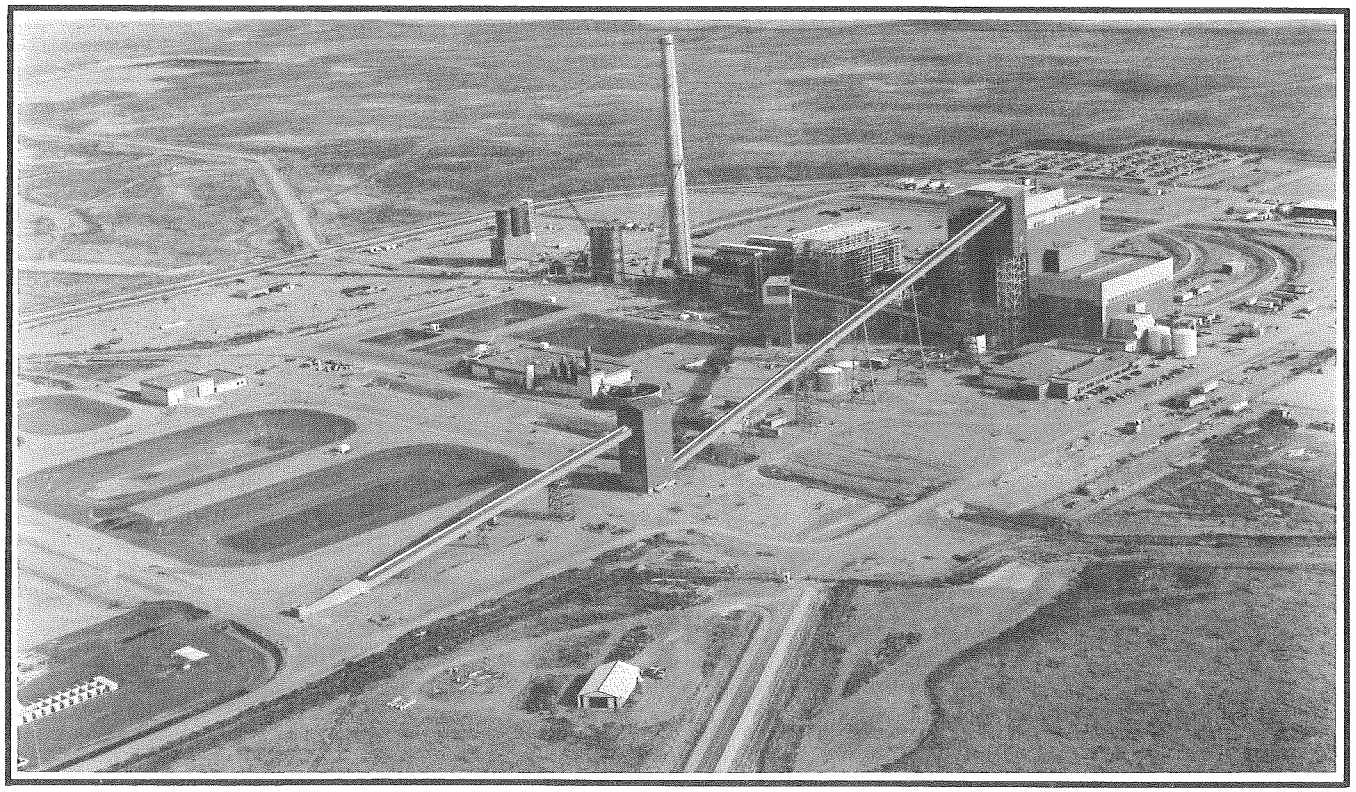
Western Cooperative Electric Association, Inc.

"The Story behind Your Electric Cooperative"



—Photo by Jim Correll

Including a Discussion of Sunflower Electric Cooperative's Holcomb Station Coal-Fired Power Plant

The Story Behind Your Electric Cooperative

Compiled by

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Western Cooperative Electric Association, Inc.

All information and quotes concerning the early history of rural electrification, the REA, and Sunflower Electric Cooperative were compiled from these sources:

Rural Lines, USA: The Story of Cooperative Rural Electrification, published by USDA-REA.

Yesterday, Today and Tomorrow, by Marquis W. Childs.

People: Their Power; The Rural Electric Fact Book, published by the National Rural Electric Cooperative Association.

Files of Sunflower Electric Cooperative.

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From the Manager

Dear Members,

Probably the last thing you need or want to hear right now is another account of the depressed farm economy. In that regard, I will keep my comments short. It seems the agriculture industry is like a small ship being tossed about by stormy seas of endless government programs, confusing foreign trade policies, and rising production costs. Keeping one's head above water has become a way of life for many.

No one will remain untouched by the present economic situation. Many will not be able to continue without significant belt tightening and improved management practices. Unfortunately, a few will not survive at all.

Your electric cooperative, too, is affected by outside influences: international oil cartels, environmental concerns, a constantly changing array of government regulations, and an unpredictable economic climate.

The past 10 years have been the most difficult and challenging in Western Co-op Electric's 38-year history. In the late 1960s and early 1970s, we were able to deliver electricity to our members at a cost lower than at any other time since our incorporation in 1945. The average farm account had a monthly bill of about $20 in 1972. Ten years later, our typical farm consumer used about 20 percent more electricity, but the bill had jumped well over 300 percent.

The 1973 Arab oil embargo pushed the price of oil from three dollars to $12 per barrel, almost overnight. There was talk of an energy shortage, and "energy conservation" became the latest buzzword. Western Co-op Electric was soon encouraging its members not to use the very same product we promoted in the 1950s and 1960s. (Remember the total electric "Gold Medallion Home?")

Natural gas prices followed trends set by oil. It became clear to Sunflower Electric Cooperative, our electrical generation cooperative, that coal would be the most economical fuel of the future. Plans were begun for a new coal-fired generating plant. Congress passed the Fuel Use Act in 1978, outlawing the construction of any new oil- or natural gas-fired plants, or the use of those fuels after 1989.

There was no turning back because all of Sunflower's generating capacity was fired with natural gas. Other utilities refused to make long-term power agreements with Sunflower.

The 1979 Iranian crisis caused oil prices to double to $30 per barrel. The phased deregulation of natural gas prices made the choice of coal even more timely.

Unfortunately, high interest rates and inflated construction costs have pushed up the final bill for the power plant. Environmental regulations alone required the expenditure of $112 million for pollution control—about 30 percent of the project cost. Interest charges incurred during construction may add another $55 million.

Sunflower's new power plant is scheduled to begin commercial operation in August of this year. Western's consumer/members should expect a significant electric rate increase shortly thereafter.

Even though the power plant is expected to be within budget, it is just too soon to pinpoint the exact amount of the rate increase. Because of temporary excess capacity, the KCC may not allow Sunflower to add the entire power plant cost to the rate base. Also, if the plant is completed on time, Sunflower may be able to "sell" tax benefits, thereby reducing the plant cost. Finally, Sunflower may yet be able to find a market for the excess capacity.

So why are we telling you these things? Because we agree with what Robert D. Partridge, executive vice president of the National Rural Electric Cooperative Association, has said:

As cooperatives, the 1,000 rural electric systems in 46 of the 50 states are owned by the consumers who buy the power. If that statement is to be anything more than a trendy catch phrase, those consumer/members must be up to date on matters affecting their co-ops. That's not a frill; it's a necessity if the co-op is to behave like a co-op.

Yes, this publication is rather long. But I hope you will take an hour to read it from front to back. Study the tables and graphs. If you have any questions or comments, do not hesitate to write, call, or stop in for a visit. You are always welcome.

Respectfully,

Harlen L. McGinness

Harlen L. McGinness
Manager

Part I. Where We Have Been

A. Formation of the Rural Electrification Administration

The electric power industry was fifty years old in 1932, and the miracle of electricity had become a fact of life for city dwellers. By that year, 70 percent of the homes in towns and cities had electric service. At the same time, only 10 percent of all farms had central-station electricity.

The lack of rural electrification was not because rural people did not want electricity. Time after time, electric utilities were approached to extend electric service in rural areas, but the answer was usually the same: there was just not enough profit potential to justify the expense of large-scale rural expansion.

Overlooked were the many potential uses for electricity around the farmstead: brooders, irrigation- and stock-water pumping, milking machines and coolers, ventilation fans, shop tools, grain- and feed-handling equipment, night lighting—the list could go on and on. Utility planners did not recognize the important role electricity could play in helping develop a large and productive agricultural industry.

Actually, the usefulness of electricity on the farm had already been established in the 1920s by the Committee on Relation of Electricity to Agriculture (CREA).* Red Wing, Minnesota was the location of CREA's most important study. Twenty farms were provided access to electricity along six miles of newly constructed line. Ten of the farm houses were supplied with nearly every electric appliance then available. The 10 farms were also wired so electricity could be used for as many tasks as possible around the farmstead.

The 10 Red Wing farmers using electricity soon learned that as their usage went up, so did their electric bills. At the same time, farm operating costs were dropping. The participants in the Red Wing experiment also believed their lives were healthier and happier.

Where private utilities did agree to rural service expansion, farmers were often required to pay $2,000 to $3,000 in construction costs for every mile of line built, and rural electricity rates were still higher than in the cities.

Franklin Roosevelt discovered the high cost of rural electricity in 1924. While staying at Warm Springs, Georgia for health care, he had to pay 18 cents per kilowatt-hour (kWh) for electricity. At his home in Hyde Park, New York, Roosevelt had to pay only one-fourth the rural rate.

Franklin Roosevelt proclaimed electricity an essential service to rural areas

From the experience, Roosevelt recalled: "That started my long study of public utility charges for electric current and the whole subject of getting electricity into farm homes." He believed electricity was no longer a luxury, but an essential service that should be available to even remote rural areas.

Roosevelt was inaugurated president of the United States in 1933, while the country was in the grips of the Great Depression. The main order of business was restoring the health of the economy. "New Deal" legislation was being pushed as a way to get purchasing power back into the hands of individuals and small businesses, a method of economic restoration commonly referred to as "priming the pump." Congress was soon allocating large amounts of money that had to be dispersed quickly through national work relief programs.

Being an advocate of publicly owned power systems, it was Roosevelt's intent to use some of the "New Deal" relief money as grants for public power and rural electrification projects. He carried through with his intention on May 11, 1935, when he signed an executive order creating the Rural Electrification Administration (REA).

It was soon realized that rural electrification was too complex a project to be performed by a relief agency. Unskilled labor could not plan and build electric power lines. The relief money was supposed to be distributed quickly, and there was not enough time for thorough planning. Thus, three months later, the REA was transformed into a lending agency for qualified borrowers. The REA was no longer a relief agency, and the loans made were to be repaid with interest.

From the beginning, REA loan money was available to private companies, municipalities, and cooperatives. Participation by private utilities was low; apparently, at least some companies felt rural expansion would be a poor investment for their stockholders. The June, 1935 issue of *The EEI Bulletin* carried this statement: "Neither governmentally nor privately financed lines in most rural districts not now served can be made to pay out."

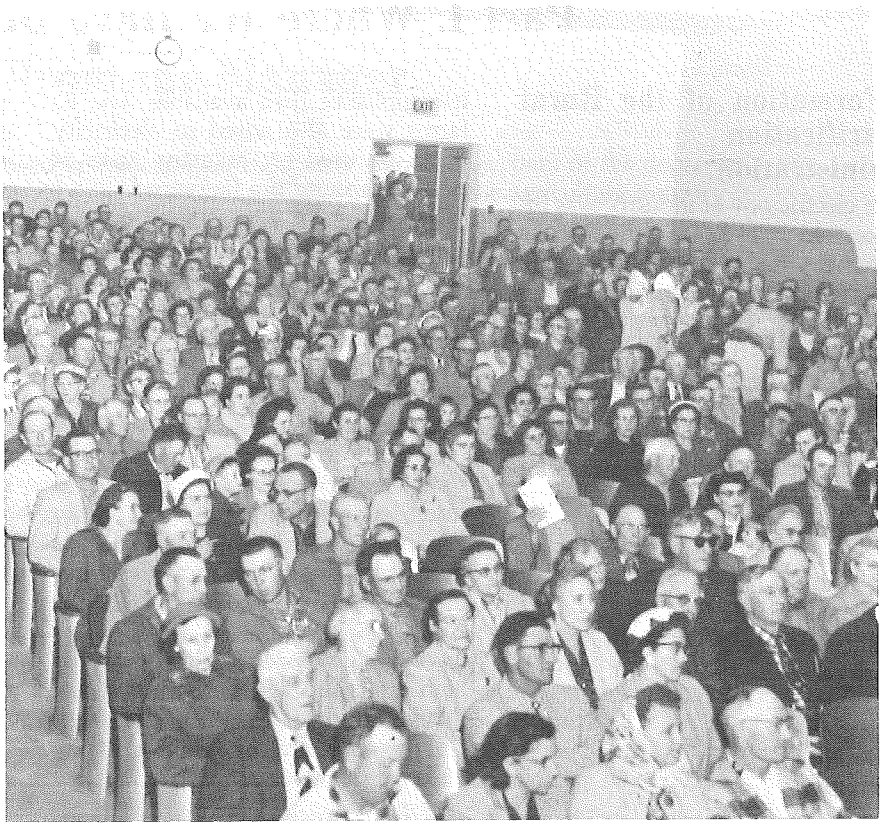
Rural electrification critics also saw few possible uses of electricity on the farm. In July, 1935, a committee of private utility executives issued this statement to Morris L. Cooke, first REA administrator, as part of an outlook report for rural electrification: "The problem of actively promoting rural electrification has received serious consideration of utility companies for many years. As a result, there are very few farms requiring electricity for major farm operations that are not now served." Hudson W. Reed, an engineer with the United Gas Improvement Company in Philadelphia, spoke to the 1935 convention of the Edison Electric Institute: "Only in the imagination . . . does there exist any widespread demand for electricity on

*The CREA was organized in 1923 by the National Electric Light Association. The purpose of the CREA was to study whether or not a market existed for rural electrification. To this day, Western Co-op Electric is a member of the Kansas Committee on Relation of Electricity to Agriculture (KCREA), a spin-off of the national committee. The KCREA is a research-oriented organization. In recent years, KCREA has reported on studies such as scheduling irrigation for electric load management, solar grain drying, electricity use by dairies, winter ice storage for summer cooling, and electric motor efficiency.

the farm or any general willingness or ability to pay for it." Incredibly, only 11 percent of U. S. farmers had electricity at that time. Of the first 10 REA-financed projects, only one involved a private utility. Municipalities also did not extend lines to rural areas, to any great extent.

Feeling rural electrification was moving too slowly, Congress passed the Rural Electrification Act in 1936. The act reestablished the REA as a lending agency for 10 years. Importantly, the act clearly spelled out that preference for loans should be given to nonprofit organizations. Now the doors were opened, and farmers turned to themselves for help. Newly formed cooperatives became the principal REA borrowers; almost 100 had been given loans by the end of 1936.

Operating on a nonprofit basis and using new construction techniques, cooperative REA borrowers were building lines in 1940 for as little as $800 to $900 per mile. With the beginning of World War II, most rural line construction stopped. Manpower and materials were directed to the war effort. After the war, rural electrification progress began to surge. Cooperatives obtaining REA loans neared 1,000. One of those was the Western Cooperative Electric Association.



There was a large turn out of members for the Western REC Annual Meeting in 1959.

B. Local Beginnings in Rural Electrification

In 1945, 10 years after the formation of the REA, few farms in this area had central-station electric service. Area power companies had followed the acceptable business practice of extending lines only to profitable electric loads. Unfortunately, what was good for business was not good for rural development. Farms having central-station electricity usually fell into at least one of three categories:

1) Farms adjacent to towns;
2) Farms located near transmission lines connecting towns;
3) Farms located near large loads, such as oil fields, already being served.

Lacking the benefits of electricity, a group of farmers got together to form a cooperative so all the area farms could receive electric service. As a result of their efforts, Western Cooperative Electric Association was incorporated under the laws of the state of Kansas on May 2, 1945. Western's incorporators and original trustees were:

Fred J. Hamburg, Ellis
Alvin L. Saleen, Ogallah
Irving Walker, WaKeeney
W. D. Ikenberry, Quinter
Melvin Reinecker, Quinter
L. R. Miller, Quinter
C. W. Kraus, Hays
Ed J. Niernberger, Ellis
Ward Sullivan, Hays

The months following incorporation were spent soliciting members, applying for REA loan money, obtaining right-of-way, staking lines, and ordering materials. Construction finally began on March 11, 1947.

Progress was slow due to material and labor shortages, but on December 22, 1947, the long-awaited moment arrived. Western's president, Irving Walker, turned on the electricity in the garage at the Frank Landauer farm, near Ellis. The first light bulb glowed in testimony of our members' willingness and determination to help themselves. Later, Mr. Walker recalled he had to stand on a half-bushel bucket to reach the pull-chain light fixture. About 30 families on Western's lines were able to enjoy electricity for the first time by Christmas, 1947.

C. Cooperative Principles

Work on system expansion progressed quickly. Within three years, 1,410 miles of line had been energized, serving 1,348 cooperative members. Three more years of hard work found 2,003 members served by 1,981 miles of line. Western was well on the way toward area coverage, a policy which means Western Co-op Electric will provide electric service to any location in its territory. As many as four miles of line have been built to a single consumer/member in keeping with this policy.

Being a cooperative, Western is different from an investor-owned utility

company. Three of the major differences are:

1) Democratic control by the members;
2) Nonprofit operation providing service at cost;
3) Ownership by the members.

First, the consumer/members are responsible for electing the trustees who oversee the operation of the cooperative. Each member has one vote, regardless of the amount of electricity purchased or the number of years of membership. Western's service area is divided into three trustee districts. Every year at the annual meeting, one trustee is elected from each district to serve a three-year term. At any given time, there are nine trustees serving in the interest of all the members.

The board of trustees' duties include approving all expenses, reviewing contracts for system improvements, overseeing accounting and reporting, and hiring a general manager, who is in charge of the day-to-day operation of the cooperative. In addition to electing the trustees, the cooperative members may also alter, amend, or repeal the bylaws that govern the operation of the cooperative.

A second distinguishing feature of a rural electric cooperative is that it provides service at cost. Western's bylaws specify: "The cooperative shall at all times be operated on the cooperative nonprofit basis for the mutual benefit of its patrons." There is no "mark up" added to members' bills to benefit absentee investors.

Even though rural electric cooperatives operate on a nonprofit basis, on the national average, rural electric rates are higher than city rates because rural systems generate little revenue per mile of line. For example, an urban electric system could easily have 40 consumers buying electricity on one mile of line. Western serves fewer than two meters per mile of line.

*Member equity is a measure of the members' combined ownership of the total electric plant.

The third major difference between a cooperative and an investor-owned utility is that a cooperative is owned by its patrons and no one else. A part of every electric dollar paid by the consumer/members is used to repay the principal and interest on REA loans.

All revenue collected in excess of operating expenses and loan repayments is allocated to the consumer/members, in proportion to the amount of business done with the cooperative. The revenue (also called "margins") is not refunded in cash, but is retained as operating capital furnished by the patrons. When becoming a member, patrons pay a five-dollar membership fee. They do not lay down a lump-sum capital investment. Thus, operating capital is provided by the patrons only through use of the cooperative's facilities. No capital is provided by outside investors.

Sunflower provides power at a lower price for individual member cooperatives

Each year, members are told how much patrongage capital they accumulated during the past year. Present policy is to refund patronage capital to estates of deceased patrons. This policy results in a decrease in the members' electric bills over the years. At the discretion of the board of trustees, future patronage capital refunds may be made as a general refund to all patrons. However, no general refunds will be made until member equity has reached 40 percent.* Then, general refunds may be made only if the financial condition of the cooperative will not be impaired by such refunds.

The refunding of patronage capital, democratic control by the members, and nonprofit operation are hallmarks of a true, consumer-owned electric cooperative, operated for the mutual benefit of its patrons.

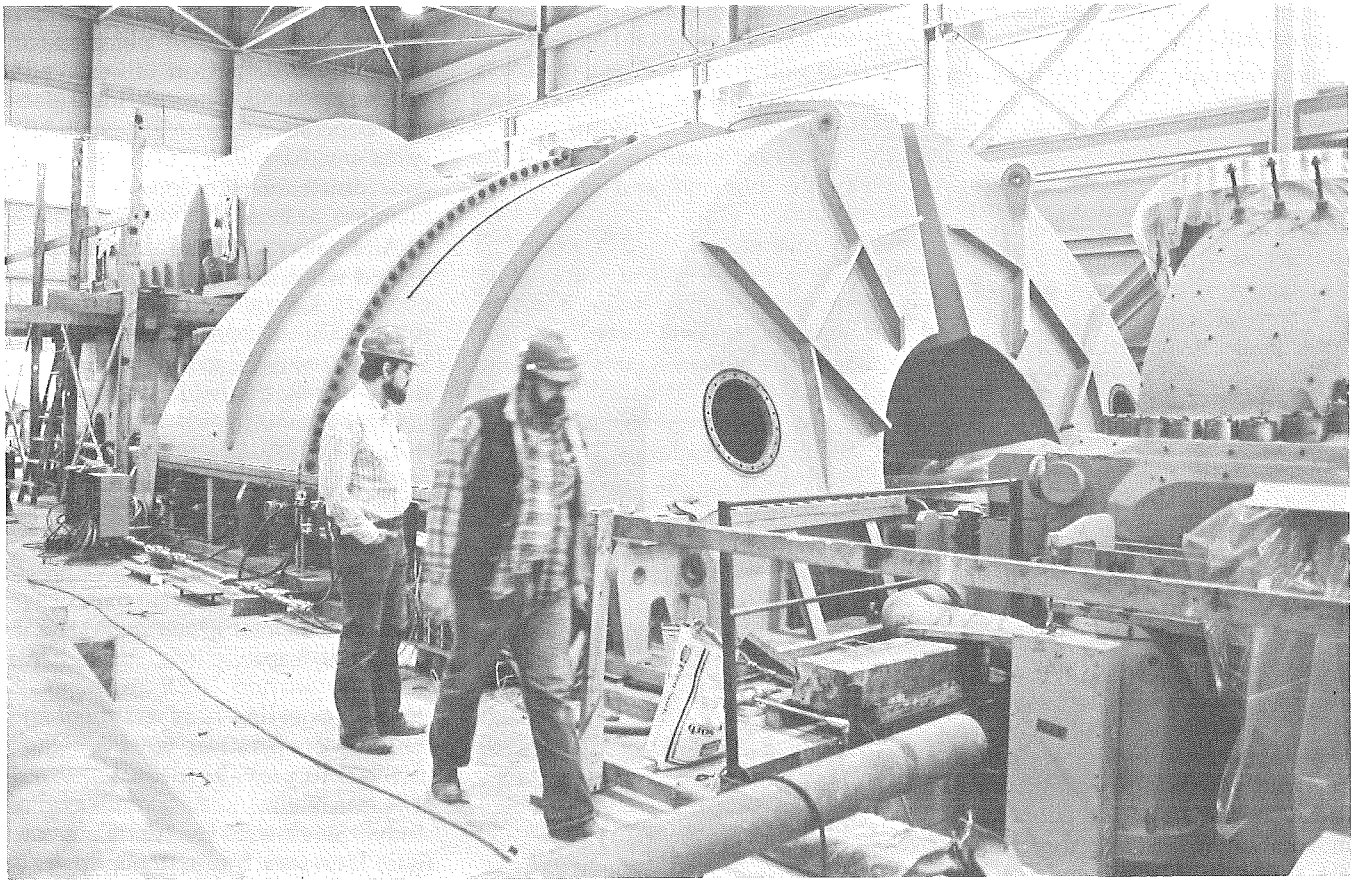
D. Power Supply

Once the lines had been built, farmers and other rural residents finally had access to central-station electricity, but the electricity had to be generated somewhere. Most of the original REA loans were obtained for building distribution lines, not generating plants. The individual electric cooperative functioned as an entity to purchase wholesale electricity and distribute the power to its members as needed.

After incorporation, Western purchased wholesale electricity from the Central Kansas Power Company (CKP), of Hays. Naturally, as Western's members used more electricity, the load placed on CKP grew. In the 10 years including 1948 through 1957, Western's needs increased from 525,000 kilowatt-hours (kWhs) per year to 13,400,000 kWhs per year. Since the other electric cooperatives in northwest Kansas (also served by CKP) were experiencing a similar load growth, additional generating capacity was needed for this area.

An engineering firm was hired by the area cooperatives to investigate methods to provide adequate power at reasonable rates. As a result of the study, Sunflower Electric Cooperative, Inc. was formed. Sunflower's basic objective was—and still is—to insure its member cooperatives of a reliable power supply available at the lowest possible cost. Sunflower would achieve its objective by purchasing and generating large amounts of power for all the member systems at a better price than each individual cooperative could achieve on its own. Incorporated on August 12, 1957, Sunflower's original six member cooperatives were: Great Plains Electric Cooperative, Inc., Colby; Lane-Scott Electric Cooperative, Inc., Dighton; Northwest Kansas Electric Cooperative Association, Inc., Bird City; Norton-Decatur Cooperative Electric Company, Inc., Norton; Western Cooperative Electric Association, Inc., WaKeeney; and Wheatland Electric Cooperative, Inc., Scott City.

One of the first official actions of the Sunflower Board of Trustees was to request a $5,675,000 REA loan to finance a 22-megawatt (MW) generating plant at Hill City. The Sunflower plant was built adjacent to a 12.5-MW plant owned and operated by CKP. An agreement was reached whereby CKP would lease and



The heart of the Holcomb power plant is the generator (left) and the steam turbine (center and right). —Photo by Jim Correll

operate the Sunflower-owned addition. Electricity generated at the new plant was delivered to the four northernmost Sunflower members via CKP's existing transmission lines. Under the arrangement, the distribution cooperatives received the benefit of lower wholesale power costs without duplicating investment or operating expenses.

In 1958, the Kansas State Corporation Commission (KCC) issued a Certificate of Convenience and Authority, which permitted Sunflower to generate and sell electric energy at wholesale cost to Western, Great Plains, Northwest Kansas, and Norton-Decatur rural electric cooperatives (RECs). Although Wheatland and Lane-Scott RECs were also members of Sunflower, they were not named in the 1958 certificate because they did not receive electricity deliveries through CKP. Wheatland owned separate generating facilities.

As sometimes happened with other utilities and electric cooperatives, the relationship between CKP and the Sunflower member cooperatives was not always a friendly one. Nationwide, farmers felt private utilities were slow to provide rural electric service. When rural electric cooperatives were formed, some utilities built "spite lines" through the countryside. These lines picked up the best loads and hampered cooperative development, but still did not provide service to all rural areas.

At the generation level, the established utility industry opposed cooperative facilities because they had no operating experience and had to be developed "from scratch." However, the mere mention of the possiblity of an REA-financed, cooperative generating facility in a specific geological location was often enough to lower the cost of utility-produced power in that area. In 1945 testimony before a congressional subcommittee, REA Administrator Claude Wickard cited eight cases in which consideration of REA generation loans brought utility company prices down.

Sunflower's Hill City plant was dedicated in June, 1960. At the time, member cooperatives knew that even more generating capacity would be needed in the near future. From the time of the plant dedication until early 1966, over 100 meetings were held to discuss the power supply problems of western Kansas. The meetings involved representatives from Sunflower, other electric cooperatives and utilities, and state and federal agencies. Only one of those meetings was held at the request of CKP.

A major item of dispute was the amount Sunflower had to pay CKP for electricity needs in excess of the level specified in the Hill City plant agreement. In 1965, Wheatland proposed a solution involving itself, Sunflower, and CKP. According to the proposal, all three parties would work together for a more reliable and economical power supply.

CKP rejected the proposal and countered with a plan involving only CKP and Wheatland. The Sunflower member cooperatives of northwest Kansas were excluded. Earlier in 1965, Sunflower had identified four

sources of electricity cheaper than CKP, but could not gain access to the power. CKP's arrangement would have allowed the investor-owned utility to continue as the only supplier of electricity to the cooperatives.

The western Kansas power supply problem was still not resolved by the late 1960s. Two more rural electric cooperatives had joined the Sunflower alliance in search of an adequate and economical power supply: Pioneer Electric Cooperative, Inc., Ulysses, and Victory Electric Cooperative, Inc., Dodge City.

In 1968, Sunflower applied to the KCC for an expanded certificate of convenience to include all eight Sunflower members. The application also requested approval to construct a 90-MW generating plant in Garden City and certain transmission lines.

Only one investor-owned utility held an overlapping certificate of convenience in the area of the proposed construction. None of the facilities planned duplicated any of the lines owned by that company or any other utility; yet, every investor-owned utility in the state of Kansas intervened in the proceedings in opposition to Sunflower. Sunflower prevailed, and the certificate was granted in December, 1968. Detailed construction plans were begun.

Groundbreaking ceremonies were held in September of 1970; formal dedication was held on July 18, 1973. These dates point out a fact about utility planning for large projects. More than five years elapsed from the time planning began until the plant was available for service. As environmental and other government regulations increase, the "lead time" becomes even greater, and costs go up.

An important part of the transmission facilities approved along with the 1968 certificate was what came to be known as the "Ness City Extension," 16 miles of 115,000-volt transmission line extending from near Ness City to near Ransom. Today, the line is an important part of the transmission loop serving about one-half of Western Co-op Electric's consumer/members.

Sunflower added two more 55-MW gas turbines (peaking units) in Garden City in the late 1970s. Those are used to offset costly peak requirements previously supplied by other utilities. Those generators, along with some very small units dedicated by member cooperatives, brought Sunflower's total generating capacity to about 230 MW in 1980. All of the generating capacity mentioned here requires either natural gas or fuel oil for operation.

From 1957 until 1971, Sunflower Electric Cooperative was headquartered in WaKeeney. During that time, Sunflower had no paid employees of its own. Leon Wick, then manager of Western Co-op Electric, served as Sunflower's resident agent between 1957 and 1969. Phil Lesh, manager of Norton-Decatur REC, took over resident agent duties between 1969 and 1971, when Art Schnose was named general manager.

Harlen McGinness, presently manager of Western Co-op Electric, performed bookkeeping duties for Sunflower between 1957 and 1971. Irving Walker, one of Western's incorporators, was also an original member of the Sunflower Board of Trustees and served as the first treasurer on the Sunflower Board. Sunflower moved its headquarters to Hays in 1971.

To Aid Your Understanding

"Electric Load" is a general term referring to the burden placed on power plants and electric lines by consumers' use of electric appliances and equipment. Depending on its use, the term may refer to either "electric demand" or "electric energy," or both.

"Electric Demand" is a measure of how much electricity is being used at any instant. Demand is measured in Watts (W), kilowatts (kW), or megawatts (MW). For example, "100 W" printed on a light bulb means the bulb will demand 100 Watts of power whenever it burns. It will demand 100 Watts if it burns for one minute or for an entire year.

"Electric Energy" is a measure of how much electricity is used over a length of time. Energy is measured in Watt hours (Wh), kilowatt hours (kWh), or megawatt hours (MWh). If the 100-Watt light bulb burns for one hour, it will use 100 Watt hours of electric energy. If it burns 10 hours, it will use 1,000 Watt hours of electric energy. When you read your meter, the dial tells you how much energy you used, measured in kilowatt hours.

Demand: One kilowatt (kW) equals 1,000 Watts.
One megawatt (MW) equals 1,000,000 Watts.
Sunflower's Holcomb plant is rated at 280 MW.

Energy: One kilowatt hour (kWh) equals 1,000 Watt hours.
One megawatt hour (MWh) equals 1,000,000 Watt hours.

"Baseload" generating unit is one which runs round the clock to meet consumers' demands. Baseload plants are the most efficient and least expensive to operate. Sunflower's Holcomb plant will be a baseload unit.

"Peaking" generating units are those used only when the demand for electricity is greater than what the baseload and intermediate generating units can supply. Peaking units generally have a lower efficiency and are more expensive to run.

"Intermediate" generating units are those whose efficiency and operating costs lie between the extremes of the baseload and peaking units.

"Line Losses" refer to energy used to overcome the small resistances present in electrical conductors. Line losses dissipate from the conductors as heat energy, no longer useful to consumers. Losses increase with higher electric currents and longer transmission distances.

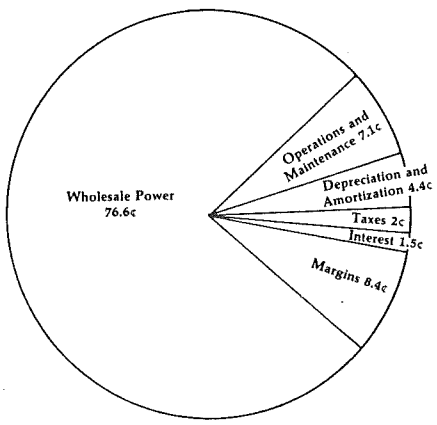
Part II. Your Electric Cooperative Today

A. How Your Money Is Spent

Along with reliability, cost is a most noticeable aspect of electric service. Unfortunately, the ease with which electricity is used often causes people to forget about cost. Normally, the only time any thought is given to cost is when the bill arrives—long after the electricity was used. Consumer/members of Western Co-op Electric have the right and the responsibility to know how their money is spent. What follows are revenue breakdowns, both for Western and for Sunflower Electric Co-op, our wholesale power supplier.

During 1982, Western delivered 129 million kilowatt-hours (kWhs) of electricity. Total revenue collected was $9.4 million, an average of 7.3¢/kWh. Where did the 7.3¢ go? Refer to the pie chart in Figure 1. To simplify matters, assume that a member used one dollar's worth of electricity.

Figure 1.
Western's 1982
Cost-of-Service Breakdown



The largest portion of the consumer's dollar, 76.6¢, went for the purchase of wholesale electricity. Remember, Western is a distribution cooperative; it does not generate its own power. The fixed expenses of depreciation, taxes (mostly in the form of property taxes), and interest on our REA loans totaled 7.9¢. Eight point four cents were margins.

Of a consumer's original dollar, only 7.1¢ remains to be spent on operating and maintenance expenses at the local level. These include equipment and supplies used for line maintenance and emergency repairs, payroll, office and billing expenses, consumer services, and administrative expenses.

Table I shows how Sunflower used the 76.6¢ passed on from Western. The first column gives the percent of Sunflower's total revenue spent in each category. The second column indicates the actual amount spent, as a part of the 76.6¢ total.

Table I

Sunflower Electric Cooperative, Inc.
1982 Cost-of-Service Breakdown

Category	Percent of Wholesale Revenue	Actual Amt. Paid by Consumer
Purch. Power	37.3%	28.6¢
Boiler Fuel	25.2%	19.3¢
Oper./Maint.	17.9%	13.7¢
Interest	9.9%	7.6¢
Depr./Amort.	6.1%	4.6¢
Taxes	3.6%	2.8¢
	100.0%	76.6¢

To get the complete picture of how the dollar was spent, we must combine Western's data from the pie chart and Sunflower's data from Table I. The results of that combination are shown in Table II.

Table II

Western/Sunflower
1982 Cost-of-Service Breakdown
from Power Plant to Consumer

Category	Cents per Dollar
Purchased Power	28.6¢
Boiler Fuel	19.3¢
Operation and Maintenance	20.8¢
Interest	9.1¢
Depreciation and Amortization	9.0¢
Taxes	4.8¢
Margins	8.4¢
	$1.00

B. A Closer Look: Purchased Power, Fuel, and Interest

Why does Sunflower purchase electricity? Don't they generate their own? Yes, to an extent. When western Kansas consumers demand more electricity than Sunflower's facilities can generate, outside purchases must be made. When one of the generating units is down for repair, outside purchases must be made. Anytime less expensive "economy power" can be purchased than can be generated by Sunflower, outside purchases are made. During 1982, for one reason or another, 55 percent of Sunflower's energy requirements were met through outside purchases.

The cost of electricity purchased elsewhere depends upon many factors. Three of the major influences are:

1) Type of fuel used for generation;
2) Reliability of supply (how "firm" supply is);
3) Distance from power plant to point of delivery.

The costs of all fossil fuels have risen dramatically, beginning with the Arab oil embargo in 1973. The figures in Table III show the average cost of fuel to produce one million Btus for the generation of electricity in Kansas.

Table III

Cost of Fuel
to Produce 1 Million Btus
for Electrical Generation in Kansas

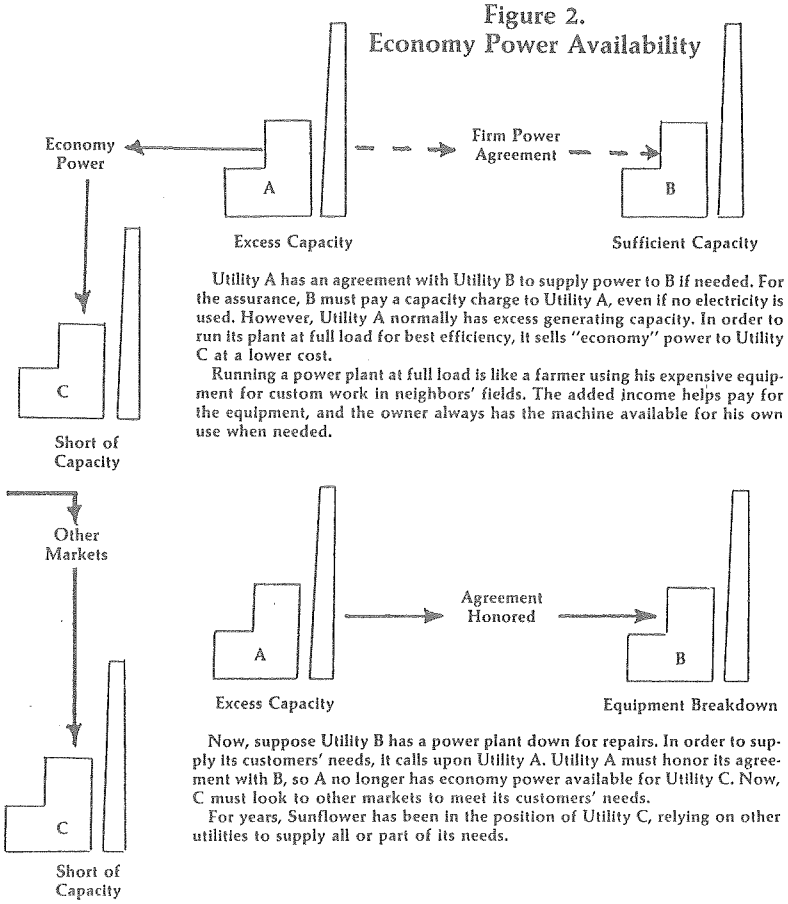
Time Period	Nat. Gas	Coal	Oil
Sept. '75-Sept. '76	54.0¢	72.2¢	$1.60
Sept. '76-Sept. '77	82.1¢	75.4¢	$2.00
1977	$1.00	85.6¢	$2.03
1979	$1.40	$1.04	$2.16
% Increase ('75-'76)	159%	44%	35%

(Fuel cost figures obtained from Federal Power Commission, *FPC News*, Vol. 9, No. 42, and Vol. 10, No. 38; Kansas Energy Office, *Kansas Energy Profiles*, 1979 and 1981.)

For the years shown, all prices rose. Incredibly, the cost of natural gas increased 159 percent in four years! Natural gas is presently Sunflower's main boiler fuel. Gas prices in 1979 were still considerably cheaper than oil. Coal is the least expensive fuel for electrical generation in Kansas. It would appear utilities should always purchase coal-generated power because it is cheaper than power generated with other fossil fuels.

Coal-generated power is not always available. If a power supply is always available, it is said to be a "firm" source. Such power is usually more expensive. The most reliable

Figure 2.
Economy Power Availability



Utility A has an agreement with Utility B to supply power to B if needed. For the assurance, B must pay a capacity charge to Utility A, even if no electricity is used. However, Utility A normally has excess generating capacity. In order to run its plant at full load for best efficiency, it sells "economy" power to Utility C at a lower cost.

Running a power plant at full load is like a farmer using his expensive equipment for custom work in neighbors' fields. The added income helps pay for the equipment, and the owner always has the machine available for his own use when needed.

Now, suppose Utility B has a power plant down for repairs. In order to supply its customers' needs, it calls upon Utility A. Utility A must honor its agreement with B, so A no longer has economy power available for Utility C. Now, C must look to other markets to meet its customers' needs.

For years, Sunflower has been in the position of Utility C, relying on other utilities to supply all or part of its needs.

power is called "participation power," which is when a company actually shares in the construction cost of a power plant. For example, Kansas Power and Light (KP&L), Kansas Gas and Electric (KG&E), Central Telephone and Utilities (Centel), and Missouri Public Service (MPS) all participated in construction of the Jeffrey Energy Center between Manhattan and Topeka. For its investment, each company is guaranteed a portion of the plant output. If the particular unit in which a company invested is down for repair, then they have no guarantee of power from the plant.

The least firm type of power—and the least expensive—is called "economy power," the result of a generating plant operating at or near full capacity. Utilities like to run their plants at full load, as power plants operate most efficiently at those times. Also, if a plant is running at full load, fixed expenses can be spread over more kWhs.

Usually, economy power is only available on an hour-to-hour basis. If a generating utility has made contracts with other utilities to supply certain amounts of power when needed, those obligations must be fulfilled on request. Doing so may reduce the amount of economy power available. For an example, refer to the explanation in Figure 2.

Between the extremes of participation power and economy power, there are other types. Some of these are standby, emergency, and backup power. Each has its own degree of reliability and certain costs. One utility may have several agreements with many other utilities—all to insure an adequate supply of electricity when needed. There is no such thing as "overtime" for a generating plant. Excess alternating current electricity cannot be stockpiled, nor can a generator catch up from previous deficits.

A third factor entering into the cost of purchased power is the distance from western Kansas to the power plant. The longer the distance, the greater the line loss. If the electricity is shipped through transmission lines belonging to other utilities, "wheeling" charges must be paid. Paying wheeling charges for the use of transmission lines is comparable to paying a trucker to haul grain or livestock.

For short-term deliveries, distance is less of a concern. For example, if a storm knocks out part of Sunflower's delivery system, power must be routed in from other utilities. Then it is not so much a matter of cost, but whether or not the consumers will have electricity at all! Higher transmission line losses could be tolerated in such a case until regular service could be restored.

9.1 percent of the consumer's electric dollar in 1982 went to interest payments by either Western or Sunflower. That figure does not include Interest During Construction (IDC). Many people think the federal government finances all of rural electrification needs, and at bargain basement prices.

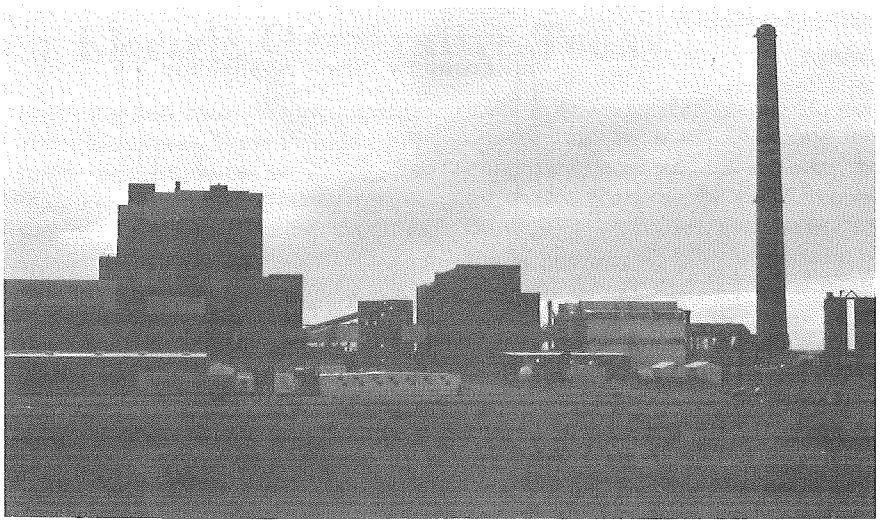
Actually, during 1981, only 15 percent of the total REA financing was with five-percent **insured loans.** The other 85 percent of REA financing was through the **guaranteed loan** program. Under said program, the interest cost is equal to the going market rate plus .12 percent. For 1981, the REA-guaranteed loan rate was about 15 percent. By combining the rates from the guaranteed and insured loan programs, we can find the average interest rate for 1981 REA financing. Simple arithmetic shows that rate to be 13.5 percent. (Figures provided by the National Rural Electric Cooperative Association.)

C. Electricity Cost History

Figure 3 shows electricity costs since Western's first lines were energized in late 1947. The lower line shows the wholesale cost of electricity, on a cents-per-kWh basis. It remained nearly the same—about one cent per kWh—for 25 years. In 1973, the Arab oil embargo changed the energy picture. The United States entered an era which saw the price of a barrel of oil rise quickly from three dollars to $30. Not only did prices go up at the gas pump, but fuel prices also skyrocketed for generating utilities. Inflationary pressures magnified wholesale cost increases.

The upper line in Figure 3 shows what Western's consumer/members had to pay. Line losses and the locally incurred expenses of operation and maintenance, depreciation, taxes, interest, and operating margins account for the total difference between the wholesale and delivered cost. During Western's early years, the cost was surprisingly high, because local expenses were spread over a relatively small number of kWhs. As electricity use increased, local fixed and operating expenses were spread over a larger number of kWhs. At the same time, the wholesale cost did not change; the cost to the consumer dropped.

The price of electricity dropped every year from 1950 until 1968; then it remained stable for five years. Not until 1982 did the delivered cost exceed what it was when Western was originated.



Holcomb Generating Station at dusk. *—Photo by Dave Leiker*

D. Other Local Information

As of January 1, 1983, Western has 2,299 members, serves 4,285 meters, and maintains 2,883 miles of line (1.5 meters per mile). Western's territory includes most of the rural areas in Gove and Trego Counties, the western one half of Ellis County, the southern halves of Graham and Sheridan Counties, the northern one fifth of Ness County, and corners of Rooks and Rush Counties.

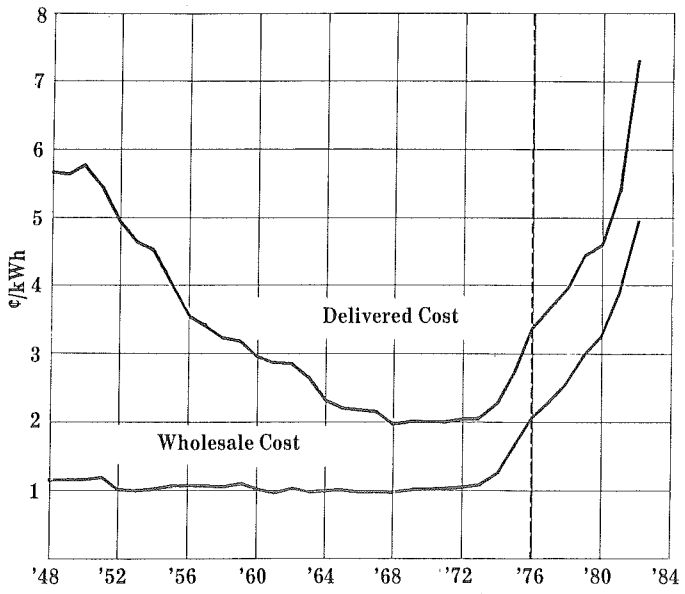
To serve these territories, Western employs 24 people and operates 12 maintenance trucks. These trucks are radio equipped, and four of them are all-wheel-drive to provide service during bad weather. Western also participates in the Kansas Mutual Assistance Plan, whereby, should a disastrous storm strike an area affecting one or more cooperatives, the remaining cooperatives stand by to assist the disabled cooperatives with crews, equipment, and material to help restore service as quickly as possible.

In 1982, Western paid $164,000 in property taxes. In addition, the cooperative pays all other applicable taxes, including excise, sales, vehicle, gasoline, social security, and unemployment. Since Western operates on a nonprofit basis, it has no net income and therefore, pays no income tax.

After incorporation, Western applied to and received a loan from the REA for $350,000 for initial construction. Since that time, Western has taken out several REA loans totaling $11,580,000. These loans are set up on 35-year terms, so only two have been paid in full. Western's outstanding balance on all REA loans is $7,720,000 as of January 1, 1983.

Figure 3.

Western's Electricity Cost History



Part III. Holcomb Station Unit Number One

A. Basis for a Decision

A construction project as large as a power plant requires several years' lead time for planning, regulatory approval, and construction. A generating plant sized to meet today's and tomorrow's needs is based upon decisions made years earlier by the consumer/members and the management. The Holcomb plant is no exception.

The consumer/members made their decision every time a switch was turned on, every time another electric appliance was purchased, every time another electric motor was added to the farming operation. These consumer decisions—plus many more like them—created a rapidly growing demand for electrical energy.

Demand requirement can be compared to sizing a water well. Higher water pressure equals higher voltage. Higher gallons per minute equal more amperes (amps). To water more cattle or more acres of land, larger pumps and pipes are needed to maintain adequate pressure. The combination of pressure and flow rates determines the size of the pump and drive unit. The product of volts times amps is Watts, a measure of electrical demand. To meet a greater electrical demand, a bigger generator is needed to maintain adequate voltage and current flow. A higher demand also means heavier transmission lines, transformers, and other substation equipment.

Figure 4 shows annual peak demand requirements beginning in 1973, when the first Garden City plant came on line. The demand is shown in megawatts (MW), or millions of Watts.

The total number of kWhs delivered is also an indication of the growing electricity requirements in western Kansas. Figure 5 shows Sunflower's energy deliveries since 1973. Western's deliveries since 1948 are plotted in Figure 6.

By the mid-1970s, it was obvious that Sunflower was in need of additional long-term power supplies. Three options were open to Sunflower:

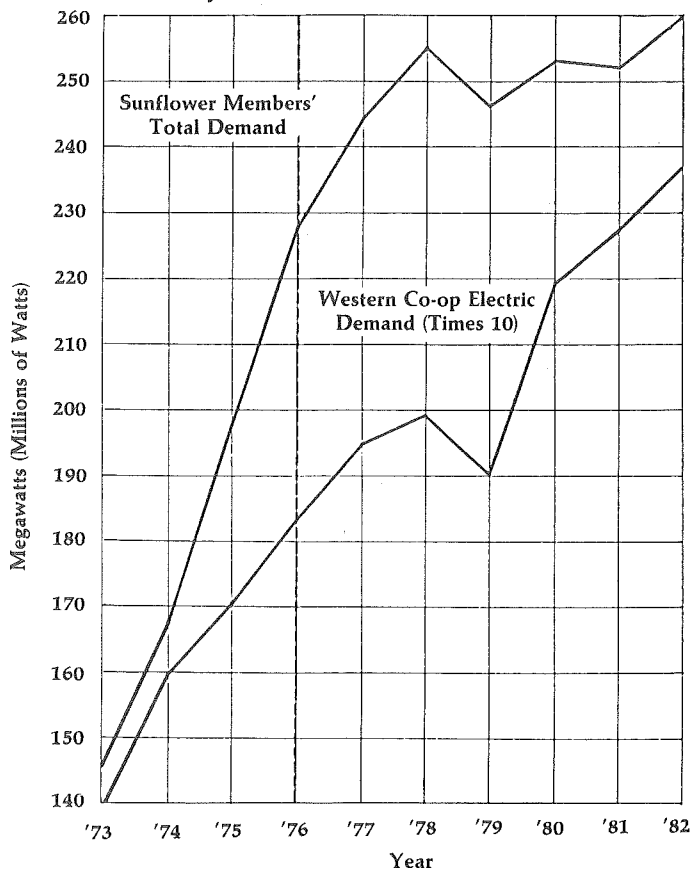
1) Long-term firm power purchases from other companies;
2) Participation with others building a plant elsewhere;
3) Construction of a plant by Sunflower.

Six generating utilities in the Midwest were contacted in regard to the first two options. The six were Nebraska Public Power District (NPPD), Basin Electric Cooperative (BEC), KP&L, KG&E, MPS, and Centel. All six gave a negative response to long-term capacity commitments and participation.* That reaction was not particularly surprising; each of these utilities indicated that they, too, were facing load growth.

The only option left was the construction of additional facilities by Sunflower, so the cooperative management made further investigations. Coal was chosen to fuel the potential plant, primarily because of the skyrocketing costs of oil and natural gas since 1973. Sunflower's present generation capacity consists of many small gas-fired units, making those generators suitable only for intermediate and peaking generation duty. They are no longer cost effective for baseload generation.

A nuclear plant would take too long to build and would cost too much for a plant in the 200-300-MW capacity range. (The Wolf Creek Nuclear Plant near Burlington, Kansas, is rated at 1,150 MW.) Hydroelectric and geothermal power sites are not available in western Kansas. Wind and solar power were judged to

Figure 4.
System Annual Peak Demand



*However, Sunflower has been making economy power purchases from NPPD, KP&L, and Centel.

be underdeveloped for a large-scale, baseload generating plant.

An engineering consulting firm, Burns and McDonnell, was hired to investigate the coal plant option. The latest information available for their study was from Sunflower's REA-approved 1976 power requirements study, the time of which is indicated on Figures 4, 5, and 6, with a "dashed" line. The Burns and McDonnell report, called a unit-sizing study, was completed in the fall of 1977.

The unit-sizing study focused on three power plant sizes: 210 MW, 280 MW, and 367 MW. These factors were considered:

1) Sunflower's past load growth (Figs. 4 and 5);
2) Cost per MW of capacity (cheaper for larger plants);
3) Financial risk of a prolonged outage (greater for larger plants);
4) Scheduling maintenance outages (more difficult for larger plants);
5) Total cash expenditures for plant and future purchased power needs.

Based upon available information, Burns and McDonnell recommended the construction of a 280-MW coal-fired plant. The Kansas Corporation Commission hired a consulting firm, Theodore Barry and Associates, to conduct a management audit on Sunflower. The purpose of the study was to determine the quality of the cooperative's decisionmaking process. The management audit approved of the methods used by Sunflower and confirmed plans to construct the Holcomb plant.

The decision to construct a coal-burning unit was fortified in 1978, the same year Congress passed the Power Plant and Industrial Fuel Use Act. The legislation outlawed the use of natural gas and oil for baseload electrical generation after December 31, 1989.

In 1979, Burns and McDonnell was asked for a more in-depth power cost study for the proposed coal-fired plant. The power cost study concluded: construction of a 280-MW coal-fired power plant for service in 1983 was a practical and economical plan for Sunflower's member cooperatives.

B. 345-kV Transmission Line

Along with the proposed generating plant, Sunflower began planning a 345,000-volt transmission line. Now complete, the line interconnects with Centel near Spearville, then travels west to the Holcomb switchyard. From Holcomb the line proceeds north past Scott City, then to Mingo, then to the Nebraska state line. There, an interconnect is made with Nebraska Public Power District. The 345-kV line is tied into Sunflower's 115,000-volt transmission systems at Holcomb, Scott City, and Mingo. Being energized at 345,000 volts instead of the more common 115,000 volts, the 345-kV line can carry nine times as much power as a 115-kV line for the same amount of transmission line losses.

The purposes of the 345-kV line are:

1) To provide backup power in the event of an outage at the Holcomb plant;
2) To distribute power to member cooperatives;
3) To provide voltage support to existing transmission lines.

Benefits were realized as soon as major sections of the line were complete. The number of outages due to power supply problems has been reduced. Economy power savings are being realized. In the three months from June 15 through September 15,

Figure 5.
Sunflower Energy Deliveries, 1973-1982

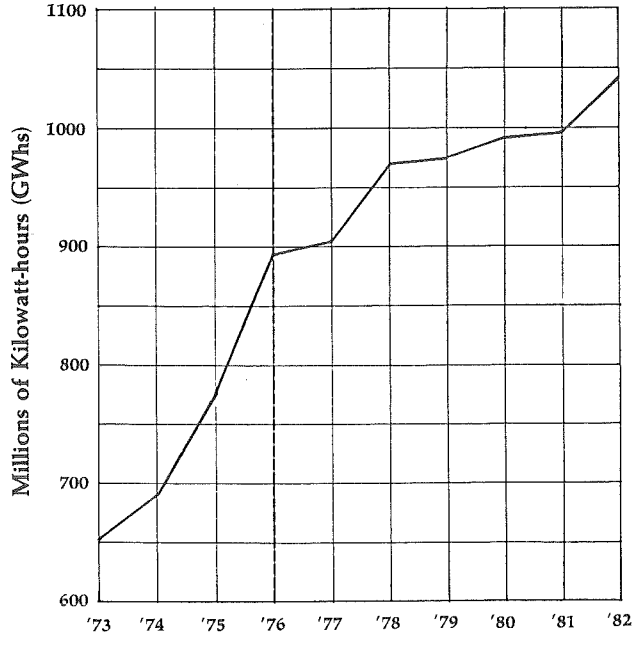
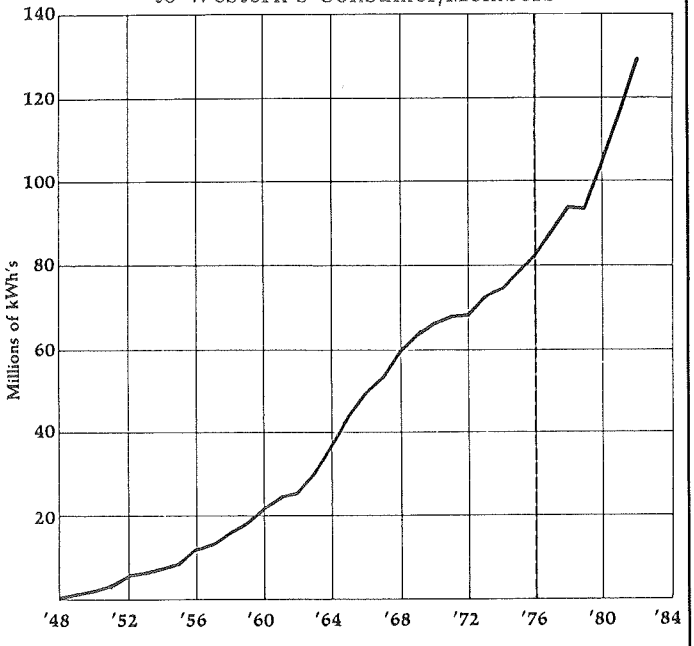


Figure 6.
Total kWhs Delivered
to Western's Consumer/Members



1982, Sunflower saved over $1,200,000 by purchasing power from NPPD instead of from Centel.

C. Current Status, Interest Costs, and Regulations

At the beginning of 1983, the Holcomb plant was both ahead of schedule and within budget. When complete, the Holcomb plant will burn about 1,250,000 tons of one-half percent sulfur coal per year, or 3,600 tons per day. The coal will be transported from Wyoming's Powder River Basin on unit trains made up of 100 hopper cars.

The projected cost of the Holcomb Unit No. 1 is $380 million. Interest during construction will add $55-$70 million. The effective interest rate on funds borrowed for construction is expected to range between 9.5 percent and 12 percent per year.

A big part of the cost of the plant is to meet pollution regulations. Before the Holcomb plant is brought on line, numerous environmental studies will have been made and permits granted. It is a long and costly process. Some of the permits and studies include:

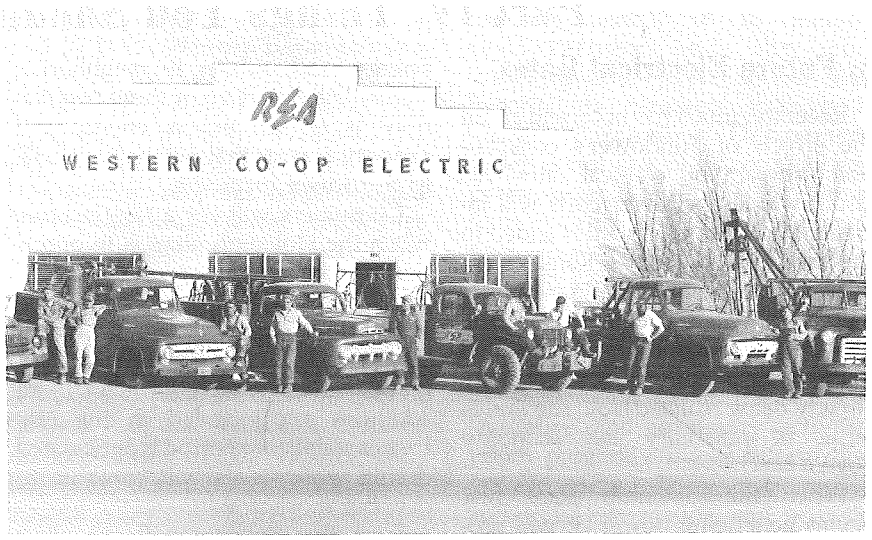
1) State health permit for drainage ponds;
2) Federal Aviation Administration permit for the chimney;
3) Corps of Engineers permit for the Arkansas River railroad crossing;
4) Prevention of Significant Air Quality Deterioration permit for the Environmental Protection Agency;
5) Subsurface Investigation;
6) Groundwater Resource Investigation;
7) Biological Inventory of the Sand Sage Prairie;
8) Environmental Impact Statement.

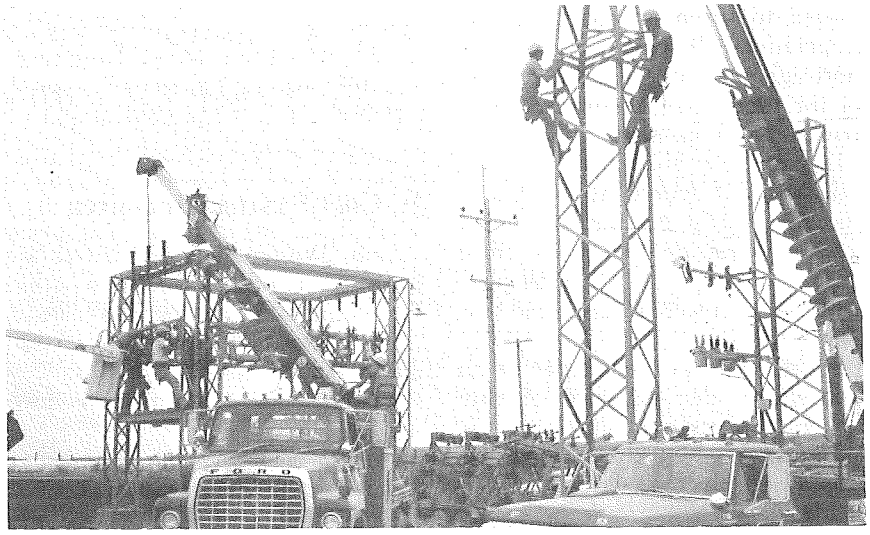
Other agencies consulted during planning stages of the project include:

1) Kansas Fish and Game
2) Kansas State Historical Society
3) U. S. Department of Agriculture Soil Conservation Service
4) U. S. Department of the Interior Fish and Wildlife Service

One regulation that had an unusually large impact upon the energy business was the 1978 Clean Air Act. The legislation passed after much of the early design work on the Holcomb plant was completed. The laws required a redesign of the boiler and much of the pollution control equipment. The project was set back several months. Given the effects of interest and inflation, the costs were great.

Consumers should be aware that when a utility complies with a government regulation, it is acting as a messenger for representatives in Washington and Topeka. Whatever the intended result, the most visible part of the message is often a higher utility bill. For example, 30 percent of the $380-million cost of the Holcomb plant is being spent on pollution control equipment.





Western REC's equipment and capabilities have advanced considerably over the years.

A basic premise of any regulation is for its benefits to outweigh its costs. In this case, one of the benefits will be a clean environment for this and future generations. The costs will be recovered not only when we appreciate the beauty of our surroundings and take a deep breath of fresh air, but also when we pay our utility bills.

We are not here because the incorporators or original members wanted to be in the electric utility business. Western Cooperative Electric Association exists today simply because no one else would provide electric service to our rural areas.

Part IV. Things You Should Know

A. Future Electrical Rates

Recently, much has been said about the effects of Sunflower's construction program on elctrical rates. No doubt wholesale power costs will increase when the coal plant is added to the rate base. Western Kansas consumers have seen two permanent rate increases when portions of the 345-kV transmission line were added to the rate base; however, benefits are already being realized from the line in terms of reliability and economy power purchases.

When the Holcomb plant first begins generating power, it will probably produce more than will be needed to serve its eight member cooperatives. It would have been short-sighted, however, not to plan for the predicted growth of western Kansas energy needs.

Larger plants have economy of scale. In other words, as the size increases, the cost per unit of energy drops. Engineering studies performed for Sunflower indicated a larger plant would cost consumers less in the long run.

Short-term excess capacity is justified by the existence of firm power contracts with other utilities. Across the United States, there has been a history of power plant delays due to labor disputes, construction problems, regulatory intervention, and special interest opposition groups. Firm power contracts need to be kept in place until the plant under construction is assured of being available for service. Early during the project, Sunflower's management targeted certain points of construction progress at which purchased power contracts would be cancelled. As work progresses and the plant nears completion, the need for long-term purchased power contracts decreases, and they are being terminated at appropriate times.

The amount of near-term rate increases will depend in part upon how successful Sunflower is in marketing the short-term excess capacity. The staff is working in this area to develop contracts with cities of the Kansas Municipal Energy Agency, Kansas Electric Power Cooperative, Midwest Energy, and utilities in neighboring states. The objective of these negotiations is to sell excess energy and capacity at costs that will be beneficial to Sunflower members.

Consumers will see a rate increase when the Holcomb plant is in operation. Upon completion of the power plant, transmission line, and related substations, major portions of Sunflower's current construction program will be complete. After these additions are included in the rate base, a stabilizing period is anticipated during which rates will continue to rise, but more slowly.

Even though rates will rise, they are expected to be less than what natural gas-produced electricity would have been. (After December 31, 1989, natural gas cannot be used for baseload electrical generation.)

B. Cost-Saving Measures

Both Western and Sunflower are involved in other cost-saving work. Even though these programs have an initial expense, the long-term savings and reliability benefits are far greater than the initial investments. Following are examples:

A) The $111.8 million needed to finance pollution control facilities at the Holcomb plant was obtained with industrial revenue pollution control bonds sold through the city of Garden City. The interest rate on those bonds is 10.625 percent—much lower than the available market rate. Sunflower did not stop there. Once the bond issue was approved, all of the funds were delivered to Sunflower in one payment; however, construction contractors are not paid until their work is completed and approved. In the meantime, Sunflower reinvests the funds in interest-earning accounts, sometimes for periods as short as overnight. Interest earned partially offsets bond interest payments. The net effective interest on the bond issue will probably be between six and seven percent, a big savings for consumers.

B) In the mid-1970s, uncertainty developed over fuel supplies for Sunflower's natural gas-fired steam turbines. Gas suppliers warned of shortages. At the same time, natural gas prices were rising. In response, Sunflower developed a gas field in Greeley and Hamilton Counties. The results are a reliable source of fuel for the gas-fired plant, and lower prices.

In a June, 1982 survey, the cost of gas from Sunflower's pipeline system was seventh lowest among 45 electric utilities reporting to the Federal Energy Regulatory Commission. The average price of gas from retail gas utilities was more than twice Sunflower's cost. In the seven years of its operation, the natural gas system has saved members an estimated $20 million.

Sunflower organized the Natural Gas Sales Company in 1981, which presently markets supplies in excess of actual generating needs. These sales will increase when the new coal-fired plant is put into operation. Profits from natural gas sales are used to reduce the cost of electricity. Thus, the investment in the gas pipeline system will continue to benefit consumers.

C) In 1981, Congress passed the Economic Recovery Tax Act (ERTA), which contained a provision called "safe harbor leasing." That provision allowed an unprofitable corporation to "sell" tax benefits associated with new equipment to more profitable companies. Sunflower's tax liability is low, so ERTA allows it to sell tax benefits it could not use. (Even though Sunflower is a cooperative not organized for profit, it does incur a small tax liability because more than 15 percent of its income is from nonmembers.) Safe harbor leasing was used on completed portions of the 345-kV transmission line.

In 1982, Congress proposed eliminating safe harbor leasing through passage of the Tax Equity and Fiscal Responsibility Act. At that time, safe harbor transactions had not been negotiated on the power plant because construction was not complete. The Sunflower staff and rural electric supporters across Kansas and the nation worked with Senator Dole and other legislators for more favorable consideration. In order to take advantage of safe harbor leasing,

the plant must provide steam to activate the turbine and synchronize the generator on the transmission system by July 1, 1983. The end result will be an estimated long-term savings of $35-$50 million to western Kansas consumers.

D) The pollution control system at the Holcomb plant will be a newly developed dry-scrubbing technology instead of more complex wet scrubbing equipment. According to *Pollution Engineering* magazine, dry scrubbing of flue gas offers several advantages: there is no need for sludge treatment equipment; vessels and ductwork do not have to be protected by high-cost alloys; energy is saved because the flue gas does not have to be reheated to protect the chimney from chemical corrosion; initial cost and operating costs are lower; and fewer personnel are needed to operate and maintain the system.

E) In 1975, Western began to use a computer for more efficient billing and inventory control. Instead of purchasing a computer, Western and several other RECs formed a cooperative computer center located in Topeka; thus, fewer employees and less equipment are needed for billing and record keeping.

F) In 1982, Western implemented a long-term pole inspection and replacement program. The initial costs of this program were judged to be less than the long-term costs of outages caused by pole failures. During 1982, about 8,000 of Western's 50,000 poles were tested. Two hundred were replaced.

G) Western is a member of Kansas Electric Cooperatives, Inc. (KEC). Organized in 1941, KEC exists solely for the benefit of its member cooperatives and the consumer/members each serves. KEC benefits its members through its Group Purchasing Department, which is but one of its contributions. Every year, Kansas RECs estimate their material needs for the coming year. Those estimates are passed on to KEC, which totals all needs and takes bids from various suppliers. All REC consumer/members benefit because of quantity discounts. KEC also serves its REC members in the areas of legislative and regulatory activities, youth programs, public information, job and safety training, meter testing, and REC information and activities coordination.

You Can Help, Too!

Yes, the business of obtaining reliable electric service is more complicated than many people realize. And it is becoming more complex every day. Many of the problems causing higher rates appear to be beyond our control.

Yet, each member of Western Co-op Electric can still make a vital contribution to the successful operation of the cooperative. Listen to the words of Harold Hunter, administrator of the REA:

The pioneering spirit that made the rural electric program take root and prosper is disappearing in direct proportion to the increase in younger consumers and subscribers. People's interest in their electric cooperative is more and more being limited to the quality of service they receive and how much it costs. How that service came to rural America and what it took to get it there are forgotten.

Some might answer, "So what? As long as people are getting served, what's the difference?" The difference, of course, is that the key ingredient in the success of this great program was not the government loan funds; nor was it the technical assistance REA was able to provide. It has always been the active interest of the cooperative members—people who were concerned that their electric supplier was run efficiently, and who did something about it when the occasion demanded action.

What can you do? Here are six places to start:

1. Attend the annual meeting. The annual meeting is your chance to say who will be overseeing the operation of the cooperative. It is also where you can hear about the cooperative's financial position, construction projects, new policies, and rate changes.
2. Pay bills on time. Processing late payments and making collection trips are costly and time consuming.
3. Report trouble on the line. We think our line crews are as good as can be found anywhere, but we cannot fix a problem until we find it. If you are experiencing service problems or have any idea of the cause of the problem, let us know.
4. Support your board of trustees. The board you elect is representing your interest. You can help by letting your congressmen know how you feel about issues affecting your electric service and its cost. Check *Kansas Country Living* magazine and the *Western Energizer* every month to keep up to date on issues important to rural electrification.
5. Suggest ideas for better service. We are always looking for ways to reduce outage time, hold down costs, and provide services our members want.
6. Tell others about your cooperative. The "subsidy" the rural electrification program receives in the form of lower interest rates is less than the tax benefit given to investor-owned utilities. The rural electric program has not been a part of the federal budget since 1973. Your electric cooperative pays all applicable taxes. In other words, we are pulling our own weight.

Western Cooperative Electric Association

Employees

Nearly 320 Years of Experience

Name/Position	Year Employed
Frank Schuster, Material Clerk	1951
Duane Buchholz, Line Superintendent	1952
Vernon Wilson, Crew Foreman	1952
Ray Heronemus, Electrification Advisor	1953
Harlen McGinness, Manager	1954
Bernard Ebbert, Office Manager	1962
Marvel McGuire, Billing Clerk	1964
Carolyn Riggs, Accountant	1967
Josephine Thomas, Custodian	1967
Ray Rumpel, Lineman	1968
Floyd Weigel, Line Foreman	1969
Gary Burton, Crew Foreman	1970
Janet Geist, Receptionist	1973
Darryl Steckline, Crew Foreman	1975
Gary Benisch, Lineman	1977
Jack Lovin, Lineman	1977
Dave Schneider, Lineman	1978
Peggy Bollig, Cashier	1979
John Mattke, Lineman	1979
Rick Hendrix, Lineman	1980
Ron Martin, Lineman	1980
Mark Nimz, Lineman	1981
Pat Parke, Energy Use Advisor	1981
Peter McGann, Lineman	1982