increases its capacity from 13.4 MW to 160 MW, results in fish kills and controversy in 1984.



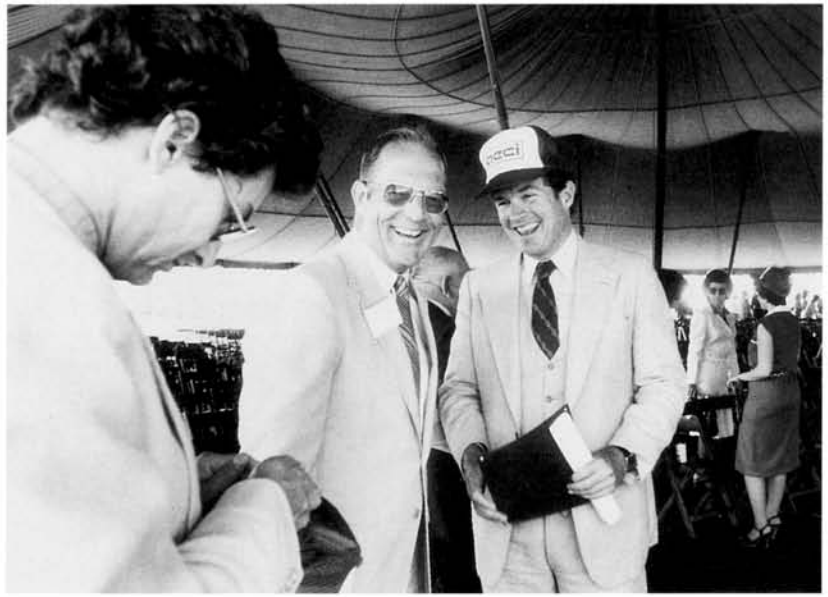

Maurice Happel, photographed in 1984, represents Northeast on Associated's board beginning in 1982.



The Thomas Hill Energy Center Power Division adds a third generating unit, which is dedicated June 23, 1982.



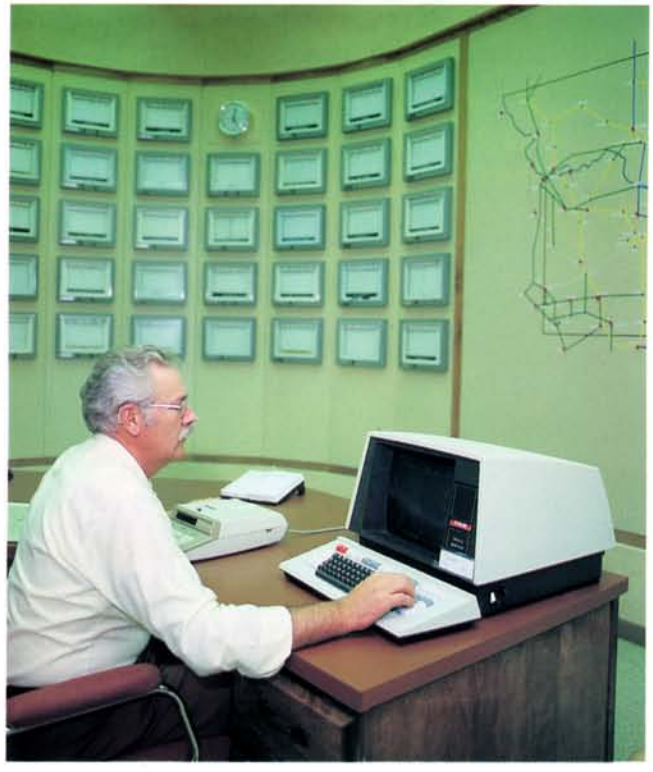

Cooperative members attending the Thomas Hill Unit 3 dedication June 23, 1982, receive color photographs of the Power Division, souvenir caps and brochures.



Associated President O.B. Clark, second from left, and Gov. Kit Bond converse at the dedication of Thomas Hill Unit 3 June 23, 1982.

Associated board member Rudie Slaughter looks through the program at Thomas Hill Unit 3 dedication activities June 23, 1982. More than 600 rural electric cooperative members, directors and employees attend the event at Thomas Hill Energy Center Power Division.

In 1982 a three-story Headquarters addition creates a new dispatch center in the basement and eliminates the maze of trailers behind the building housing Headquarters staff.



Gid Cole, a power control dispatcher, monitors the flow of power through Associated's transmission system, always ensuring available power. In 1982, the dispatch center moves into the basement of a 28,000-square-foot Headquarters addition, providing more security and protection from severe storms.

Kathy Cantrell transfers payroll data from time cards to her first computer terminal. She has seen bookkeeping evolve from ledgers to computer terminals to personal computers since starting to work at Associated in 1968.

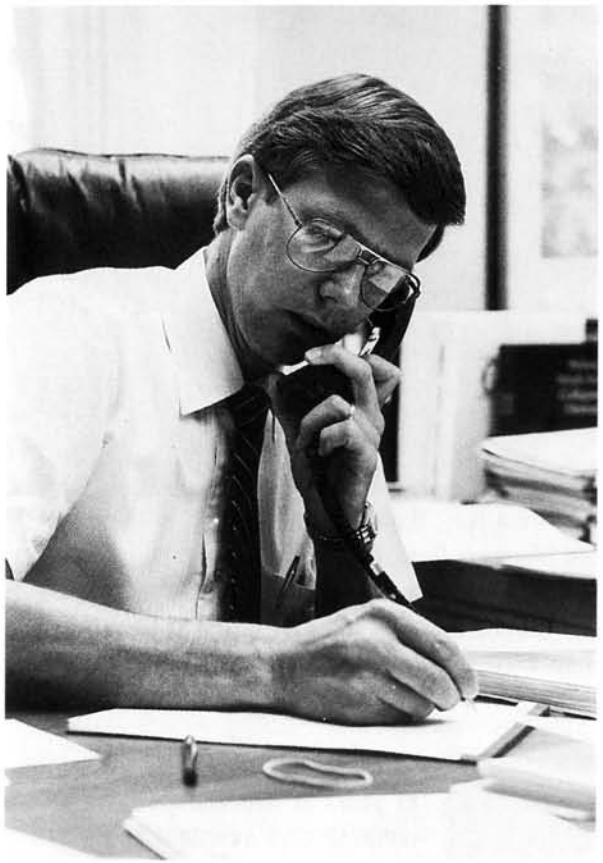
Members of New Madrid's emergency action team in this 1983 photo include, standing from left, Jim Garris, J.B. Perry, Roy Norton, Phil Pfuehler, Glen Wilkey and Scott Mangus. Kneeling from left are Garland Hughes, Steve Cummins, Tommy Sides and Frank Masterson.

During an outage, Cecil Arnett, left, Jeff Oliver, second from right, and Joe McGhee, right, crouch to work on a turbine at Thomas Hill Power Division.

In the early 1980s, Thomas Hill upgrades Unit 1 and Unit 2 control rooms, improving the quantity and quality of information available to the control room operator. Using a new Hewlett-Packard terminal, Randy Edwards can more efficiently monitor and operate the two units.

Associated employees, from left, Nancy Southworth, Kim Vories and Mike Giovanini watch Missouri Department of Conservation employee Eric Hack collect bass fingerlings during summer 1983 for stocking Associated's sediment ponds. Clean enough for growing fish, the ponds collect runoff to prevent pollutants from leaving mine property. Channel catfish and bluegill were stocked in fall 1982.

Betty Braughton dies in 1988 after 19 years at Associated, most as administrative assistant to the general manager.



Bill Bretall handles purchasing, inventory and the Headquarters facility as Associated's first director of Administrative Services.

"The challenge of the '80s becomes one of getting more out of the dollars we have invested in generating plants, high-voltage transmission lines and coal mining operations ... ," General Manager Gerry Diddle says in the 1983 Annual Report. In the late 1980s, competition and environmental concerns emerge as issues for Associated and its board of directors. Specific events in the '80s include construction and dedication of Thomas Hill Unit 3; development and fine-tuning of the mining operation; termination of the Black Fox Nuclear Project; construction of joint transmission projects; purchase of land in Watson; and preliminary work on site approval, design and financing options for a future plant. This 1984 Annual Report photograph of the board includes, from left, John Davis, Roy Matthews, Carl Herren, Luther Riddle, Dick Foster, Ralph Shaw, Rudie Slaughter, Dean Sanger, O.B. Clark, Charles Martin (front), Maurice Happel and Bob Stagner.

To diagnose problems with a circulating water pump, machinist J.B. Perry listens through headphones attached to a monitoring device.

Associated fully computerizes its payroll, accounting and materials management functions in 1982 when it installs the Prime computer system. As computer technology advances, Associated turns to personal computers. By 1996 the Prime is virtually phased out and most of those functions are transferred to digital computer hardware. "Today everybody's got a more powerful computer on their desktops than the Prime," says Brad Austin, left, pictured with Pat Mills.

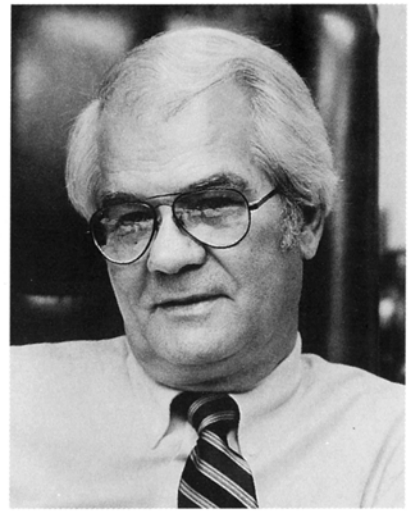

Directors of four of Associated's corporate divisions in 1980 include, from left, Ray Friedrich, human resources; Ernie Baker, power production; Dick Brummett, fuels and mining; and Wes Ohrenberg, accounting and finance.

Mining Division employees Joe Lewis, right, and David Cheever, left, install new steel ropes on a dragline drum.

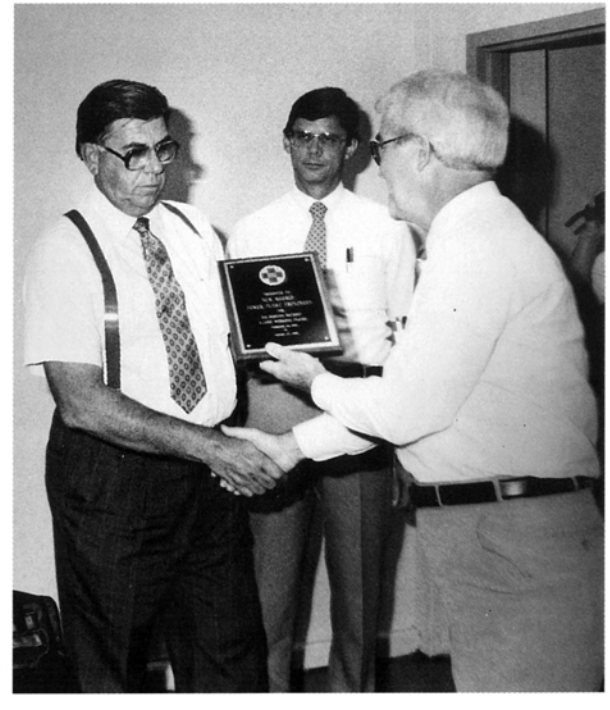
Mining Division employees work to change the pins on a dragline bucket rigging.

Mechanic Don Hillerman works on a Caterpillar double-engine scraper used in mining operations at the Thomas Hill Energy Center Mining Division in September 1989.

Jim McNabb, left, talks with Chief Dispatcher Dennis Hicks in the dispatch center during a workday in 1988 – Jim's 25th year with Associated and Dennis' 22nd year.



General Manager Gerry Diddle



Visiting New Madrid Power Plant in August 1989, General Manager Gerry Diddle presents a plaque to Plant Manager Jim McClure in recognition of employees' recent safety accomplishment. Bruce Stone, director of Power Production, also attends.

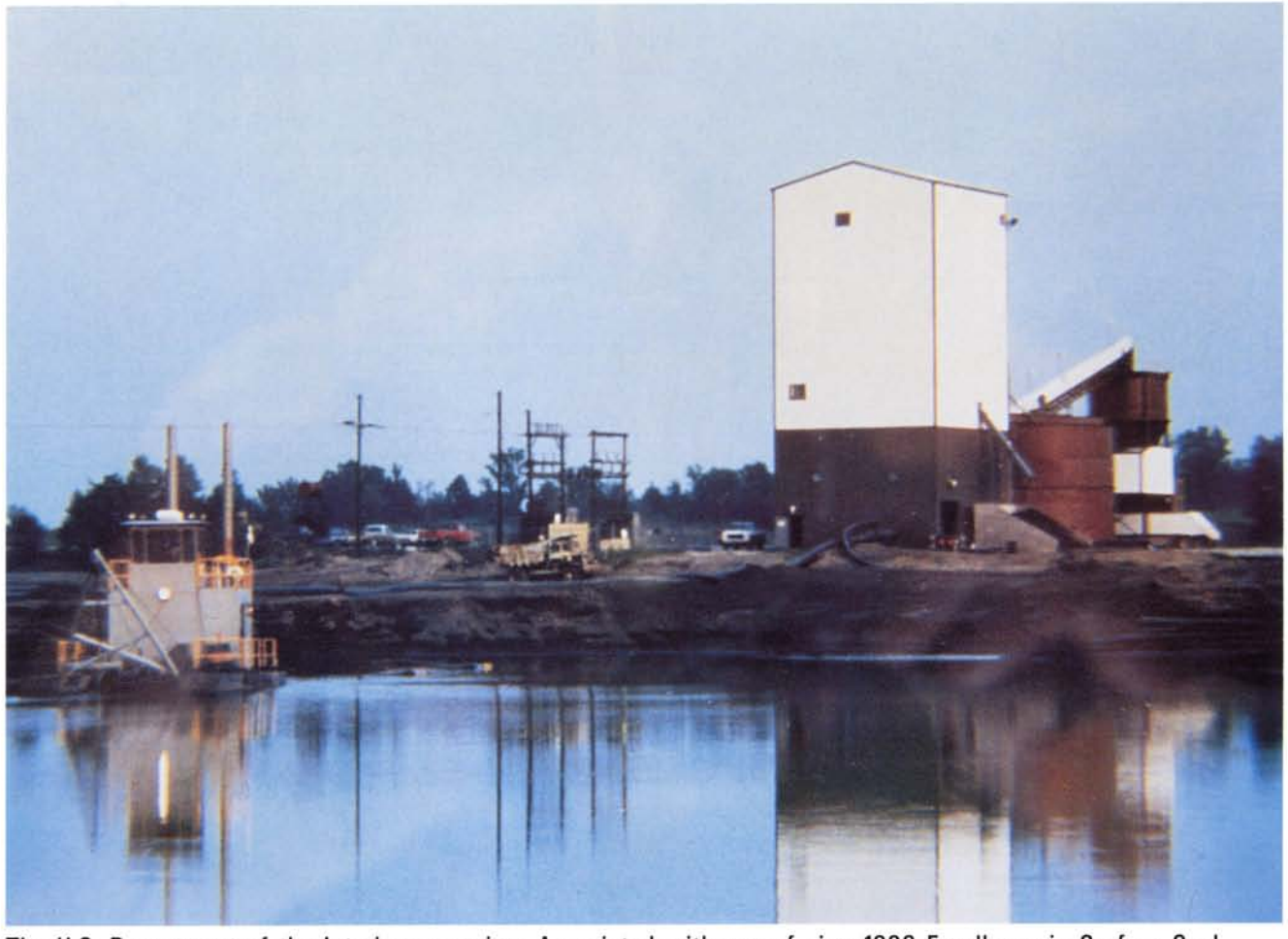
Clockwise from top left Bruce Hill, Leo Maloney, Scott Mangus, Richard Ivie, Terry Hadder and George Broughton gather for a photograph at New Madrid Power Plant in early 1986.

New Madrid Power Plant

Associated donates a 1,200-acre site known as Baker's Acres to the Missouri National Guard for use as a regional training center. The agreement is signed Dec. 1, 1988, in Jefferson City by Gov. John Ashcroft, center. From left, standing, are Col. Robert Morgan, Guard chief of staff; Richard Rice, director of the Missouri Department of Public Safety; Steve Danner, former legislator; representing Associated are O.B. Clark, president, Gerry Diddle, general manager, and Mike Vallez, director of fuels and mining; Molly Gilland; Col. Allen Stark; John Lewis; and far right, Gen. Charles Kiefner. The land, which had been mined for coal, is ideally suited for tactical training, Guard officials say.

Safety Coordinator Bob Bohm instructs a fire-fighting course at Thomas Hill Power Division in September 1989. Along with Bohm, Scott Harvey, mechanical maintenance planner, and Dick McClelland, risk manager, train employees how to react to fires, ranging from pan fires to pond fires. Associated trains it employees to respond to emergency situations because its power plants are industrial environments located some distance from city or county emergency services.

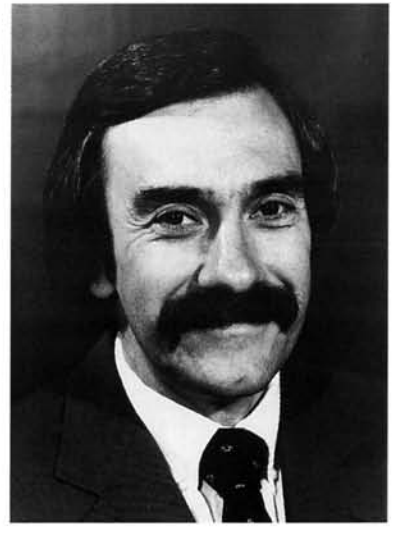
Thomas Hill Power Division warehouse employee Sandy Skaggs fills a fire extinguisher during a fire-fighting course at Thomas Hill in September 1989.



The U.S. Department of the Interior recognizes Associated with one of nine 1989 Excellence in Surface Coal Mining and Reclamation Awards for the Bee Veer preparation plant. The plant processes coal slurry from an old coal washing plant to extract fine coal particles to burn at Thomas Hill Power Division, turning a reclamation liability into a coal resource.

Partners in constructing a 345-kV transmission line from Morgan, Mo., to Flint Creek, Ark., met March 31, 1988, at the Brookline substation to dedicate the line. Representatives of companies that jointly built the line participated. From left are Ron Coker, general manager/chief executive officer, Grand River Dam Authority; Robert Lamb, president, The Empire District Electric Co.; Dean Sanger, executive vice president, KAMO Power (Associated's construction agent on the line); Gerry Diddle, general manager, Associated Electric Cooperative Inc.; and Robert Roundtree, general manager, City Utilities of Springfield, Mo.

In 1988 Associated completes the Morgan-to-Flint Creek interregional tie with this 345-kV line jointly constructed with City Utilities of Springfield, Mo., Grand River Dam Authority, Southwestern Electric Power Co. and The Empire District Electric Co.



Dave Stump joins Associated in March 1983 as director of the Human Resources and Information Services Division.

The Weather

Hannibal: Cloudy and Cooler Tomorrow

| | | | | | |
|---|---|---|---|---|---|
| 8 a.m. | 54 | 9 a.m. | 64 | Noon | 78 |
| 9 a.m. | 55 | 10 a.m. | 71 | 1 p.m. | 79 |
| 10 a.m. | 59 | 11 a.m. | 75 | 2 p.m. | 80 |

Max. (24 hours to 7 a.m.) 72. Min. 53.
River stage noon today 19.3 feet.
Below dam 5.74 feet.
Sun sets 5:34 p.m., will rise 5:59 a.m.

# HANNIBAL COUR

Vol. 116—No. 226 Hannibal, Missouri, Friday, September 24, 1954

OVER THE FENCE—V. H. Whaley is shown leading a horse over a fence in the manner in which he has been training two horses to cross fences and obstacles for the Northeast Missouri Power cooperative of Palmyra. The horses will go to work for the cooperative in approximately two weeks. The horses will carry saddle bags with equipment for maintaining the cooperatives high tension transmission lines which cross approximately 400 miles in Northeastern Missouri and Southeastern Iowa.

## Kiddies' D
## At Hanni
### City's Doors Open To
### Most Precious Crop--

Friday's program for the Hannibal ... built about the center of human interest—the ...

Kiddies' Day began promptly at noon today, ... lic schools closed at the time, in order that the childr... of the community might enjoy the afternoon at the Midway, and take in the celebration.

The Hannibal Chamber of Commerce ap... composed of ... Orth, to brin... The Home, as... ber of Comm... room of enter... rides and refr... et the city ha... to welcome ... area for the ...

Horace Per... the Register... held today ... formd as earl... day afternoon ... number of w... was at a pre... large tents p... pose, groupin... be a problem ...

Judging fr... Exhibit und... superintendent... throughout ... ning at 10:00 ... center of inte... of spectators ... ers entered 4... our Dairy sh... During th...

## Train Horses For Patrol Of Power Lines

PALMYRA, Mo.—The Northeast Missouri Electric Power Cooperative, with headquarters here, is going to experiment with patrolling its power lines with horses, R. D. Pennewell, president of the cooperative, said today.

V. H. (Jim) Whaley, who lives on the Dr. M. L. Wood farm south of here, about a fifth of a mile east of the U. S. Highway 24 cutoff is training two horses now for this work which may be ready in the next two weeks.

Whaley, a great-grandson of the ...

## Eisenhower Gives AFL Promise Of Sympathy To Labor's Views

### Warm Reception Given To President By Delegates In California Meet

LOS ANGELES (AP)—President Eisenhower told the Amer... Federation of Labor's convention today organized Labor's ... will receive "sympathetic consideration" from his ad... istration.

## Hannibal, Quincy Men Injured In Penitentiary Riot



142

Northeast hired a local man, V.H. Whaley, to train horses to help crews patrol the G&T's 400 miles of high-tension wires in the rough terrain of northeast Missouri and southeastern Iowa. Whaley trained the horses to jump fences and obstacles, after the rider had already climbed over the obstacles, and carry maintenance equipment, according to the Sept. 24, 1954, article in "The Hannibal Courier-Post." In 1974, Manager Ralph Shaw inherited four of the horses from previous Manager Mike Boudreaux.

Back to Table of Contents

# What's in a Name?

The alphabet and geography got thoroughly scrambled on the way to naming the generation and transmission cooperatives of Missouri. Only Central at Jefferson City has a name that does not say either too much or too little.

The acronym KAMO for the G&T headquartered in Vinita, Okla., stands for Kansas, Arkansas, Missouri and Oklahoma. But KAMO serves cooperatives in Missouri and Oklahoma only.

The letters M&A in the G&T of that name stand for Missouri and Arkansas – but that G&T, headquartered in Poplar Bluff, does not serve any Arkansas cooperatives and never did.

Central Electric Power Cooperative is Associated's only member cooperative which still operates its own power plant. Associated relies on Chamois Power Plant for reliable, low-cost peaking power. The Great Flood of 1993 shut down Chamois, and about 3,000 meters were lost among Missouri cooperatives due to flooding and storms. A scorcher summer also increased demand, which Associated met through its integrated system.

Cameron in northwest Missouri is headquarters for NW Electric Power Cooperative Inc., whose initials may or may not stand for Northwest. Nobody seems quite sure, but it is not called "Northwest." One of the distribution cooperatives NW serves is in fact called "Northwest" – its full name is Northwest Missouri Electric Cooperative.

With headquarters in Palmyra, Northeast G&T serves not only northeast Missouri but also three cooperatives in Iowa.

And, of course, Sho-Me at Marshfield in south-central Missouri was not even a cooperative, but technically a corporation, for most of its life. Its incorporators chose the Sho-Me name from a list of five nominees that included Missouri Rural Power Cooperative, Heart of America Electric Cooperative, United Power Cooperative and Kingdom Electric Cooperative.

No matter what or how named, each has played a vital role in the history of rural electrification in Missouri. This chapter treats them alphabetically.

Central, formed March 11, 1949, serves eight distribution cooperatives in 26 counties, an area of 22,000 square miles. Its service territory stretches from Mark Twain Lake in the flat farmland of the north to Lake of the Ozarks in the foothills of the Ozarks; and from the Harry S Truman Reservoir of the west to the suburbs of St. Louis in the east. Jefferson City, where Central has its headquarters, is served by Union Electric Co. but, oddly enough, not the building in which Central is housed. "We were 'out in the country' when our building was constructed," Manager Don Shaw explains. "Three Rivers Electric Cooperative served us then, and still does, including some other customers in what is now Union Electric territory" (see Chapter 16).

The area's economy is rooted in agriculture, with a mix of urban and recreational activities and some college atmosphere. Residential loads are heavy in Warren and Lincoln counties, basically suburbs of St. Louis, where Cuivre River Electric Cooperative serves the juice purchased from Central which, in turn, is supplied by Associated. Tourism, along with year-round retirement living, is primary in the Lake of the Ozarks area served by Co-Mo Electric Cooperative. The University of Missouri drives the economy of Columbia, which has its own municipal system but with suburbs served by Boone Electric Cooperative. The rest of the 26-county area is truly rural but with some substantial electric loads. For example, Central Missouri Electric Cooperative in Sedalia in the early '90s acquired a load of more than 1 million kilowatt-hours per month for a new chicken processing plant.

Irene Robinett

"It was said not that Truman Green ran Central, but that Truman and Irene ran Central."

Don Shaw

Truman Green remembers starting Central G&T "from scratch." He was managing the municipal system at Lubbock, Texas, in early 1949 when he responded to an ad for a manager of a new G&T that had no power plants and no transmission lines. He stayed on as manager for 27 years, from May 1950 to July 1977. Needing help early on, he asked an REA acquaintance who recommended a woman named Irene Robinett. She had been working for an Oklahoma cooperative and knew REA procedures, as well as all the ordinary office procedures. Don Shaw remembers her as a tiny, chain-smoking dynamo who was "very much in charge of her part of the operation." Her duties included line responsibility for the accountants and other office employees. In later years, Shaw said with admiration, "It was said not that Truman Green ran Central, but that Truman and Irene ran Central."

Green resumed his account of Central's beginnings: "I worked on plant location – Chamois, just 15 MW to start but 66 MW by the time Associated took it over – while she worked on getting the money from REA and all the other paperwork. That was at the same time we were building our 161-kV transmission line to get power from SWPA, 180 miles from Chamois to Bull Shoals. The first 15-MW unit at Chamois gave us base load and the line to Bull Shoals gave us hydro for peaking, so we had some firm power." He said lease arrangements that soon were developed with

SWPA covered the power plant as well as the transmission line. He also remembers when Sho-Me became a customer of Central. "REA wouldn't lend them any more money because of their controversial status but would lend larger amounts to us on the strength of Sho-Me being a customer." Even so, Green tells stories of days when Central could not meet payroll.

Green was still manager when on Oct. 1, 1973, after a short stint with an investor-owned utility, Shaw came to Central as an electrical engineer. He was born and reared in Hannibal. He knew Mike Boudreaux, the manager of Northeast at nearby Palmyra. Soon after graduating from the University of Missouri–Rolla he sought a job with Northeast. Boudreaux didn't have an opening, but sent Shaw's resumé to Green. "My interview with Central must have lasted four or five hours, and an offer was made," Shaw said. "I said I would think about it, but I didn't get out of town before I called back to accept." When Green retired in 1977, Carl Herren took over until early 1990 when he became too ill to continue. Julian Brix succeeded Herren six months later, but in November 1992 left to manage Cooperative Power in Minnesota. Shaw served a month as acting manager before the board appointed him manager.

It was a career he had aspired to since youth, although quite different from what he had imagined. "When I was a junior in high school, I asked myself what I wanted to do in the adult world. Nuclear power was just coming in and looked like the wave of the future – the price of electricity would come down and down and would be under a penny a kilowatt-hour some day. And they would need people with the know-how to engineer the systems and utilize that power. Pretty good thinking for a high school kid, I thought. So I got my engineering education. No sooner did I get out of school than the oil embargo hit and prices started going up, and I was faced with the reverse of the situation that led to my involvement in the first place. That wasn't the way it was supposed to come out."

Don Shaw, 1992

"When I was a junior in high school, I asked myself what I wanted to do in the adult world. Nuclear power was just coming in and looked like the wave of the future ... Pretty good thinking for a high school kid, I thought."

Don Shaw



Shaw reminisces further: "When I first came to Central, we were not really all that big, but there was a push coming. Some of that related to Thomas Hill and the need to build outlet capacity for that plant. In the mid-'70s we installed a new SCADA (substation control and data acquisition) system, and the meter crawled to 180 MW and we said WOW! Last winter (1994-1995) we sat there and watched it creep up to 430 MW."

KAMO territory covers one-quarter of Missouri, where it serves eight distribution cooperatives in the area from Kansas City south to Branson, and east to west from a line due north of Branson to the Kansas border. Its territory includes about one-quarter of Oklahoma, too, where it serves nine cooperatives mainly in the northeast part of the state. That makes for an elongated system with special operating problems. Consequently, KAMO has four area offices in Missouri and three in Oklahoma where crews are stationed to maintain 1,976 miles of transmission lines and 200 substations. KAMO is larger than Sho-Me when considering load (900 MW compared with 600 MW) and area covered. But all of the Sho-Me load is served by Associated, and its service territory covers one-third of Missouri, giving it the size honors among Associated customers. KAMO receives power from Associated for only its Missouri customers and from Grand River Dam Authority (GRDA) for its Oklahoma customers.

About half the KAMO terrain is flat, and some 50 percent is rolling Ozark hills, especially in Missouri. The economy is diverse. The Missouri side has significant tourism in the Springfield-Branson area, plus mainly farmland in the north with cattle and wheat and other grains. On the Oklahoma side, there is light commercial activity, especially around Tulsa, retirement living around eight different lakes and heavy pumping loads – both pipeline pumps and water pumps – for secondary oil recovery.

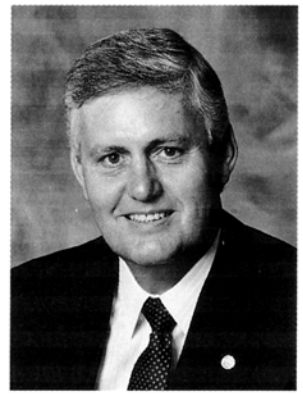
Gary Voigt, who succeeded Dean Sanger as KAMO manager in March 1994, was one of the first applicants for a scholarship program developed by the cooperatives of

Oklahoma to encourage young men and women with rural backgrounds to get into rural electrification work. He earned an advanced degree in accounting and management at Oklahoma State University at Stillwater, where he also worked part time for Central Rural Electric Cooperative. He had become manager of that cooperative before joining KAMO in 1990 as its corporate development division manager. When Sanger retired three years later, the KAMO board conducted a wide search before deciding their best candidate to succeed Sanger was right under their noses.

Sanger had been manager for 17 years. In 1977, he had succeeded Rex Dewey, who served 25 years in the top job at KAMO. Sanger had grown up 35 miles south of Tulsa in the small town of Okmulgee. He knew very little about the rural electrification program when he graduated from Oklahoma State University's technical branch in his hometown, which was served by an investor-owned utility. At age 20, with a degree in accounting, he took his first job with a cooperative, little East Central Oklahoma Cooperative at Okmulgee. He was manager of that cooperative when he was recruited by the KAMO board.

"When I came in," Sanger, now a consultant, remembers, "KAMO was entirely dependent on GRDA for its Oklahoma business. GRDA was a very political organization, with nine managers in 20 years and a frequently changing board. We felt the instability. At the time, GRDA had an arrangement with Public Service Co. of Oklahoma to provide base load for its hydro peaking. GRDA decided to divorce itself from Public Service of Oklahoma and provide its own base load by building steam plants. There would be some excess capacity, and KAMO saw an opportunity to buy 200 MW of capacity in GRDA No. 2.

"We at KAMO felt it would be in our own best long-term interests to own some generation, but a block of 200 MW was more than we needed. We approached Associated about buying the surplus from what we might acquire. The Associated board was reluctant to do that unless positive benefits could be shown for the co-ops of Missouri. There was some concern among Missouri managers about KAMO getting into the generating business. There were a lot of questions across the state of Missouri whether Associated would be doing the right thing to buy more capacity when they already had a surplus."



Dean Sanger, 1988

**KAMO territory covers one-quarter of Missouri, where it serves eight distribution cooperatives. Its territory includes about one-quarter of Oklahoma, too, where it serves nine cooperatives mainly in the northeast part of the state.**

The Associated board finally decided in 1982 that the KAMO excess power from GRDA No. 2 would in fact benefit Missouri consumers. The resulting KAMO contract with Associated provided the necessary justification for an REA loan. The Oklahoma power districts were opposed, but Oklahoma political leaders favored the sale because it eased their budget problems and made for stronger financing. Win-win. As noted in Chapter 8, energy from this source is some of the lowest-cost power available to Associated. The St. Louis-Tulsa 345-kV line described in Chapter 10 proved serendipitous.

Incorporated in 1948, M&A changed life greatly in its service territory, the 16 southeastern counties of Missouri where M&A serves four retail cooperatives totaling 70,000 meters. Rural consumers for the first time realized the luxury of electricity's being there when they needed it. "That sounds pretty foreign today, when our reliability is as good as downtown St. Louis," Manager Bob Stagner muses, "but back then those fellows were living hand-to-mouth. The rural people had no negotiating power. They had to go with hat in hand to get a hodgepodge of supply, sometimes from several suppliers."

Stagner experienced those conditions personally, growing up in the small town of Charleston, 65 miles from M&A headquarters at Poplar Bluff. After attending the University of Missouri–Rolla for a time, he worked briefly in construction. He joined M&A in 1961 and was put in charge of outside construction, building lines and substations. A couple of years later he was manager of engineering and operations. When Jimmy Owen took early retirement in 1966 for health reasons, he was followed by Bruce Ellis who died in 1968. Stagner served as acting manager until

April 1969, when at the age of 28 he was named general manager. His service on the Associated board of directors dates to that time and makes him the senior board member.

M&A territory is as diverse a topographic and economic mix as any of the six Missouri G&Ts. In the part running from Poplar Bluff northeast and southeast to the Mississippi River is prime farmland. Stagner calls it "some of the best Mississippi delta land you could buy anywhere." There's a lot of cotton, rice, soybeans and corn. To the west of Poplar Bluff are the rugged Ozarks with timber and sawmills and to the northwest, mining country. "So we have a diverse membership," Stagner says, his arm sweeping a map, "agriculture down here, mining up there, some big corporate farms, lots of wealth maybe not distributed as some would like. Up in this mining area and here in the timber country income levels tend to be much lower. Of course, New Madrid is in M&A territory, and Noranda influences all of southeastern Missouri." (Noranda built a third potline in 1980, bringing its total load to 400 MW, all served directly by Associated.)

M&A did not become operational until 1952 when it finished building the 10-MW Green Forest Power Plant. That little internal combustion machine ran on diesel fuel or natural gas. Along with an SWPA radial line that provided peaking hydropower from Norfork Dam, the little Green Forest facility took care of all the firm power needed by the four cooperatives served by M&A until Associated came along. These four tend to be larger than the average cooperative in Missouri. The smallest has 6,000 members compared with 2,500 or 3,000 for some. M&A's largest has 30,000 members. Several cooperatives in Arkansas were among the incorporators of M&A but never chose to take service.

That SWPA radial line was both blessing and curse. It kept the lights on when it was in service. But frequent outages, especially in lightning storms, knocked out everything. "When that happened," Stagner laughed ruefully, "we'd be left with a 10-MW power plant trying to handle a load maybe three times that much, and it would take less than one revolution to stop the plant. Often, we'd be back in service in 10 minutes, but many times it would be hours. Even so, an occasional hour-or-two outage was a lot better than what it had been like before M&A."

Bob Stagner, 1988

**Rural consumers for the first time realized the luxury of electricity's being there when they needed it. "That sounds pretty foreign today, when our reliability is as good as downtown St. Louis."**

**Bob Stagner**

The 1.5-mile interconnection built by Associated between the Idalia substation and Stoddard in 1963, as discussed in Chapter 5, was "the early development that affected our system and made a remarkable change for the better," Stagner exclaims. "It was the earliest example of some of the finest work Associated did."

Up in Palmyra, Ralph Shaw now quietly runs Northeast to which Mike Boudreaux had brought loud attention. Northeast was formed in 1948 and a year later had built its 15-MW coal-fired South River power plant to serve five distribution cooperatives. They previously had depended on what electricity they could buy from the city of Palmyra and the Hercules Powder Co. Hercules had its own steam-electric plant and sold surplus power to the cooperatives. Later, Northeast added 22 MW of diesel and coal-fired generation. The small power plants operated as standby units soon after Associated came on the scene but were totally shut down by the mid-'70s. That, too, was about the time the three Iowa cooperatives applied and were accepted as customers of Northeast. In Shaw's view, "That presents no special problems, except that we belong to two Statewides (see Chapter 16) and have to be familiar with the laws of two states."

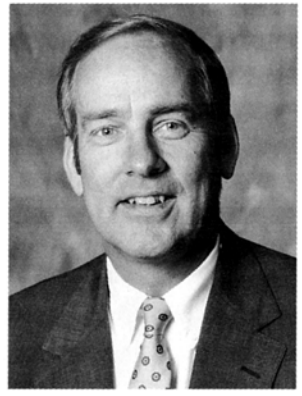
Northeast's service territory of 14 counties covers 10,000 square miles. The Mississippi River forms its eastern boundary in Missouri and 30 miles north into Iowa, from where the line turns due west to within 50 miles of Des Moines, then south to Marshall on the Missouri border and down to the Macon-Moberly area, turning east back to the river. Shaw calls it "typically Midwest" with flat land and woodland, rolling hills, streams and lots of draws.

It's a basically agricultural area, heavy in corn and soybeans, but also wheat and alfalfa. "As agriculture suffers, we suffer," Shaw says. "And the reality is that the farms are getting larger and fewer in number, and we're seeing an ever-smaller number of meters and population. We have a real need for municipal and commercial-industrial accounts. That has to be our future, because it isn't going to be farming. We have grown 4 percent on average the past 20 years only because increased usage offset declining population. But today a youngster grows up and has to move on for employment."

Ralph Shaw, no relation to Central's Don Shaw, was hired as administrative assistant to Mike Boudreaux in 1974. He was working in food processing at Hannibal at the time, having graduated from Kansas State University with a degree in agriculture. "Mike was training me as his successor," Shaw remembers, "although I'm sure he never thought he'd die or ever be replaced." Shaw, who concedes that Boudreaux may have stretched a point now and then, sometimes beyond belief, says, "Mike was almost like a father to me; we never had a cross word." Boudreaux died from cancer in February 1979 and Shaw was made manager in June of that year.

Shaw inherited four jumping horses that Boudreaux had acquired for use by maintenance crews on line patrol. They could leap fences and avoid the long way around. When "Major," the last of the four, got too old, Shaw gave him to one of the lineworkers who took him home as a pet until he died in 1988 at age 27. "Nobody else in the utility industry used jumping horses, as best I know," Shaw observed, "even though they were as practical as they were novel." Power people in the less imaginative world outside Northeast territory used to joke about Northeast "going to the REA to borrow money for horses."

Then there is NW, the G&T in Cameron where Manager Dick Arnold now walks in the big footprints of Fay Martz, Curt Funston and Dick Foster. The latter served as manager for the seven years, 1981 to 1988, between Funston's two terms. NW serves eight distribution cooperatives that serve 28 counties in Missouri, covering nearly 13,000 square miles, and seven counties in Iowa, embracing over 5,000 square miles. Unlike Northeast, NW does not supply any cooperatives in Iowa, but two of NW's Missouri cooperative customers serve some 2,000 individual power consumers in Iowa. The Missouri portion of NW's service territory runs from the Iowa state line to Lafayette and Johnson counties south of the Missouri River and from the Missouri River east to Sullivan County.



Ralph Shaw, 1988

"Mike (Boudreaux) was training me as his successor, although I'm sure he never thought he'd die or ever be replaced."

Ralph Shaw

NW, too, serves mainly agricultural areas with pasture and rolling farmland. "It's great cattle, corn and soybean country," Arnold says, "but many farmers have been putting their land in the conservation reserve program and population is declining." The rural population decline slowed noticeably after 1990 with the growth of hog production in northwest Missouri. "We've had all kinds of growth in the last five years," Arnold said, "but the greatest economic growth came in the Grundy and North Central areas from large swine operations. One farm has an 80,000 sow operation, not only breeding their own pigs but operating their own feed mills." Farmers' Electric Cooperative at Chillicothe serves a new wire rope facility and other new businesses in its industrial park. Platte-Clay has also experienced industrial and residential growth north of the greater Kansas City area. West Central's growth has also been strong in recent years south of the Missouri River.

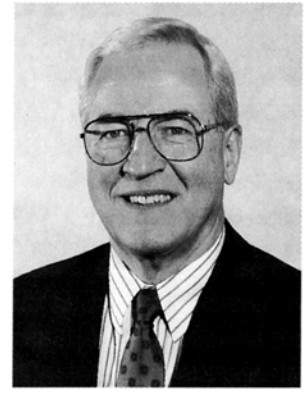
Formed in 1949, NW quickly accepted SWPA's invitation to build a transmission line to Bull Shoals Dam. Then in the early '50s NW built the first of its two 22-MW Missouri City coal-fired units. "The way it worked," Funston remembers, "NW had a contract for SWPA to take the output of Missouri City and we took our needs off the grid. SWPA could take one kilowatt of hydro and sell four using the base load that our little power plant gave them."

Fay Martz is the name one keeps hearing in references to these early construction projects. His name keeps coming up in the dealings with SWPA, in negotiations with the

private power companies and KCP&L in particular, and in the creation of Associated. Martz came to NW in 1950 from Nebraska, where he ran the Eastern Public Power District. His father was an old-line utility manager who came out of retirement to do Fay's job while the son did wartime duty with the Navy. Fay rose to commander. "He was a big man, over six feet tall and 200 pounds, tough as nails and a great negotiator," according to Funston. "He was smooth with the board. I used to tell my wife, 'Hell, old Fay could line up those guys on the edge of a cliff and say forward march and, hell, they'd go over in formation.'"

Martz wanted Funston as his successor and the board saw fit. Funston had been born and raised on a farm. He says economics kept him from going to Kansas State University for the electrical engineering degree he coveted. Instead, he took a job with a consulting firm whose principal clients were cooperatives. "I started out pounding stakes in the ground, which is a step up from digging holes in the ground, which is what my father did," he reminisced. Funston took correspondence courses and shortly became system engineer and work-order clerk for a small Kansas distribution cooperative. He moved on to Nodaway Worth Electric Cooperative in Maryville and then to Northwest Electric Cooperative at Savannah, where five years later Martz hired him away. "One day he called me and said, 'Curt, I'm going to have to retire and I want you for my successor.' I said, 'Fay, you don't hire your successor, the board does that.' He said, 'You're going to be sitting in that chair.' I said, 'Fay, I want to be a G&T manager, but I've got to work with the board, and I'll tell you something else – I don't like everything you do; I can't manage your way; I'm not going to sit over here and be an imitation Fay Martz.' Ol' Fay got a funny look on his face and said, 'Oh, Curt, it's time for a lot of changes around here.'"

When Funston retired, he was pleased the board chose Arnold, a 30-year veteran in rural electrification, to be his successor, but didn't play the role Martz had in his own case. Arnold was a kid on the farm in Nebraska when the rural electrification program started. In 1947, he worked for a contractor putting up poles and helped electrify his father's farm.



Dick Arnold, 1990

"Integration, economies of scale, benefits of joint planning and all the advantages of being a major utility player that we never could have been by ourselves – that's what Associated has meant."

Bob Stagner

"You might say I saw the program from the ground up," he chuckled. After five years as a utility accountant and office manager in Nebraska, and 26 years as manager of a distribution cooperative north of Denver, and three more years as manager at Central Iowa Power Cooperative, Arnold was chosen for the NW job. Funston recalls, "I had done some committee work with Dick and thought highly of him but did not hire him. I did call him to determine his interest. The board did the rest."

"It made us all better." That was Truman Green's 1995 assessment of Associated's impact on the G&Ts and the distribution cooperatives they serve. Other past and present G&T managers have more specific assessments of what Associated meant to them.

M&A's Bob Stagner thinks that "If Associated had not been formed, the six of us would not exist in our present form." He says the cooperatives would have had to build smaller plants at higher costs. "Integration, economies of scale, benefits of joint planning and all the advantages of being a major utility player that we never could have been by ourselves – that's what Associated has meant."

Alternatives that did not exist before, shared responsibility, trust and faith – Associated means all of that to Northeast's Ralph Shaw. He says: "The real strength of Associated, to me, was those people sitting down and saying they would divide the pie up – 'we need a generating arm, we'll do the transmission, distribution cooperatives will take care of the retail.' That took a lot of trust and faith."

Sho-Me's John Davis used the word strength in another way. "If the six G&Ts had not formed a union as strong as Associated," Davis believes, "we would not today have the strength we have. Each of us is now part of the second largest utility in Missouri. By having the strength to build

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Attending an event believed to be a substation dedication near New Madrid in the late '60s are, beginning second from right, Rex Dewey, Luther Riddle, Charlie Boulson, Eugene Smith, next three people unidentified, Everett Priggel and Bob Stagner. In the back, from right, are Mike Boudreaux and Truman Green.

the kind of transmission network it built, Associated has become the hub for power supply for the whole United States. We can broker the power that flows across the middle of the country. Associated gave us the muscle to deal with the IOUs – a lot of strength." Speaking for the Sho-Me of another era, Charlie Boulson says Associated has meant stability – "stability of power supply, stability of rates."

NW's Curt Funston puts emphasis on the economies of scale. "Costs for our small plants were astronomical. The only way we could build a big one was to create an entity that could take all of the output when it came on-line, and that took more than just an NW or a Northeast or any one or two G&Ts – it took everybody acting as one."

Bob Stagner summed it up as a matter of continuing benefits. Harking back to that little 1.5-mile tie line that did so much for M&A at the outset, Stagner says: "Nothing again ever produced as big an impact as that first little line. The rest was just one improvement after another, a continuing process."



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