

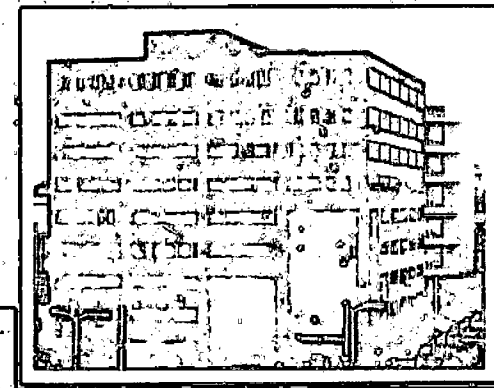
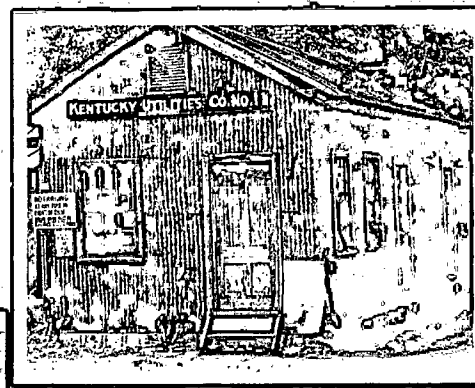
Kentucky Utilities

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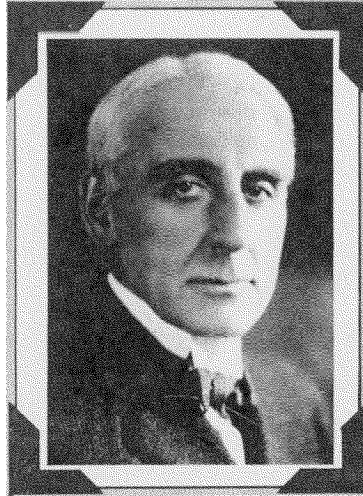
A PICTORIAL HISTORY



KENTUCKY
UTILITIES
COMPANY



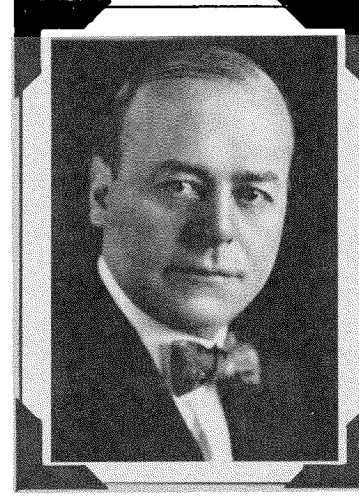
≡ K. U. Presidents ≡



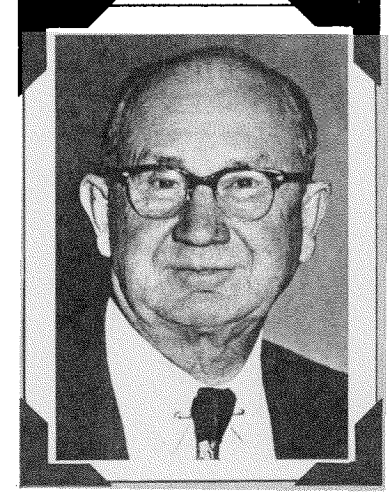
Martin J. Insull
1912 - 1914



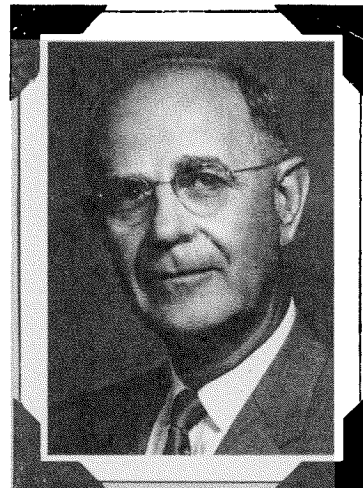
Harry Reid
1914 - 1927



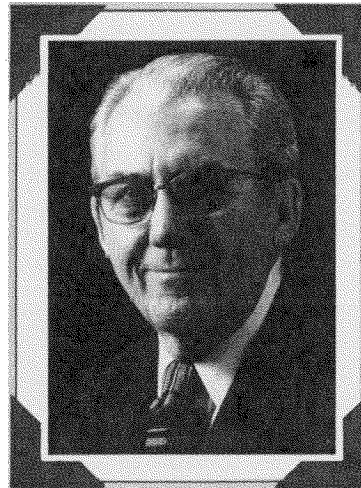
L. B. Herrington
1927 - 1933



Robert M. Watt
1934 - 1957



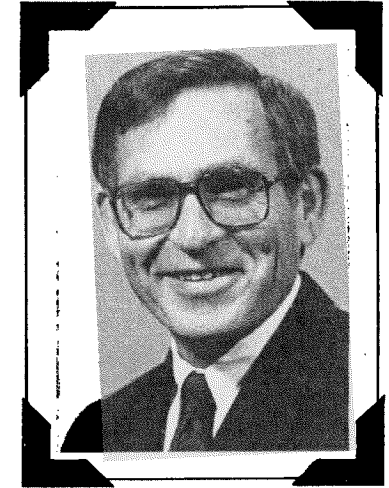
Floyd I. Fairman
1957 - 1964



William A. Duncan, Jr.
1964 - 1978



William B. Bechanan
1978 - 1987



John T. Newton
1987 -

Photos unavailable for Robert A. Gordon, 1912, and Bryant White, 1933-1934.

Foreword

The story of KU could well begin with the "Long Hunters," so named because they were gone from the colonies for two years on their first journey west in 1769 and 1770.

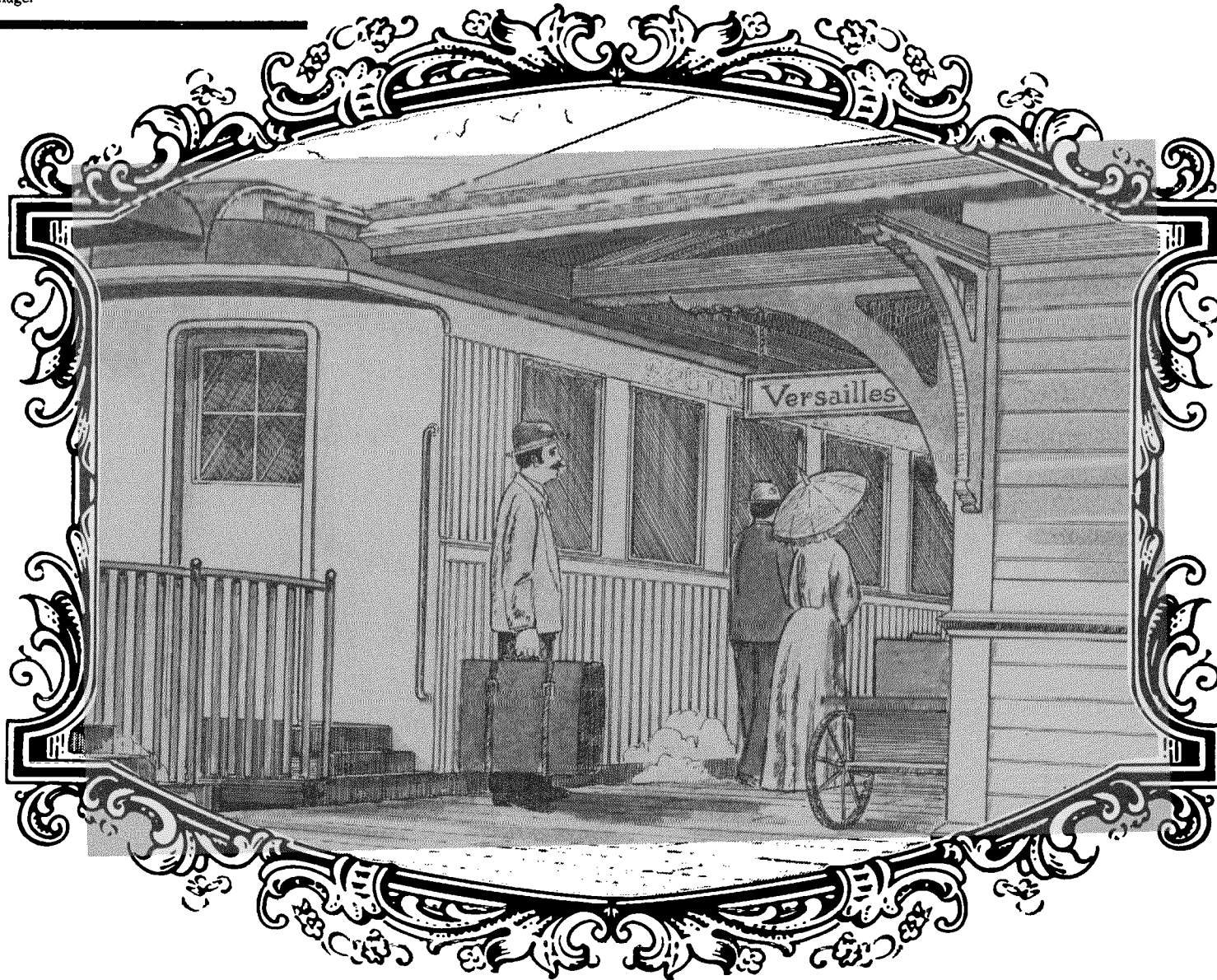
The Dix River — which, more than a century and a half later, would be the site of one of KU's most significant feats — got its name during this expedition.

We are told that one day a group of them met a party of Cherokees whose crippled chieftain the hunters named Captain Dick. The Indian led them to "his" river, and it's been "Dick's River," under one spelling or another, since.

That captures the essence of the KU history: people, whose devotion to this region led them to create a legacy for all those who follow.

HISTORICAL NOTE - April 18, 1906

An earthquake and fire levels much of San Francisco, killing 700 people and causing an estimated \$400 million in property damage.



When Harry Reid arrived in Versailles, he brought along a dream and a penchant for hard work. It was on this foundation that Kentucky Utilities Co. was built.

Chapter 1: Because One Man Dared To Dream

When young New Yorker Harry Reid stepped off the train in Versailles, Kentucky that day in 1905, he saw an opportunity to make a dream come true.

With \$200 in his pocket, the promise of financial backing from a friend in the East, and a dream, Reid's vision was to buy the small, dilapidated power plant there, and use it as the cornerstone of what he hoped would be an integrated network of electricity generating plants, with Lexington as its hub.

Conditions of the times

The time was right for such a venture. The electric industry in America was in its infancy. Thomas Edison's Pearl Street Station in New York City — the first commercial generating station — had been installed in 1883. But elsewhere, including Kentucky, there was virtually no central-station electric service like there is today. Tiny generators served towns — some even parts of towns — and competing utilities often provided service to different sections of the same city.

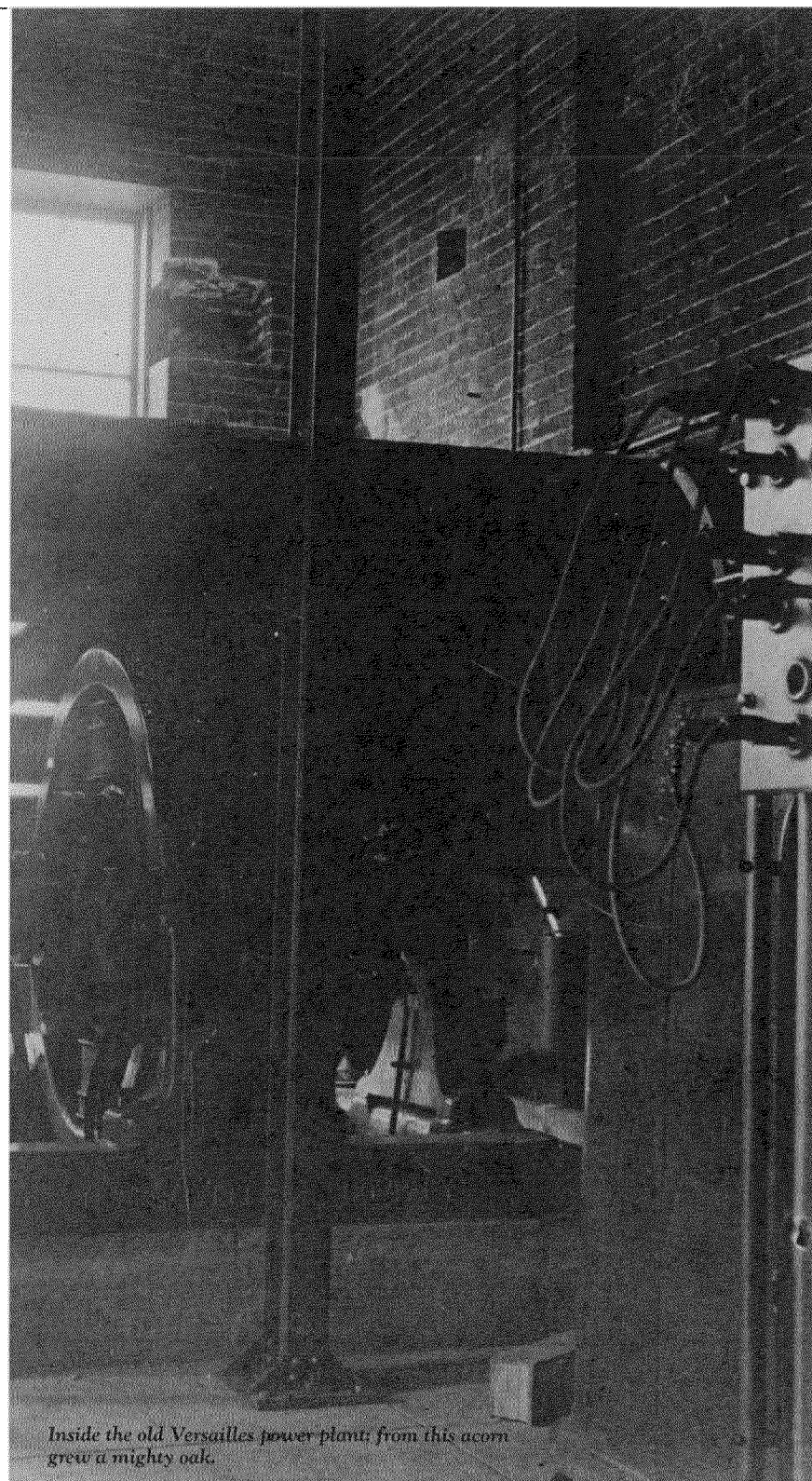
Rates were high, and use and service were limited. Generators were cranked up only from dusk until midnight — by which time all good citizens were supposed to be asleep anyway — and on Tuesday mornings, to give housewives a chance to do the week's ironing.

The dream takes shape

But despite the indications that pointed to the need for it, Reid's dream seemed doomed from the start. His friend in the East died. Reid himself nearly died from typhoid fever. His Versailles plant badly needed rebuilding. And, the local city council threatened not to renew its street lighting contract.

Just when things looked bleakest, Reid's plans began to come together. Selling his plant and franchise, he became general manager of the new Kentucky Utilities Company, incorporated August 17, 1912, to operate electric systems and some ice and water companies.

The company officially began business operations on December 2, 1912, in offices at the corner of Cheapside and Main in Lexington. The fledgling enterprise had an initial capital structure worth about \$2.7 million — a small fraction of the more than \$958 million in 1986.



Inside the old Versailles power plant; from this acorn grew a mighty oak.

HISTORICAL NOTE - April 14-15, 1912

The "unsinkable" British luxury liner *Titanic* strikes an iceberg on her maiden voyage and sinks in the North Atlantic. More than 1,500 lives are lost:

Chapter 2: The Early Years, 1912-1919

Expansion begins

The first five properties bought were Versailles, Lawrenceburg, Somerset, Elizabethtown and Shelbyville.

By the end of 1912, the company had added properties in Winchester and Mt. Sterling. Thus began the journey that would lead KU to the status of a statewide utility system in less than 30 years.

Eight new communities were added during the first full year of operation — seven by purchase and one by extension of lines to an unserved area. In 1913, KU served 4,277 customers. (That figure had grown to more than 390,700 by the end of 1986.)

KU's gross revenues for the first 13 months of operation were \$288,706. This had grown to nearly \$551 million by 1986.

In 1914, property was bought in one community and six were added by construction.

In 1915 — the first year for which kilowatt hour sales were recorded — the company sold 4.8 million kwh. (If that sounds like a lot, think of the more than 2,400 times that many kwh that were sold in 1986.)

"Selling" electricity

In addition to providing electricity, KU sold and serviced appliances and wired houses to replace gas and coal oil lamps. Promoting the use of these additions to the home required all the salesmanship an employee could muster.

Salesmen calling on the lady of the house often would leave an electric iron for her to try — and upon returning the next Tuesday, would find it heating on the coal stove, next to the old flat irons.

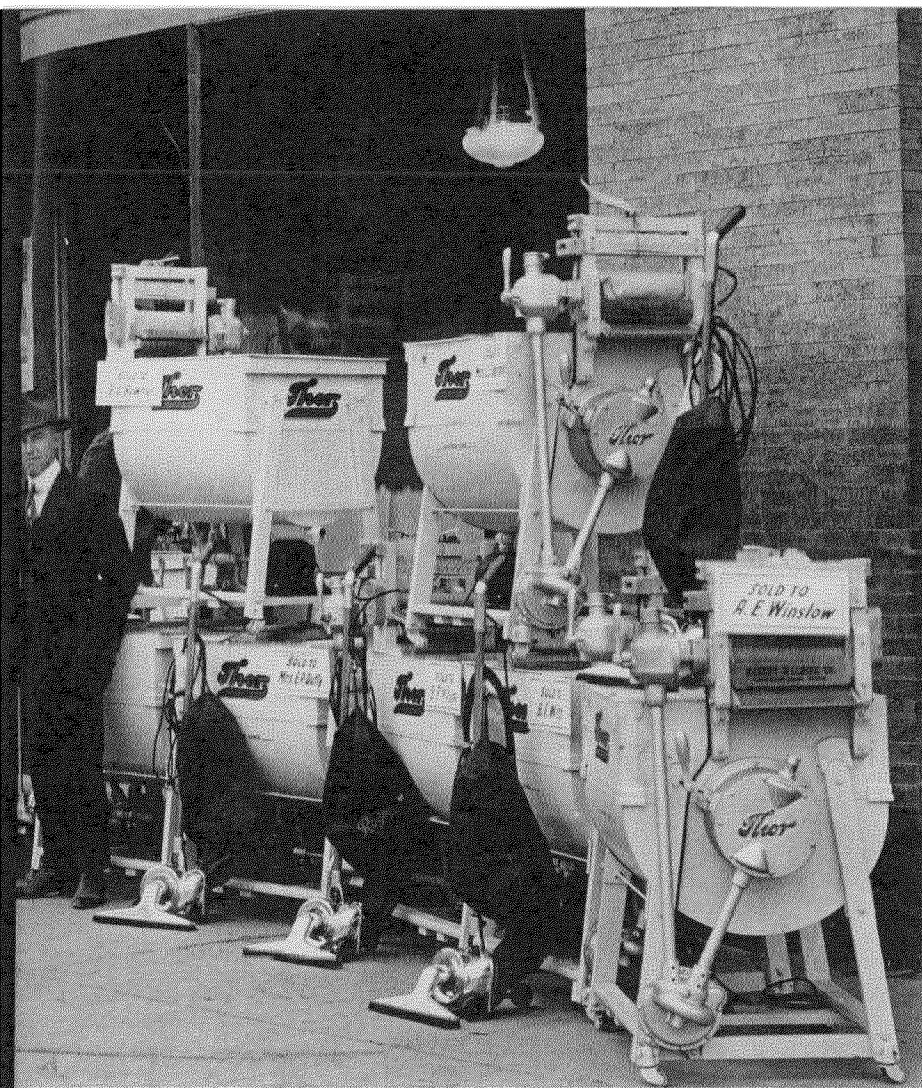


The westward push

Expansion into western Kentucky began in 1916 through new construction in seven communities and purchases in Central City, Greenville, Franklin, Morganfield and Uniontown. Seven other communities, including Hickman on the Mississippi River, were added the following year.

The five-year-old company was now serving 51 communities. Twenty-one received electric service for the first time as transmission lines were strung and entire distribution facilities were built within them.

The firm moved its headquarters from Lexington to Louisville in 1917 — but would return years later.



"Sold" signs indicate that these new washing machines and vacuum cleaners would soon help relieve some of the drudgery of housework. This photo was taken in 1919 in front of the Electric Transmission Co. of Virginia, acquired that year by KU.

Mine power supplied a big portion of KU's load when this electric coal cutting machine was in use in 1922.



Off to the coal mines

The rapidly expanding coal industry and Kentucky Utilities Company proved beneficial to each other. The mines needed electric power to produce more coal faster; the additional revenue from KU's mine power sales helped finance construction in new areas.

Five mines were connected in 1917, with 17 others added the following year. By 1919, mine power accounted for almost two-thirds of the company's load.

Connecting to the coal mines pushed the leading edge of KU's system southward and eastward toward Pineville, Middlesboro and Harlan. Growth also crossed the Virginia state line.

HISTORICAL NOTE – May 20-21, 1927

Capt. Charles A. Lindbergh earns his place in aviation history by making the first solo trans-Atlantic flight.

Chapter 3: The Roaring Twenties

Across state lines

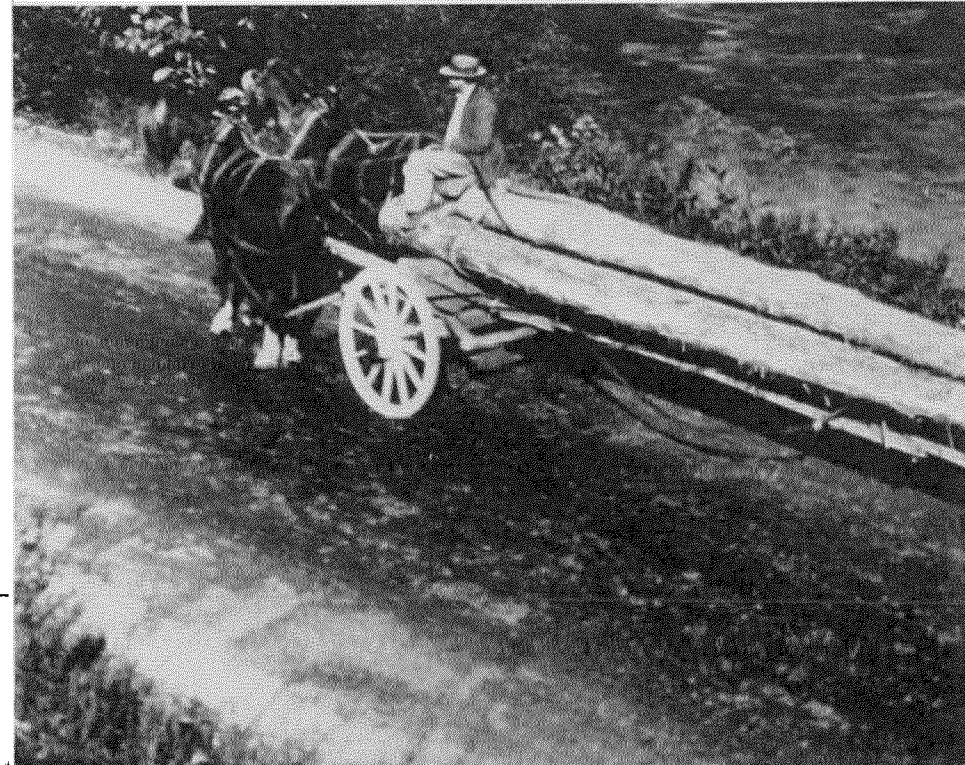
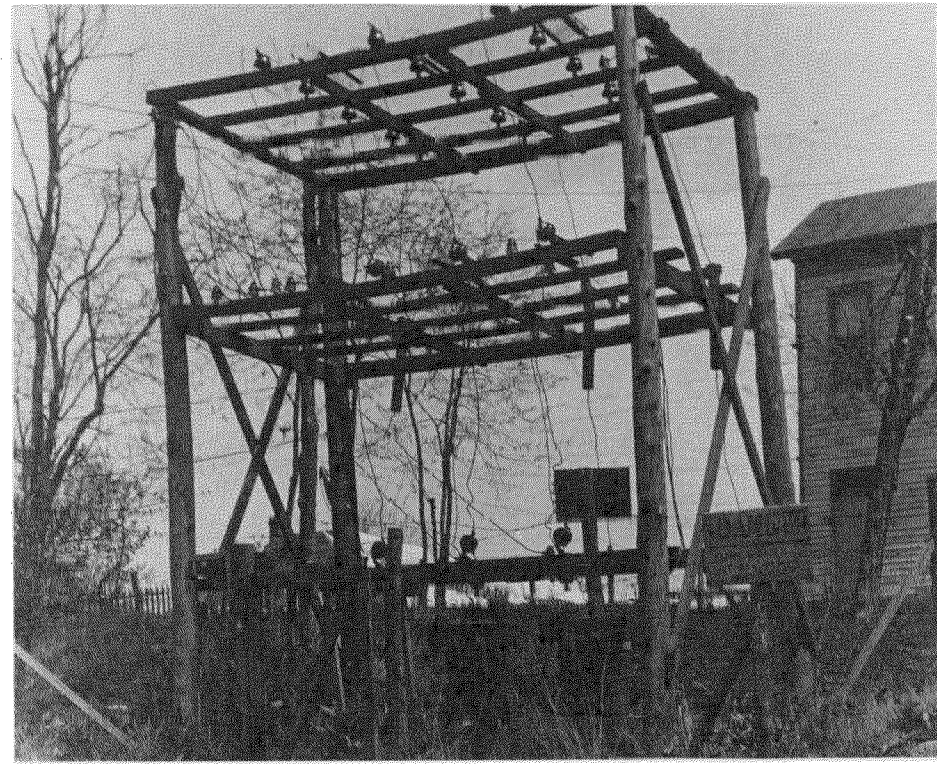
The Electric Transmission Company of Virginia, which owned a power plant at Pocket and transmission lines and a distribution system in Pennington Gap, was purchased in 1919. Seven years later, KU bought the Old Dominion Power Company (ODP), which owned a plant at Dorchester and transmission lines and distribution systems in Norton, Coeburn, Wise and St. Paul.

New and better equipment

Building lines has never been an easy task. Years ago, it meant cutting the poles near the site and using teams of mules to drag them out of the woods. Crews camped in tents where they worked, since they could not climb into a crew truck and drive home for a hot meal and a warm bed. The men stayed at the camp until the work was completed, moving from one construction site to the next.

In the early 1920s, new coal mines were opening and construction was booming in many fields. Small generators, added with each new purchase, were not dependable for maintaining service to the mines. The problem was solved for a time when the company bought new generators in the Varilla, Ky., and Pocket, Va., plants, located at each end of the eastern Kentucky and southwestern Virginia coal fields. If one plant was out of service, the other could temporarily carry the load.

After acquiring existing properties and bringing service into new areas, the company soon realized it must begin replacing the hodge-podge of tiny, isolated power plants with large, centrally-located generating stations.

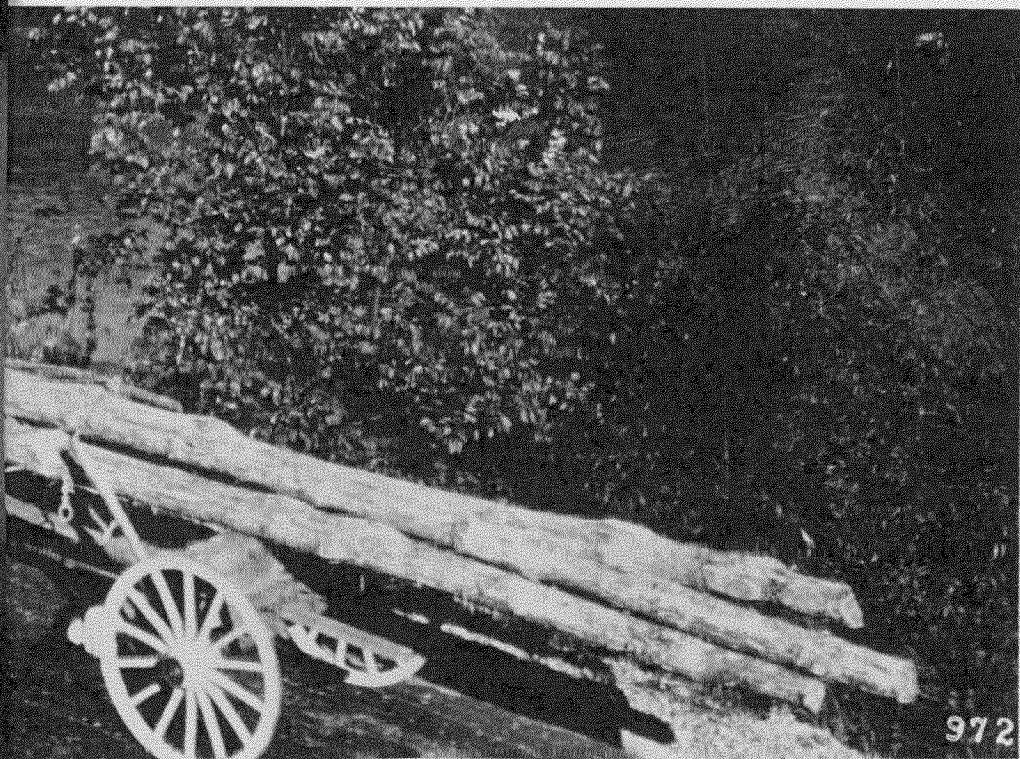




Far left: Wood-structured substations such as this one were vulnerable to the ravages of nature.

Near left: Early line crews often worked in remote areas, camping out for weeks at a time until their work was completed. Like pioneers on the frontier, they often carried guns.

Below left: It took "horsepower" to transport logs destined to become early utility poles.



In Kentucky, 43 small power plants were replaced because they were not dependable and were subject to many interruptions. These tiny power producers could not carry the additional loads necessary for the growth and development of the towns they served.

Breakdowns in those early, small power plants could be frequent and exasperating. Each generator had its own idiosyncrasies, and they often required heroic measures to keep them going.

One day, the steel smokestack of the Richmond plant folded in the middle like a bent soda straw. In that position, its draft was insufficient to keep the boilers going, and it couldn't be pulled over without danger of crushing the power house.

George Fawkes, then manager at Richmond, got his shotgun and a box of buckshot shells, and began blasting away. By the time he had fired his last shell, the stack looked like a sieve — but he had a draft and Richmond's lights were still burning.

On another occasion at Lawrenceburg, lightning struck the plant, knocking out the fuses on the arc circuit. The elderly operator in charge of the plant re-fused. Again, lightning struck, this time knocking out the fuses — and the operator himself. Just as he recovered, a third bolt hit.

This convinced him. He pulled the main breaker, saying, in effect, "If a Higher Power is going to run His light plant, I'm going to shut mine down!"

Most new properties required extensive improvement if KU expected to retain its high standards of operating efficiency. Although line construction kept pace in the first eight years of KU's existence, the company began tying its properties together during the 1920s to improve service and prepare for rapid growth.

The newly completed Dix Dam towers above the hydro power station. Inset: the men who built the dam were a rugged lot.

The first coal-fired, steam generating facility KU built was a 30,000 kilowatt power plant north of Pineville, Ky., at the edge of the system's load center, and it wasn't until 1964 that the plant's two original generating units, installed in 1924 and 1925, were retired. The major portion of the demand on the KU system in southeastern and central Kentucky was furnished for many years by this plant at KU Park.

A lake is born

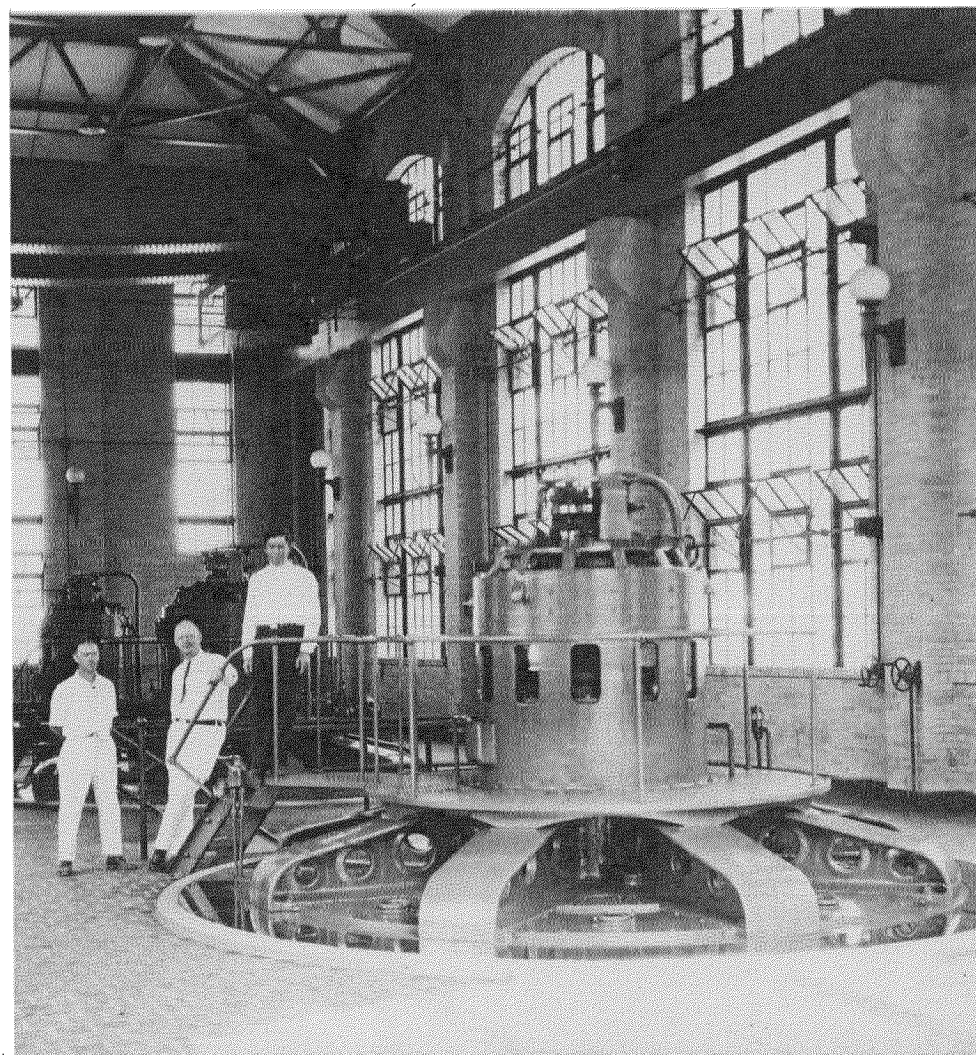
Dix Dam was a project destined to capture the imagination of the state. It would be Kentucky's first major hydroelectric dam, the largest rock-filled dam in the world, the highest dam east of the Rockies, and 105 feet higher than Niagara Falls. The body of water it would impound — to be called Lake Herrington — would stretch 35 miles up the Dix River valley.

"Another page is being written into the annals of engineering achievement," wrote the *Excavating Engineer*, a technical journal of the day. "It is difficult to visualize the enormity of this project, and it would be almost impossible to confine the various construction phases of this vast operation into a single article."

Construction of the dam began in the fall of 1923, and on March 17, 1925 — at a total cost of more than \$7 million, with around-the-clock work — the engineers closed the diversion tunnels and Lake Herrington was allowed to fill.

While work on the dam and related facilities progressed, a hydro plant was constructed at the base of the dam. The plant could generate from 24,000 to 30,000 kw, depending on the water level.

Inside the hydro power station at Dix Dam in the 1920s.





A system connected

KU went north from Dix with a double-circuit-tie to Lexington Utilities Company, and a third line was built to London and Pineville, which was interconnected with the coal fields.

Construction of major generating projects was planned well in advance of the increased load created by the rapid expansion of the service area during the 1920s. The company was able to provide dependable electric service throughout its territory with the addition of larger power plants, as well as interconnections with neighbors.

Early in the '20s, KU made interconnection with Louisville Gas and Electric Company to have an additional source of power in case of failure within its own system. A double circuit was built from Dix Dam to connect with the other utility, who could also receive excess capacity from the KU hydro plant.

Only nine properties had been added from 1918 to 1922. But in 1923, KU began expansion and purchases that did not end until 1931, during the Great Depression. From 1920 to 1924, the system load, the number of customers and kilowatt hour sales doubled.

Towns without electric service were being added at the rate of one a month. The high point during this period of expansion was marked in 1925 with the purchase of property at Paducah — the largest town in the KU system at that time. Property purchases in western Kentucky during 1926 included sizeable generating stations at Earlington and Graham.

By 1930, KU was providing service to 253 communities, 140 of which had been added during the past five years. Seventy-nine of those did not have prior service.

While KU was busy consolidating hundreds of isolated properties, its engineers and line crews were going into many towns to completely redesign and rebuild the distribution systems so they might be stronger and more reliable. Where there was no service, KU met the challenge of building systems and bringing electricity to the homes and farms across the service area.

In total, the company supplied the first electric service in 236 towns and replaced limited service with 24-hour service in 38 others.



February 8, 1925: Residents of Campbellsville turned out en masse for the opening of the new KU office there.

*Facing page: Lexington Utilities Company, like KU, its parent company, used tent shows to sell appliances.
Inset: An early electric range, the centerpiece of an all-electric kitchen.*

Inside the new Campbellsville office, the sales staff prepared to greet the public and demonstrate labor-saving electric appliances.





Sales of appliances

The company pioneered a new technique during the late 1920s for promoting sales and the use of appliances. Traveling tent shows became a good method of reaching residential and farm customers, and the practice was widely copied by others in the electric industry.

Electrical appliances rapidly became welcome additions to the home, despite reluctance in the early days, and their use became widespread. By 1943, dealer sales far surpassed the appliance sales that KU made directly, and the company stopped merchandising and directed all of its sales efforts toward helping dealers.

Chapter 4: The Depressed Thirties

"Live line" maintenance was started during 1930 when "hot sticks" were used in replacing fuses and damaged insulation on energized, low-voltage lines.

Tangible property in 1930 was valued at about \$47 million. This compares with a gross plant investment of nearly \$1.7 billion in 1986.

The company moved its headquarters back to Lexington in July, 1933, when acquisition of the local utility seemed imminent.

Rural electrification

KU recognized the need to provide electric service to rural areas from its beginning. Although the first farm customer was connected November 29, 1916, growth into rural areas was slow during the next two decades. Aside from the enormity of electrifying hundreds of towns without power, there were financial matters that made the task more difficult in rural areas. Farm homes were scattered, and building lines to them was more costly. In towns and cities, more customers could be served by each section of line. Every farm that signed for service represented extensive sales efforts on the part of KU.

Making electrification profitable

Perhaps the biggest barrier to development was that the limited use of electricity on the farm did not justify the expense of line construction. Farmers became interested in such ventures only when an investment could help their farms become more productive and increase their income. Having electric power merely for lighting was considered a luxury.

Tailoring a program to help in rural development, KU's first farm agent was named in 1927, starting an effort which would continue for many years to make KU a clearinghouse for farm interests and services. Thousands of rural youths were helped in their farm projects. Farm wives were shown how to get maximum benefits from electric appliances. And, farmers were assisted in operating productive, labor-saving electric equipment.

HISTORICAL NOTE - May 6, 1937

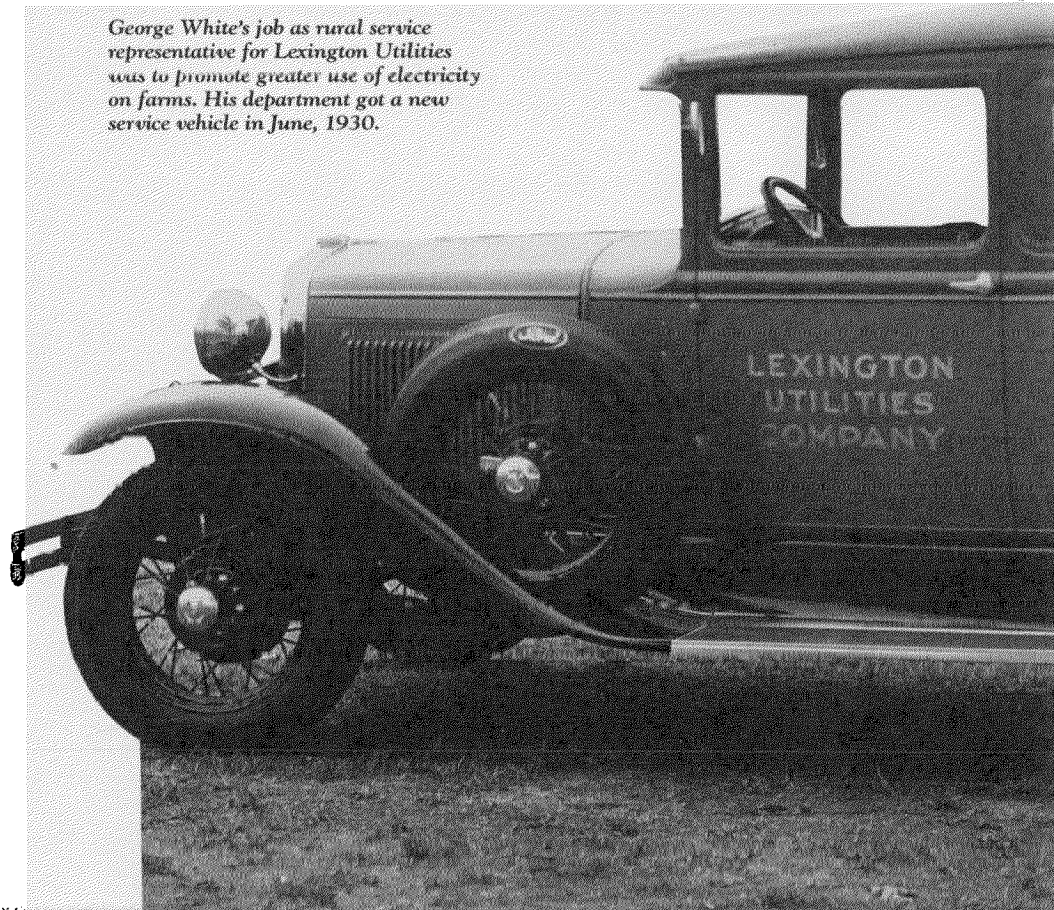
Explosion and fire destroy the German dirigible *Hindenburg* as it lands at Lakehurst, N.J., killing 36 people.

As more electrically-operated machines were manufactured, farmers saw the opportunity to make their work easier and more productive, and they began to demand the "luxury" of electricity.

The Great Depression takes its toll

Until the Depression, KU's farm assistance program paralleled an increased effort to extend power lines into rural areas. But, KU was no different from other business enterprises, and the Depression slowed expansion to a near standstill. Only 17 communities were added to the system between 1930 and 1935. Conditions began to improve and KU resumed its program, with many farms electrified beginning in 1935.

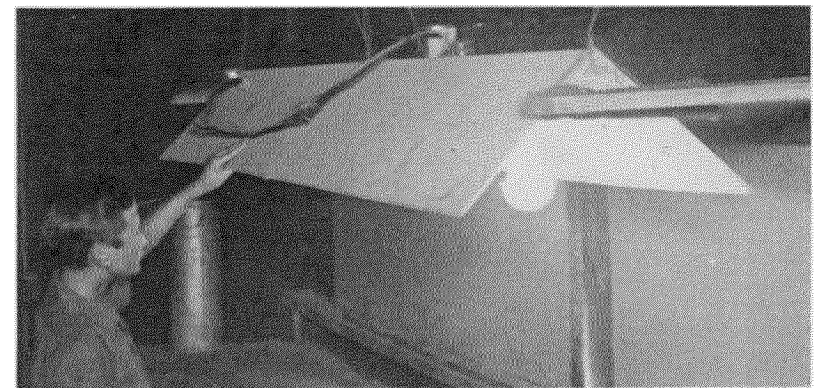
George White's job as rural service representative for Lexington Utilities was to promote greater use of electricity on farms. His department got a new service vehicle in June, 1930.



The advent of R.E.A.

A federal program enabling cooperatives to be formed for rural electrification came into being in 1935. Two co-ops were created in Kentucky by 1937. KU had always believed in the necessity of bringing the benefits of electric power to as many as possible, and it was in this spirit that the company cooperated with the R.E.A. program, including offering the co-ops low-cost wholesale electric rates.

Territories needing service were divided. Recognizing its moral obligation to help the people of rural Kentucky, KU saw the coming of R.E.A. as an opportunity for a greater number of farm families and other rural residents to enjoy electric service.



Top: The arrival of utility poles in rural areas was a welcome addition to the landscape, bringing modern conveniences to the farm.

Above: With the advent of electric lighting in the stripping room, the tobacco farmer could more easily grade the leaf and could work longer hours to take advantage of ideal weather conditions.

The headquarters of Lexington Utilities Company was located at Main and Broadway, in what is now called Victorian Square.

Comparing rates—then and now

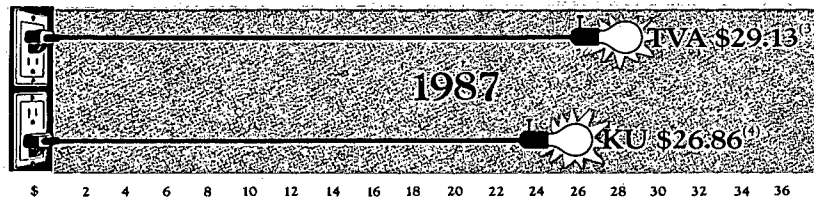
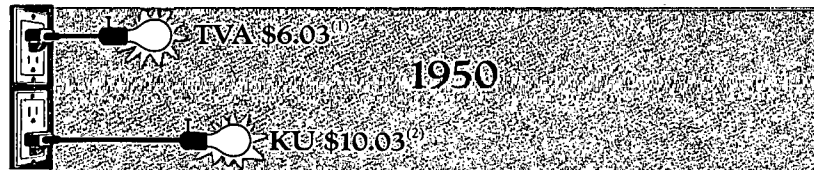
Low-interest government loans and capital grants to TVA and the rural electric cooperatives made the co-ops' electricity cheaper. Meanwhile, private companies such as KU had to pay higher interest rates, and their cost of producing electricity was consequently greater. Free enterprise simply could not compete against government subsidy, and as a result, the co-ops for many years were able to sell electricity to the consumer at a lower price than KU and other private-sector utilities.

Today, however, the situation is different. The co-ops have been required to obtain some of their financing in the competitive capital market, resulting in higher costs to their customers. Because of KU's constant effort to provide service at the lowest reasonable cost to its customers, KU's rates today are less than TVA-served co-ops.

TVA has been forced to mothball expensive nuclear plants, and has had to purchase power due to weather-related reductions in hydro generation. KU, on the other hand, remains committed to using coal to generate 99 percent of its electricity, and was able to lower its rates because of reduced costs under recent tax reforms.

Residential Bill Comparison

500 kwh



(1) Rate R—intermediate level
 (2) Rate RS-3—intermediate level
 (3) Rate RP-11—typical of basic residential rate in TVA service area
 (4) Rate RS
 SOURCES: Federal Power Commission, Typical Residential Electric Bills, 1950; TVA, Electric Bills Comparison of the Southeastern Region of the United States, April, 1987.



Prewar consolidation

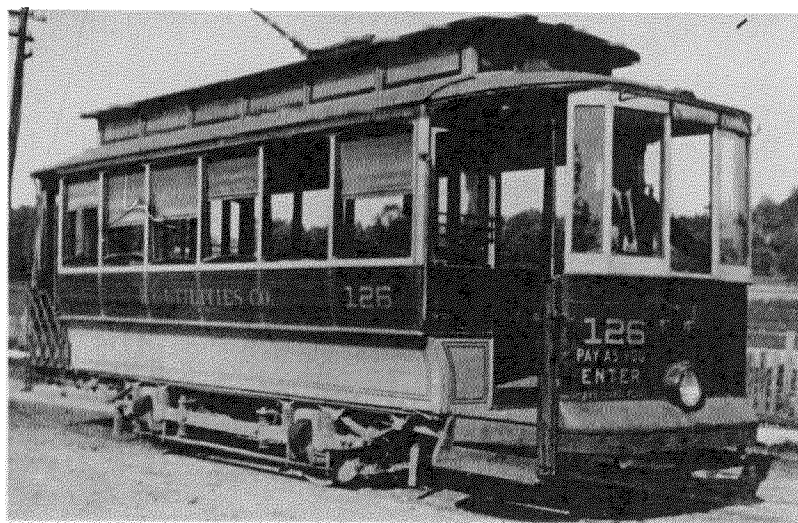
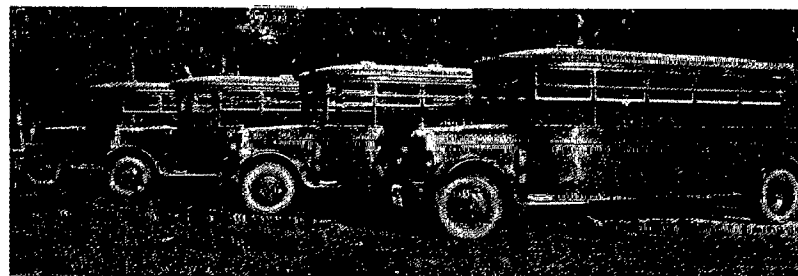
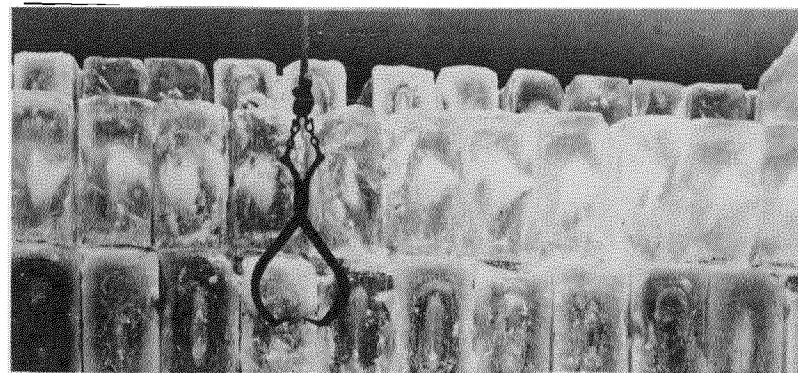
During the decade before World War II, KU was busy planning, building in areas already acquired, and consolidating isolated properties. The Lexington Utilities Company consolidated with KU on January 3, 1940, and Kentucky Power and Light Company in northeastern Kentucky was added in 1941. Property purchased from other utility companies brought a substantial increase in the number of KU customers.

By the end of the thirties, planning was under way for an even larger central generating station. World War II, however,



delayed the start of construction on the Tyrone Plant until 1946. This new facility on the Kentucky River in Woodford County marked the beginning of an expansion program that continued for more than thirty years.

Besides electricity, gas and water, KU operated several other businesses in the early years. From top: ice manufacture; ice delivery (in this case, via electric truck in Winchester); bus delivery (in this case, via electric truck in Winchester); and trolleys.



Chapter 5: The Forties—Narrowing the Focus

Until 1943, the company's list of services to many areas—due in part to acquisitions—included city buses and trolleys; water works and gas properties; ice manufacture, sales and distribution; and sales and service of gas and electric appliances. For a time, KU also held a large share of the stock of the Southeastern Greyhound bus system.

The expansion of KU's electric utility service area required a gradual disposal of these other properties. Attention was needed in the ever-expanding facilities for electric generation, transmission, and distribution to keep ahead of the demand of a growing list of customers. By 1951, KU had sold the last of its gas properties.

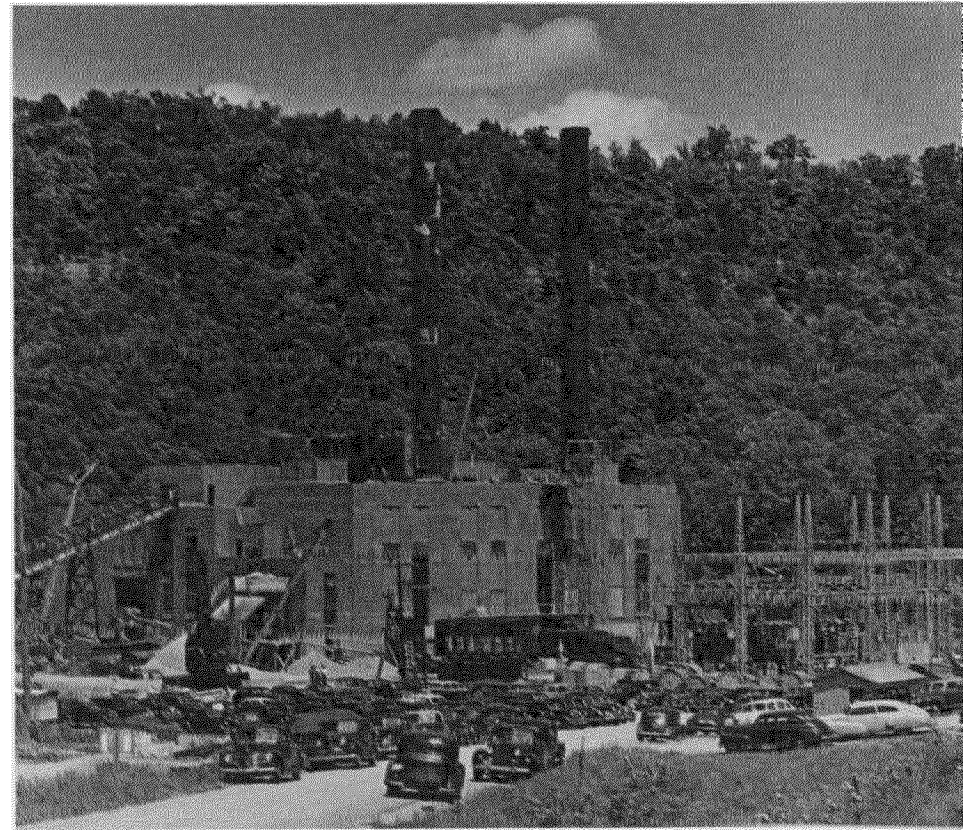


Radio communication

Until two-way radio hookups were initiated in 1946, dispatchers waited for servicemen to "call in" before trouble calls could be answered.

KU's first units were installed at Lexington, and systems were added at Elizabethtown and Paducah within three years. The number continued to increase until the company had a complete KU/ODP radio network by 1953.

Postwar prosperity brought the need for additional generating capacity, beginning with the Tyrone Plant in Woodford County in 1946.



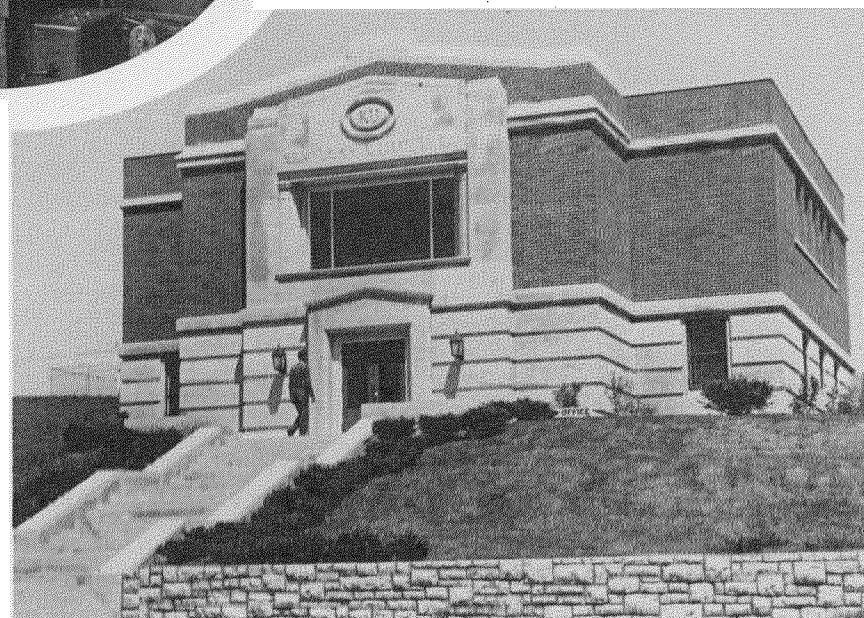
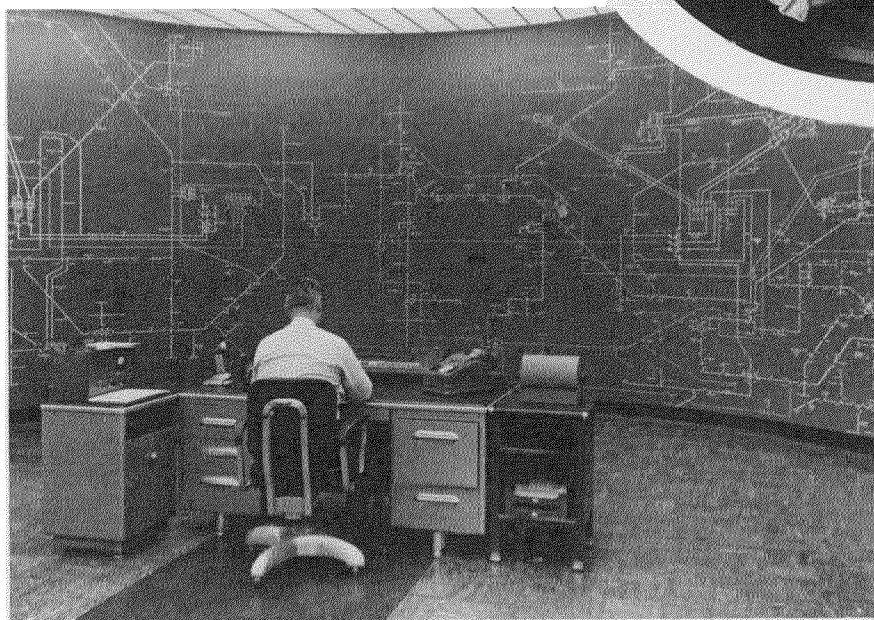
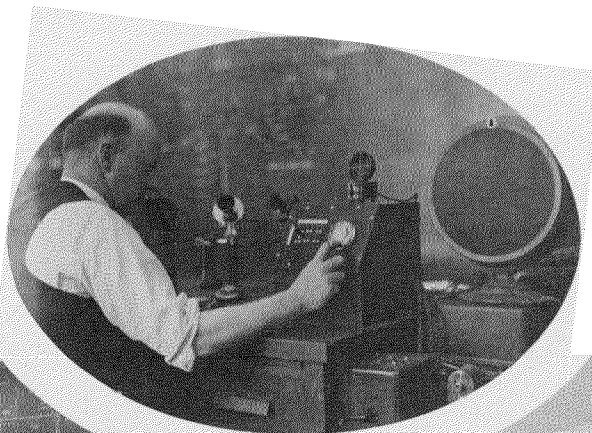
New plants and an integrated system

Even before the second unit was completed at Tyrone in the spring of 1948, a new facility was started on the Green River near Central City. New generators were planned for the Tyrone and Green River plants, doubling their capacities. The size of the Pineville plant was also doubled. In 1949, the company completed 140 miles of 138 kilovolt (kv) line between Dix and the Green River Plant. Now, for the first time, the company was

Oval inset: System control in its earliest years consisted of people in various locations around the state "hollering" at each other over telephones. This photo, taken inside the old hydro plant at Dix Dam, dates from the 1930s.

Below, left: System control, c. 1954.

Below, right: A new building to house the system control center was built in 1954 overlooking Dix Dam and Lake Herrington.



HISTORICAL NOTE - August 29, 1940
Color television is demonstrated in New York City.

completely integrated, with transmission lines between the Mississippi River and southwestern Virginia. The dream of being a statewide utility was now a reality.

A new system control center was completed at Dix Dam in 1949 to meet the needs of rapidly expanding generating and transmission facilities and to control interchange power flow with other systems. At the start, a room was partitioned on the

generator floor of the hydro station to house a system map, metering, and control equipment.

This arrangement, however, soon proved inadequate. In October, 1954, this operation moved to a new building overlooking Lake Herrington and Dix Dam and was especially designed for central-system control supervision.

Chapter 6: The '50s and '60s—Meeting the Challenge of Postwar Industry

Industrial development

In the forefront of establishing a program to improve the state's industrial position, KU helped form a state community and industrial development program in 1948 to further economic and social improvement. Cooperation was received from state agencies, civic organizations, state and local chambers of commerce, and industrial departments of other companies.

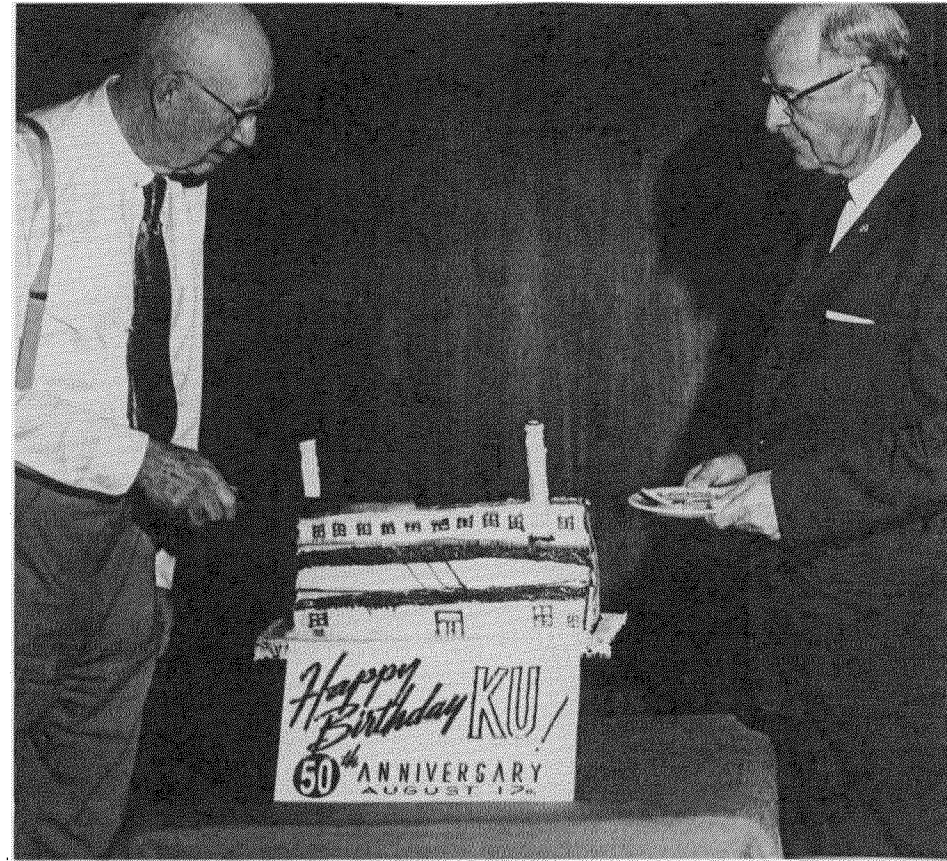
KU's industrial development program, expanded in the mid '40s, helped attract more than 200 new industries to our area in the '50s, while 129 firms added to their operations.

Postwar prosperity and industrial expansion brought the need for even more generating capacity. In 1953, a third unit was added at Tyrone; in 1954, a third at Green River; in 1957, the first at E.W. Brown—just a stone's throw from Dix Dam—and in 1959, the fourth at Green River.

Industrial growth was steady and diversified during the '60s. Nearly 400 new industries located in the company's territory, and more than 500 existing facilities expanded, creating 50,000 new jobs and more than \$500 million in new investments.



E.W. Brown, vice president of KU, addressed the crowd at the groundbreaking ceremonies for the generating station named in his honor in January, 1955.



Among those celebrating KU's 50th anniversary in 1962 were Board Chairman Robert M. Watt, left, and President Floyd Fairman.

On the residential front, the emphasis in the '50s and '60s was on the "modern." Consumer advertising stressed convenience: everything from appliances to cars was controlled "at the touch of a button," and new uses for electricity around the home abounded. It was reported at the time that there were 166 uses for electricity in the home.

KU's marketing efforts contributed to a steady increase in the number of homes with electric heating and water heating, as people began to appreciate the cleanliness of electricity in these applications. Electric air conditioning was becoming more common during this period, as well.

The result of all this is astounding. During most of this period, the average residential customer's kilowatt hour usage doubled every ten to twelve years.



Demonstrating the industry's first all-digital computerized control system in 1964 was William A. Duncan, Jr., president of the company. Utility executives from around the world came to see this sophisticated equipment.

System Control Center

The first all-digital systems operations computer in the electric power industry was placed into operation in 1964 at our System Control Center, and helped the company in its efforts to produce and distribute power at the lowest possible cost.

The second half of the 1960s was relatively quiet in terms of new generation construction, with work progressing only at Brown Unit Three. Building activity did increase during the 1970s, however, as energy sales more than doubled from 2.3 billion kwh in 1960 to 5.3 billion kwh ten years later.

HISTORICAL NOTE - April 25, 1957

President Eisenhower announces a study to determine if national security is being undermined by oil imports.

Below: Lexington Mayor James Amato, left, and KU President W.B. Bechanan cut the ribbon during ceremonies marking the company's move to its sixth headquarters at One Quality Street in 1979. Right: The nine-story building contains 146,000 square feet of space.



Chapter 7: The '70s—New Challenges; New Approaches

In 1970, a 51,000 kw peaking unit was installed at Lexington to supply the increased load demand brought about by industrial expansion. The first "giant" among KU's generators, Unit Three at the Brown Plant, became operational in 1971. Rated at 427,000 kw, its capability was equivalent to about 89 percent of KU's total plant generation in 1958—just 13 years before—and about one-third of all plants' capacities in 1971.

By 1972, KU's generating stations were capable of producing 1,216,000 kw of power. But the company's plant capacity continued to grow as work progressed on an even larger generating unit—a new station at Ghent on the Ohio River in Carroll County. Ghent One, which went on line in 1974, was the largest ever—510,000 kw.

The energy crisis

The oil embargo of 1973-74 signaled the beginning of what is commonly called the energy crisis, and led to a moratorium on new natural gas hook-ups.

With competition from natural gas out of the picture in new construction, and with rampant inflation making relatively frequent rate increases necessary, KU's marketing efforts took a new direction. The focus was now on conservation, in an effort to reduce load growth and postpone the need for additional generating capacity.

A coal strike during the winter of 1977-78, compounded by a high demand for electricity brought on by harsh weather, resulted in abnormally low coal inventories and prompted KU to ask customers to cut their electricity usage voluntarily to preserve coal supplies. Customers' cooperation, along with power purchases from other utilities and coal bought on the spot market, enabled KU to avoid a serious disaster.

The nation's economy did not bounce back as strongly as predicted after the 1973-74 slump, and industrial development slowed somewhat during the period.

HISTORICAL NOTE – October 17, 1973

Arab oil-producing nations announce an embargo of oil shipments to the U.S.

Trial by storm

Heavy damage was inflicted on KU's transmission facilities in April, 1974, when Kentucky and several other states experienced dozens of tornadoes. Our transmission lines were cut at 32 points and loss was estimated at a staggering \$1.3 million.

Plant construction

While peak demand was almost at capacity, additional generation was nearing completion. Ghent Unit Two, also rated at 510,000 kw, came on the line in April, 1977, and brought KU's total plant capacity to about 2,100,000 kw. Provisions were being made for an even greater demand for electric energy with the start of construction on Units Three and Four at Ghent late in 1977.

Unit sizes had multiplied from Tyrone's 30,000 kw generator installed in 1946, to the 125,000 kw Unit One and the 427,000 kw Unit Three at Brown, to the 510,000 kw units at Ghent.

High voltage transmission

The size of transmission lines slowly increased to carry greater loads and meet increasing demands of an expanding economy and population in Kentucky. Many miles of 34.5 kv, 69 kv, 138 kv, and 161 kv were built. By 1972, KU had begun construction of its first 345 kv line from the Ghent Plant, south to Lexington and on to the Brown Plant for additional service capability in adjacent areas.

In 1979, planning began on a 57-mile, 500 kv line running from the Pineville Generating Station to the Virginia-Tennessee state line, interconnecting with TVA. The first sixteen miles of this line would go into service three years later.

A new home

Late in 1979, KU moved into its sixth and present home—a new corporate headquarters building at One Quality Street in downtown Lexington, with nine stories and a total of 146,000 square feet.

Chapter 8: The '80s and Beyond

By the early 1980s, construction at Ghent was coming to fruition. Ghent Unit Three, a coal-fired unit rated at 500 megawatts, went on line in May, 1981. The Ghent Generating Station was completed in 1984 when Unit Four was placed in service, bringing the company's total generating capacity to 3,175 megawatts.

But the aftershocks of the energy crisis, coupled with record interest rates and economic uncertainty, had caused load growth forecasts to shrink during the late 1970s and early '80s. By early 1986, after several announced delays, two planned 650-megawatt generating units for a new facility in Hancock County were cancelled.

New system operations center

A \$6.6 million addition to the System Control Center at Dix Dam, containing a new system control computer, went into operation in 1983.

This state-of-the-art equipment examines power system data every four seconds, compares the cost of electricity produced by each generating unit, and automatically selects the most economical generator output levels to supply the required electricity. It then signals remote control units at KU's power plants to make the necessary adjustments to the generators. It can also perform transmission switching tasks using remote control devices in KU's substations.

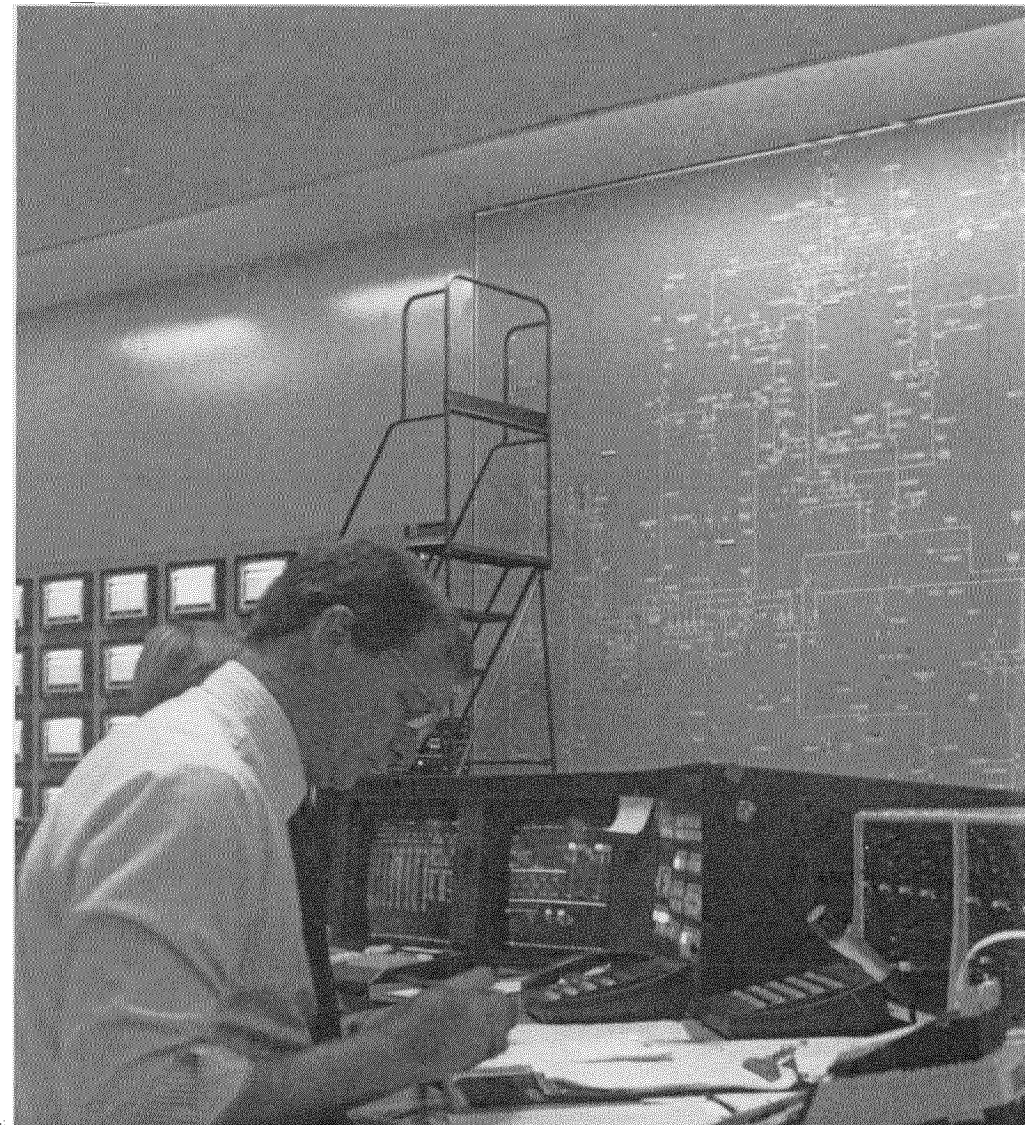
Renewed industrial development efforts

After the economic recession and high interest rates produced several lackluster years in terms of industrial development in the late '70s and early '80s, KU worked closely with state and local organizations in going headlong into a new economic development thrust in the mid 1980s.

This cooperation between government and the private sector began paying off in a big way. In late 1985, Toyota Motor Corporation announced a new, \$800 million manufacturing facility in Scott County, 15 miles north of Lexington. When completed, it will be KU's largest customer and will employ up to 3,000 people. The plant is expected to be served by 50 to 75 new satellite supplier industries.

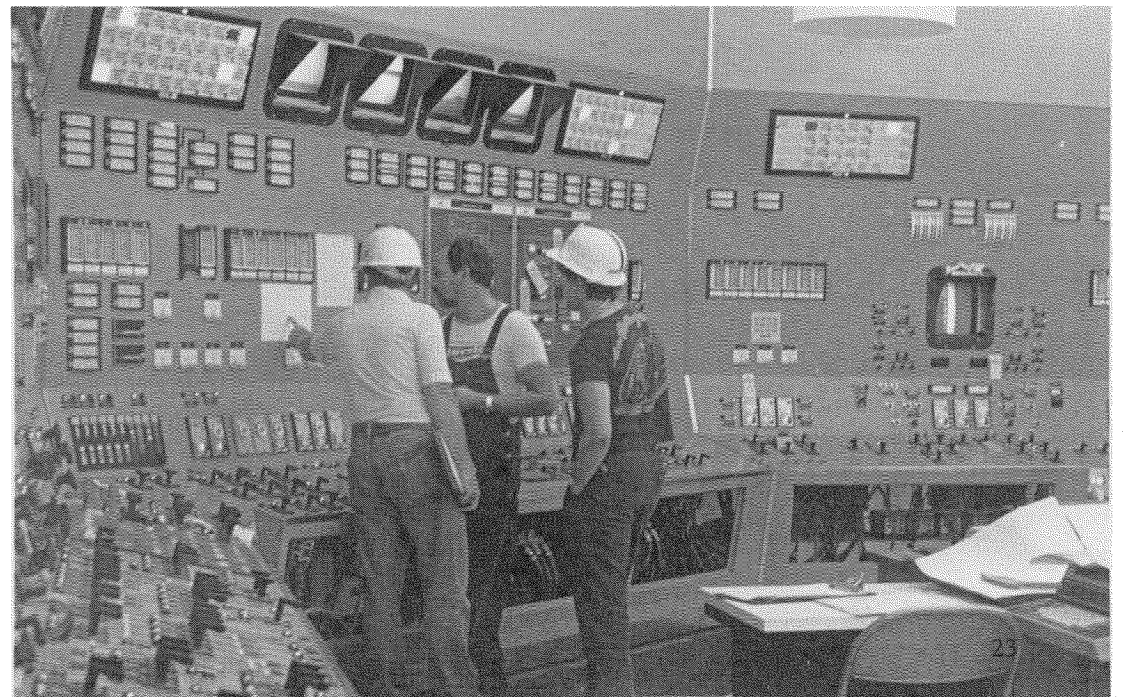
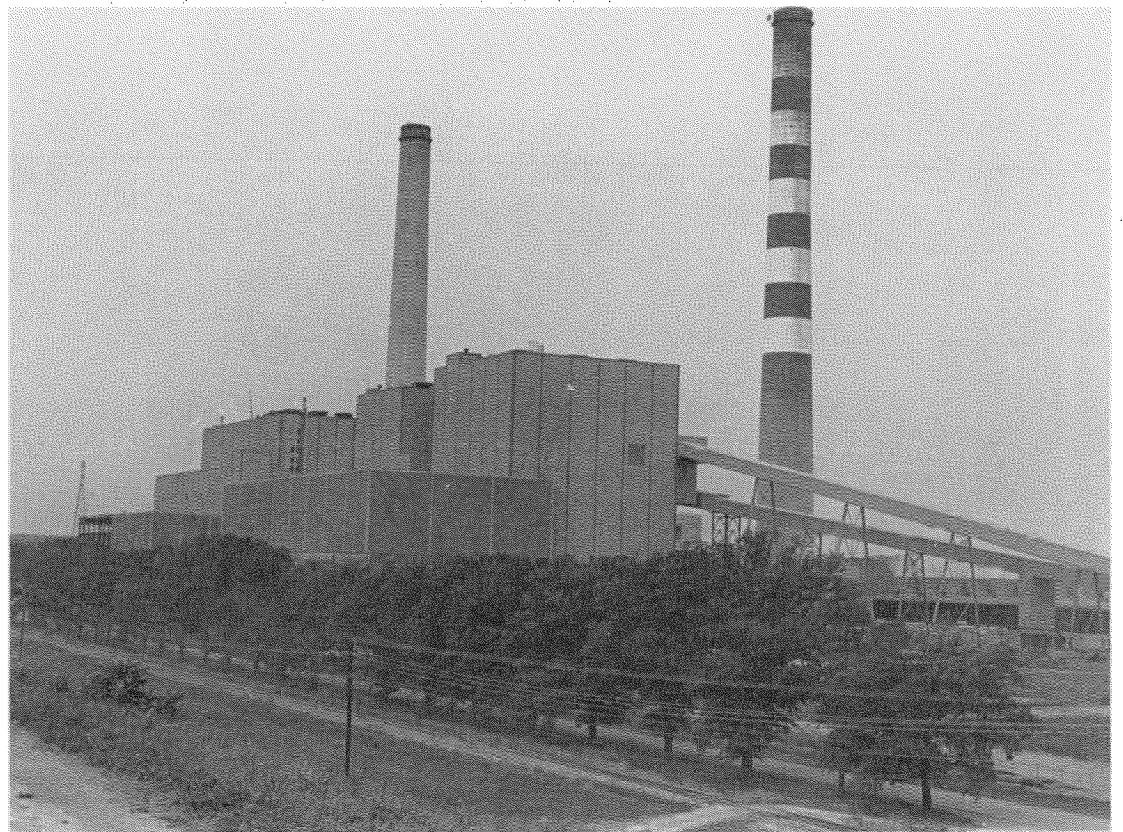
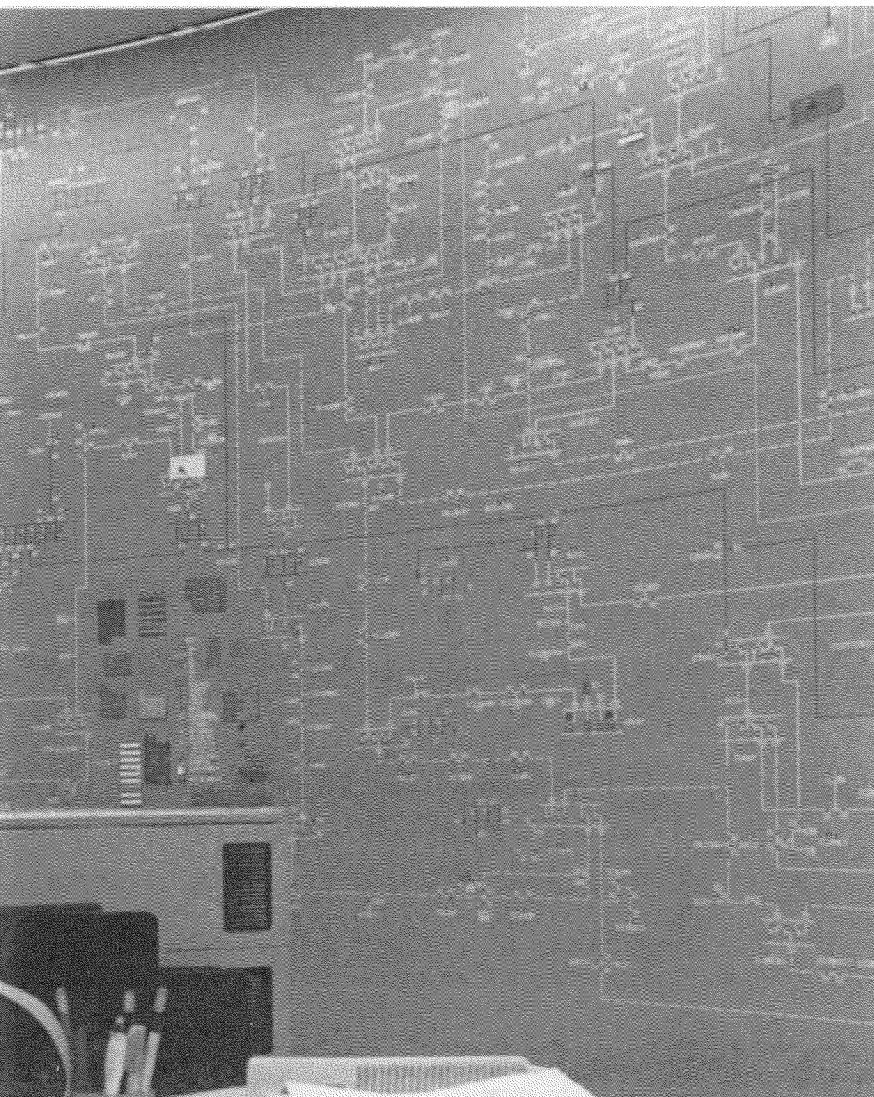
According to *Industrial Development Magazine*, Kentucky led all states except Georgia and Florida in new and expanding industries in the first 10 months of 1986.

The new high-tech computer equipment at the control center near Dix Dam went into operation in 1983.



**Right: The Ghent Generating Station is
located on the Ohio River near
Carrollton, Kentucky.**

**Bottom right:
Inside one of the control rooms at Ghent.**





In the Wise Choice Home program, KU helps builders and Realtors market energy-efficient, total-electric houses, apartments, condominiums and townhouses.

New push in marketing

At about this same time, increased competition in the once-dormant home heating arena gave KU an aggressive marketing stance. From a high of 95 percent in 1975, the proportion of new residences in KU's service area with electric heat had shrunk to 67 percent by 1986.

To counter this trend, KU introduced in 1985 its Wise Choice Home program, in which an electrically-heated home or apartment can qualify if it meets the company's efficiency guidelines. In its first 10 months of existence, the program had counted 2,200 units constructed by 250 participating builders. In 1986, more than 500 builders were participating, and 90 percent of the electrically-heated new residences built in KU's service area qualified as Wise Choice Homes.

Upgrading the computer systems

In 1984, the company began upgrading its computerized information systems, and computerizing additional functions. The massive project, which includes power plant maintenance, fleet management, customer records and electronic meter reading, is expected to be completed by 1989.

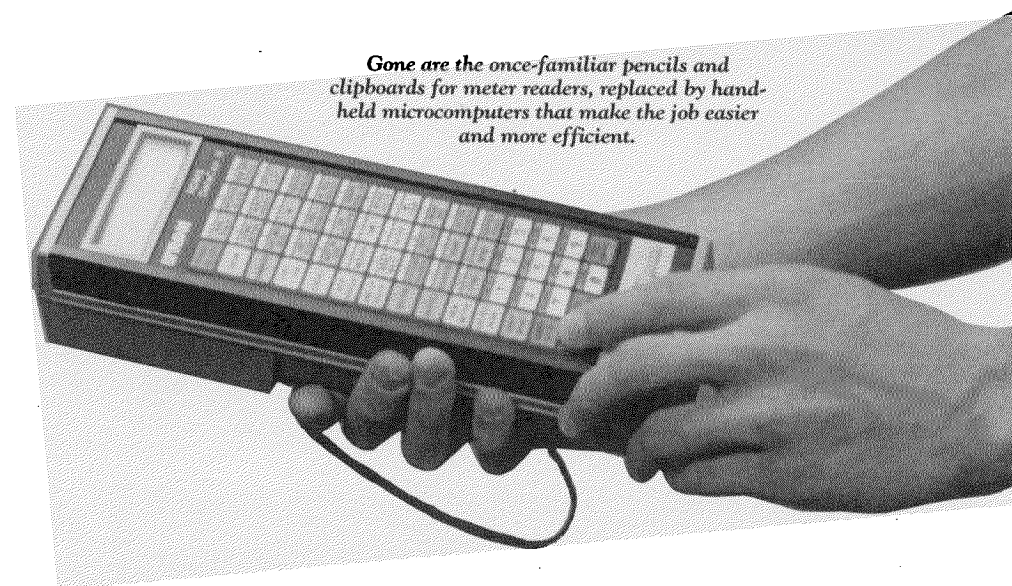
Computerizing customer records

The new computer system will provide on-line access to complete customer information at all field offices and quicker updates of all customer records. This will result in improved record-keeping and will make possible quicker responses to customers' billing inquiries.

Electronic meter reading

As part of the computerization project, hand-held microcomputers replaced clipboards, pencils and paper for meter readers in 1986. Besides eliminating the handling, transportation and storage of paper documents—as well as the special care required by papers that get wet in the rain—it enhances accuracy of meter reading and can provide the meter reader with special information or instructions.

Customer information for the meter reading routes is loaded into the hand-held units at night. Readings and other information gathered on the day's route are then transmitted electronically from the field offices to the company's mainframe computer.



Gone are the once-familiar pencils and clipboards for meter readers, replaced by hand-held microcomputers that make the job easier and more efficient.

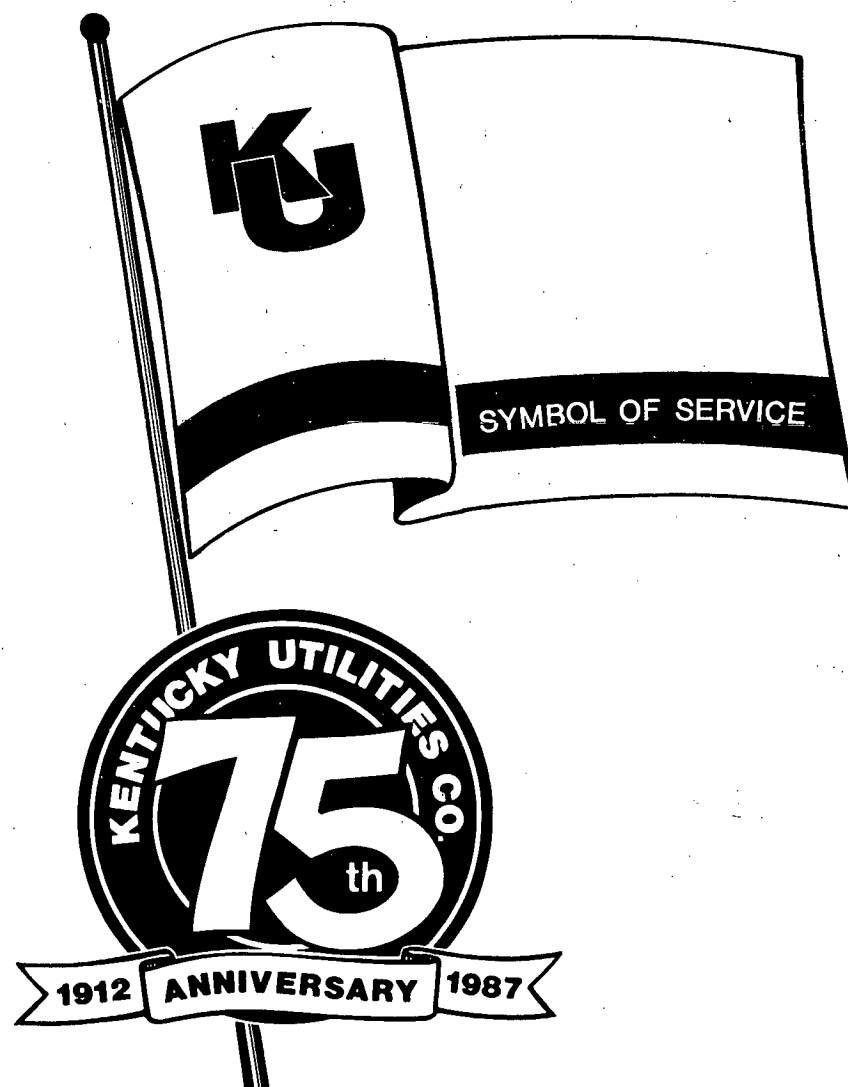
The challenge of the future

The mission of Kentucky Utilities Company has been perhaps best defined by the late KU President Robert M. Watt: "... bringing the best possible electric service at the lowest possible cost to the people in our operating territory."

Although concerns about the environment and our nation's natural resources make meeting this goal an increasing challenge, KU will succeed—with help from coal, and with the diligent efforts of the more than 2,000 men and women currently employed with KU, building on the foundation laid by their predecessors.

Major Property Acquisitions by Purchase Since 1912

- 1917—Kentucky Light and Power Company (distribution system at Hickman, Fulton, Dawson Springs and Princeton).
- 1919—Electric Transmission Co. of Virginia (generating plant at Pocket, Va., and transmission and distribution system at Pennington Gap, Va.).
- 1923—Kelso-Wurdack Company (Danville, Carlisle and Paris).
- 1925—Paducah Electric Company (including Paducah Generating Plant and gas property).
- 1925—W.G. Duncan Coal Company (generating plant and distribution system at Graham).
- 1926—West Kentucky Electric Power Company (generating and distribution facilities at Earlington).
- 1926—Old Dominion Power Company (generating plant at Dorchester, Va., and transmission lines and distribution systems in Norton, Coeburn, Wise and St. Paul, Va.).
- 1926—Kentucky Hydro Electric Company (primarily Dix Dam and Lock Seven hydro generating plants).
- 1940—Lexington Utilities Company (Lexington, Georgetown and vicinity).
- 1941—Kentucky Power & Light Company (Maysville, Carrollton, Augusta and Morehead).
- 1950—Kentucky Electric Power Company (generating station, transmission lines, substation and distribution system at Nortonville).
- 1950—Community Public Service Company (transmission lines, substations, and distribution systems in 16 communities).



... *Helping Kentucky grow
for 75 years.*