KEEPING THE LIGHTS ON
APPALACHIAN ELECTRIC COOPERATIVE CELEBRATES 70 YEARS OF SERVICE
1940 - 2010
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y action of the Board of Directors, this special 70th anniversary publication is gratefully dedicated to Appalachian Electric Cooperative General Manager Bill Underwood in appreciation for his 40 years of faithful service. From his starting job in the Accounting Department back in 1970 to the past 13 years at the organization’s helm, he has developed close and productive working relationships with Co-op members, employees, board members, community leaders, TVA management, state and federal elected officials, local and regional economic development groups, and leaders of state and national utility associations.

Bill Underwood is a “Co-op man,” through and through. He believes strongly in the principles upon which the cooperative concept is based, and his deep commitment to providing the best possible service to the membership has influenced every aspect of his work.

He has guided Appalachian Electric Cooperative through times of transition—stepping up to ensure that the system prospered despite economic challenges. His careful and conservative management of the organization’s assets has resulted in a sound financial position for the Co-op, while still making wise investments in maintenance, embracing new technologies, and building for future capacity. He devoted himself to keeping electric rates affordable, yet never compromised when it came to safety or system reliability.

The long-standing personal relationships he has built among Co-op employees at every level of the organization are a true testament to his character. He values the contributions of each individual and they, in turn, have had a General Manager they consider a friend.

In recognition of his principled leadership, Bill has served on the boards of many organizations, including the Tennessee Electric Cooperative Association, the East Tennessee Economic & Community Develop-

Bill was recently honored by the Tennessee Valley Public Power Association as the 2010 recipient of the Richard C. Crawford Distinguished Service Award—the Association’s highest honor—given annually for exceptional leadership, devotion to duty, and service. Such honors call attention to Bill’s outstanding abilities and proven track record as a manager, yet perhaps his greatest professional achievement has been the fact that he has earned the genuine respect and trust of all those with whom he has worked.
As his time at Appalachian Electric Cooperative draws to a close, we wish to convey to Bill our heartfelt gratitude for a job well done. It has been a rare privilege to work in partnership with an individual of such unquestioned honor, integrity, and vision. We wish him the very best in retirement and continued blessings in the years to come.

Bill is shown surrounded by his family after being awarded the Richard C. Crawford Distinguished Award. Kneeling: granddaughters Cameron Woody, Peyton Woody, and Maddie Underwood. Standing l. to r.: Beth Underwood with daughter Megan, Jered Underwood, Bill and Doris Underwood, and Amy and Joe Woody.
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**Production Staff**  
*Editors:* Mitch Cain, Darrell Miller CCC  
*Research and Production:* Becky Burks  
*Graphic Design:* Ron Bell  
*Editing:* Robin Conover and Chris Kirk of TECA  
*Contributing Photographer:* Jerry Seals  
*Printing Services:* Courier Printing, Smyrna, TN, Printed October 2010
A MESSAGE FROM THE PRESIDENT

This is “our story.” You hold in your hands a special publication designed to commemorate the 70th anniversary of Appalachian Electric Cooperative. It’s a look back to our beginnings, a snapshot of where we are today, and a glimpse of where we’re headed in the years to come. But it’s much more than just a factual account. It’s a tale of service, dedication, and commitment. It’s about the men and women who have labored tirelessly to make this organization what it is today, giving their time and talents to do the things that have unquestionably resulted in a better quality of life for those in our community.

Within these pages, you’ll find countless examples of neighbors working with neighbors to “write” this story. Drawing upon established traditions, a strong work ethic, and a sincere desire to help others, the changes they’ve helped to bring about are forging a vibrant vision for the future.

Some things, however, will never change. From 1940 until the present, our mission remains the same: to provide safe, reliable, and efficient electric service to our members. We pledge to always assist you in a courteous and timely manner, and our conservative stewardship allows us to offer services at the lowest possible cost. The same belief, encouragement, and trust you placed in us 70 years ago are still inspiring us today. Because it’s truly you, the members, who are—and always will be—the heart of our story.

On behalf of the Board of Directors, the management and the employees of Appalachian Electric Cooperative (past and present), I invite you to reminisce about the years gone by, enjoy learning about where we are today, and dream about the exciting possibilities the future holds. Welcome to our story.

— Robert Drinnen, President, Appalachian Electric Cooperative

Photo by Darrell Miller
It’s not like a lot of the other products or services you buy. Mostly because you don’t really have a choice in the matter. After all, unless you live “off the grid,” you are pretty much stuck with purchasing electricity. And if you live around here, the source from which you buy it is Appalachian Electric Cooperative. You’re not in a position to compare prices or shop around for alternatives. You flip the switch, turn the knob, or push the button, and an appliance either comes on, or (in the extremely rare event of an outage) it doesn’t.

But Appalachian Electric Cooperative is much more than just the place where you send a check once a month in order to keep the lights on. This organization has played a truly transformational role in our community, contributing in countless ways to an improved quality of life for the citizens who live, work, and play in this part of East Tennessee.

The Co-op has been a part of the lives of residents in our area for as long as most folks around here can remember. But it’s nevertheless important to recall that it hasn’t always been here.

Not so many decades ago, electricity was considered a luxury to most people. It was used sparingly and often only available intermittently. Contrast that with today, when we never have to wonder if power will be there when we want it. It’s no secret that most of us take it for granted. But the fact is it took a lot of hard work to build the system that brings us the safe, reliable, and affordable electricity we enjoy today.

It’s been 70 years since the Co-op was first established, and reaching that kind of milestone calls for a time of reflection: a look back in order to understand how we got to where we are today, and also a peek into the future to see where we’re headed in the years to come. It’s been quite a journey …

SETTING THE SCENE

Flash back to September 1940. The song playing on everybody’s radio was “In the Mood” by Glenn Miller. If you had a big date on Saturday night, you might drive all the way to Knoxville to see Judy Garland and Mickey Rooney playing in “Strike up the Band” at the Tennessee Theater. Your ticket to the “picture show” would have cost all of 25 cents.

The average price for a gallon of gas down at Hodgson’s Sinclair service station in Jefferson City
was around 11 cents. And if you were one of the very few folks fortunate enough to be able to afford a brand-new automobile (perhaps a shiny Ford Coupe with a flathead V8 engine from Jarnigan Motor Company in Rutledge), you would have paid about $850 for it.

Baseball was the undisputed national pastime, and the pennant race was heating up. Ted Williams and Joe DiMaggio were the big hitters of the day, while the Cincinnati Reds would go on to defeat the Detroit Tigers in a hotly-contested World Series the following month.

The 1940 Summer Olympic Games were cancelled due to the fact that World War II started precisely one year ago, when Hitler’s armies invaded Poland. The Luftwaffe had just begun its bombing campaign of London, known as the “Blitz.” The U.S. hadn’t yet entered the war, but the very first peacetime draft bill had just been signed into law, a somber indicator of how things seemed likely to progress.

There was a lot going on in the world and in the nation at that time, but, in many ways, this part of East Tennessee was still pretty isolated from outside events. A notable exception had just occurred when President Franklin D. Roosevelt came here to dedicate the brand-new Great Smoky Mountains National Park “for the permanent enjoyment of the people.” Construction on the Tennessee Valley Authority’s Cherokee Dam had started only a few months earlier. The massive hydroelectric project on the Holston River required the purchase of more than 45,000 acres of land, and 875 families had to be relocated. Many local men found employment there at a time when the average minimum wage was 43 cents per hour, although skilled laborers made considerably more.

However, the majority of folks around here still made a living off of the land. Life was hard for most local farm families, though most of them had never known anything else. They arose in the dark to begin the day by kindling a fire in the wood stove and got ready for bed that night by the fitful light of a kerosene lamp. From well before sunup to after sundown, their days were characterized by grueling physical labor.

With no electrical conveniences of any kind—neither lights nor heat nor running water nor even an electric fan—they suffered during extreme weather in ways most of us today can hardly imagine. Their
daily chores around the house and farm were made just that much harder due to the fact that buckets of water had to be carried into the house and heated on the stovetop, lanterns had to be lit and carried to the barn for the morning milking, endless cords of wood had to be chopped and split for the fire, etc. Without electricity to make life easier, leisure time was almost nonexistent. Just doing what absolutely had to be done took up virtually every minute of the day.

These country folk were the people who had the most to gain from receiving electricity. They would emerge from under the burden of constant and punishing manual labor that sapped their strength and made them old before their time to finally obtain a better way of life through the benefits of electricity.

ELECTRICITY MAKES INROADS

Now the fact is, there was electric service in our area at this time. It just hadn’t made it out to the farms and other rural locations. Beginning as early as 1914, private individuals began operating small power systems here and there and charging customers for electricity. First in Dandridge, then in Jefferson City and White Pine, and later in Rutledge, these primitive generating facilities were brought in or constructed. These were typically just standard-issue diesel engines and generators, but there was also a generator hooked up to a steam engine that was used to run a flour mill and even a generator constructed on a cascade water wheel at a dam on a creek.

The first generating plant in Jefferson City was operated only from 4 p.m. until 10 p.m. and provided service to a total of 50 customers. They were charged 15 cents per kilowatt-hour. The electric company in Dandridge, operating on a similar schedule, blinked the lights three times each night at 9:45 to remind customers that they’d be back in the dark again shortly. Sometime later, power began to be available to customers for four or five hours during the day—to permit housewives to do their ironing. By the mid-1920s, several of these private power companies began to sell out, and by 1927, most were under the ownership of the Tennessee Public Service Company. TPSCO operated the system serving most of the towns in the area and a few customers who lived near the lines that ran between the towns until 1938, when all existing electric facilities in the area were purchased by the Tennessee Valley Authority.

SUPPORT GROWS FOR A NEW IDEA

So while electricity had arrived in East Tennessee, it was mostly confined to population centers. Or else to a few customers of means who could afford to subsidize the cost of obtaining service. In other words, it was clear that the profit motive was what drove private electric companies to extend their service areas. For urban locations with lots of potential customers, the rationale was there. When it came to rural areas with limited customers per mile of line to be built, well, it just wasn’t in the cards.

Where did this leave the majority of folks in our area—those who lived on farms and in other remote locations? In the dark, that’s where.

“Seventy years is a major milestone in the history of the Co-op. I think it signifies that the original idea has been carried out and improved upon down through the years. For folks in this community, it’s more than just the power company; Appalachian Electric Cooperative has become a part of our lives.”

— John Howell, AEC Director
But all that was about to change. A new idea began forming in the minds of some local residents. Tired of doing without the electrical service that was improving life for others in the region, they set themselves to the task of finding out if there could be a way to extend the lines out into the countryside of this part of East Tennessee. They had heard about a radical concept that had been tried some five years earlier in Mississippi. A thing called a “rural electric cooperative” had been organized, and it resulted in bringing electric service to country folks who otherwise would have been overlooked by the private power companies as they made plans to connect urban areas. Could the same idea work here in East Tennessee?

There was only one way to find out. Many people and organizations were interested in expanding electric service to all the people, but it was the Farm Bureau that organized the first mass meeting in our area. Folks from Cocke, Grainger, Hamblen, Jefferson, and Sevier counties gathered at a swimming pool in Cocke County in September of 1939 to hear a Rural Electrification Administration engineer discuss the possibility of expanding electric service out into the countryside.

Extension agents from Jefferson, Grainger, and Hamblen counties formed the nucleus of a group of local citizens who chose to champion the cooperative approach. It became their mission to “spread the gospel” of member-owned utilities as the only practical way of ensuring that electric service would reach as far as the hills and hollers of this part of East Tennessee. These individuals made hundreds of contacts, driving out into the country and standing on porches and in pasture fields to speak with farmers and other rural residents about new ways to make their lives easier and better. It was a rare situation to be rebuffed when the question was posed thusly: “We’re working on a plan to bring electricity by here. Would you like to hook up?”

They held many community meetings to drum up support for the idea, and a highlight of these gatherings was the showing—via a movie projector run by a portable generator—of the film “Electricity on the Farm.” The moving picture showcased all the modern electrical appliances and conveniences that would soon transform the lives of farmers. This excerpt from one of the local Extension agent’s weekly reports illustrates the mood of the citizenry: “Interest in rural electrification is about to reach fever heat. Everywhere we go, community leaders are very anxious to secure electric service. An effort is being made to assist in every way possible. ... Farmers keep asking, ‘What can we do to get something started?’”

THE NEXT GREATEST THING

It’s almost impossible for us to understand just what an incredible difference it made to the lives of farmers and other rural folks when “the lights came on.” Traveling a country road back in the early 1940s, a land buyer with TVA came upon a farmer sitting on a little knoll overlooking his newly electrified farm—the house, barn, and smokehouse were ablaze with lights. A week later, the man happened to attend a church service where this same farmer stood up before the congregation to give witness: “Brothers and sis-
ters, I want to tell you this. The greatest thing on earth is to have the love of God in your heart, and the next greatest thing is to have electricity in your house.”

A DEFINING MOMENT

U.S. Senator Tom Stewart met with Farm Bureau representatives in late 1939 to discuss the idea of organizing a rural electric cooperative in our area. Committees were formed to support the effort, and an official survey was conducted to poll the citizenry on their wishes in this regard. Results show the idea was well received, and several meetings were held in Knoxville with representatives of TVA and the REA.

In March of 1940, arrangements were made to apply for a charter, and 11 men were named as Incorporators of the Cooperative: Alfred A. Swann, Alex Chavis, C.E. Piatt, P.L. Chambers, Ben Webb, Ben S. Catlett, John R. Allen, A.M. Nance, C.L. Hudson, Floyd Weed, and W.P. Bell. They discussed details of a power contract with TVA and made initial preparations to begin operation. Nine of these individuals were tabbed to serve on the Co-op’s Board of Directors; they met for the first time at Carson-Newman College in May.

They began by electing officers, adopting bylaws, considering applications for membership, and establishing a procedure for signing and counter-signing checks. Plans were made to negotiate with TVA for the purchase of the electric facilities in what was determined to be the Cooperative’s service area: Jefferson County and parts of Grainger, Hamblen, and Sevier counties.

Members of survey teams were sent out to sign up members and obtain rights of way—many times, from their own neighbors. An office building was leased in Jefferson City, and Kenneth Metcalf was hired as the Co-op’s first Manager. J.D. Hale began serving as the Co-op’s attorney and advisor on legal matters, a post he held—without seeking any compensation—for the next 30 years. A loan of $519,000 was obtained from the REA, and the existing electrical facilities were purchased from TVA for a grand total of $271,192.
WHAT’S THE BIG IDEA?
The thinking behind an electric cooperative

After all, if the Co-op has more or less a captive audience—in that the people it serves really have no other choice about the source of their electrical service—what incentive is there to maintain reliability or affordable rates? The concept is successful because—in a very real sense—the Co-op is the people it serves. The members are the owners, plain and simple. Other publicly owned utilities, like the Knoxville Utilities Board, belong to municipalities. Privately owned utilities, like Duke Power or The Southern Company, are owned by groups of investors.

Instead of being returned to investors or to city coffers, all the profits made by cooperatives are put back into the business to help it run efficiently. The Co-op exists for no other reason except to provide the best service at the lowest possible price for its members. It operates on a nonprofit, cost-of-service basis.

The policies under which the Co-op is run are established by the member-elected board of directors. Each member pays a one-time fee of $5 to join, is invited to participate in the Co-op’s annual meeting, and has one vote to cast in the election of the board. Even though the Co-op receives a portion of its financing through Federal loans, it still operates independently—acting autonomously to make decisions based on what’s best for its membership.

The linkage between the Co-op and the Federal government is actually very beneficial. The Rural Utilities Service (which used to be known as the “Rural Electrification Administration”) is housed within Rural Development, an agency of the U.S. Department of Agriculture; it functions sort of like a Federal credit agency. The RUS lends money to cooperatives like Appalachian Electric, and, in turn, it has high standards for performance and accountability that must be met. In addition to financing system upgrades, facility improvements, and the like, the RUS also provides grants that bring hundreds of thousands of dollars in economic development projects to our area. These grants are used to make zero-interest loans for projects that create local jobs. Funds from the repayment of these loans go into a revolving fund and are then loaned again for the creation of even more jobs.

Public power is special. Co-op employees have a deep appreciation and respect for the members they serve. Co-op members have a vested interest in the workings of the organization. The Co-op and the membership both benefit from this strong partnership.

“When it comes to recruiting and growing industries in our county, affordability and reliability of electric power is often a key factor. Appalachian Electric Cooperative has been a major driver of economic development in our area for years and is an integral part of our project team. Their tools and capabilities allow us to assemble a thorough package that effectively addresses the electric power needs of any project. They work tirelessly behind the scenes, and they’re there with the assurances—and, even more importantly, the track record—that manufacturers are looking for. In this business, you win some and you lose some—but the Co-op has been a strong partner in our efforts. It’s been a definite advantage to have them on our team.”

— Brad Maul, Director of Economic Development, Jefferson County Chamber of Commerce
On the first day of September in 1940, Appalachian Electric Cooperative officially began operating as a power distributor. At that time, there were 243 miles of what was considered to be feasible lines, 998 members in the service area, and—other than the Manager—just five employees. Thus began the vast and labor-intensive effort to bring electricity to those who might otherwise have found it impossible to obtain. There were hundreds of people living in these rural areas who wanted electricity, and they wanted it right away. It must have been hard for these folks to wait for the poles to be set and the lines finally strung out to where they lived. Some of them must have glimpsed the twinkle of electric lights far off in the distance and wished anxiously for the process to accelerate.

As a matter of fact, some individuals were known to have purchased electric appliances before electric service was even available to them. They may not have been able to plug them in and use them at first, but they knew electricity was on the way—and that these labor-saving conveniences would be worth the wait.

The prospect of building the system was daunting, and the process itself was physically demanding. Many times, a “crew” consisted of only a couple of men—dropped off in the morning with instructions and a pair of post-hole diggers and picked up again late that afternoon. No digger derrick trucks to make the job easy: These holes had to be dug six feet deep the old-fashioned way and the poles hand-set, with the men gradually lifting the heavy wooden poles into place by “walking” them up by hand.

ON THE LINE CREW, BACK IN THE EARLY DAYS

Co-op retiree Glenn McDaniel remembers it well. He began working as a lineman back in 1946, during the heyday of the building program. He and his co-workers were responsible for extending the system of lines and poles out into the new service area, and hard work it was. As he recalls, “Any time you dug a hole, you had to fill it with a pole.” Without bucket trucks, linemen had to ascend the poles to perform their work wearing a pair of spiked “climbers” and a safety belt. McDaniel is justifiably proud of the Co-op’s safety record, even during those early days when there was still so much to learn. As he says, “It was safe work, if you worked it right.” When asked what it was like to be there on the front lines of bringing electricity to folks for the very first time, his response is immediate: “Excited? You better believe it! The ladies would start clapping their hands,
and folks would run inside and turn the lights on and off. They were so grateful, and they let us know.” Though it was often back-breaking work, it had its rewards, as McDaniel remembers. “Sometimes, we even got offered cake.”

With each passing year, the miles of lines slowly grew and the number of Co-op members and employees gradually increased. Those growing years were a time when the Co-op was still in the process of defining itself, to some extent—as well as reaching outward to expand coverage. Rights of way were relatively easy to obtain during this period. Folks were usually so anxious to get electricity that they’d allow poles to be set across fields, instead of insisting that they follow existing roads. Anything to speed up the process of “getting the lights on.” This decade of building was affected by World War II; copper wire and other materials were difficult to obtain, and many Co-op employees left to serve in the armed forces, including Manager Kenneth Metcalf.

The safety of both employees and the public has always been of primary importance to the Co-op, and that was true from the very beginning. In January of 1944, a job training and safety program was started by the Tennessee Electric Cooperative Association. Instructors were hired to bring safety programs to all the cooperatives in the state at least once a month—a practice that continues today. In addition, Appalachian Electric provides weekly safety training programs for its workforce. Co-op employees will tell you that few things matter more than maintaining an exemplary safety record.

Those first few years saw rapid turnover in the position of Manager—perhaps because those in charge of the brand-new organization were still in the process of determining just what it took to do the job.

In any case, a long period of stability in the position began when Roy Hendrix was hired in 1946; he was to serve in that capacity until his death 20 years later.

“The fact that the Co-op has been around for 70 years now really says something about the leadership we’ve had. The managers and the board have been very diligent in always doing what they thought was best for the membership. I guess one of the things I was most proud of is that we were able to maintain a real connection with the members. Technology came, and it made our jobs easier, but we never lost touch with our members. We were there to answer their questions and help them in any way we could. That’s a theme that runs throughout the organization: It’s always been about giving the best possible service to the members.”

— Helen Harrell, AEC retiree
The 1950s
Promoting the use of electricity

The new decade was characterized by change. In 1951, Appalachian Electric Cooperative employees moved into a new office building in downtown Jefferson City—a building that would be the organization’s headquarters for the next 45 years. The same year, an important new department was established. “Power Use” was formed to help members overcome problems encountered with wiring, heating, lighting, and a new and still relatively rare phenomenon: air conditioning. This department also aided farmers in central metering and offered wiring assistance to area electricians.

The ’50s saw a new emphasis on helping homemakers understand and take advantage of an increasingly wide range of modern appliances available to them. This marketing effort was spearheaded by the Co-op’s newly hired home economist. More and more, Co-op employees were interacting with members to help them find helpful ways to use electricity in their homes and on their farms. This was the era of “demonstrations,” with presentations given to 4-H Clubs, Home Demonstration Clubs, Home Economics classes, and Vo-Ag classes. The Co-op’s assembly room was used for many of these events. It seems odd to think of it now, but those were the days when consumers would gather together to be “taught” how to use what was, for the time, the latest advances in technology.

For the first time, an effort was made to promote member purchases of equipment and appliances such as larger switchboxes, home water systems, window unit air conditioners, irrigation equipment, and heat pumps.

The Co-op’s area of coverage was fairly well defined by this time. The task ahead was to make sure that engineering and the facilities themselves were elevated to the next level. 1950 marked the first year that the Co-op contracted with a private company, Dillard Smith Construction Company, to help with system construction.
and maintenance—a relationship that has continued through the years. Today, as then, the Co-op turns to contractors like this when it makes sense, in terms of cost effectiveness and efficient use of resources.

THE FIRST BIG SNOW

The system, still so relatively new, was put to its first crucial test on November 19, 1952. It’s important to remember that a major weather event was much more difficult to prepare for back then, before Doppler weather radar and other meteorological forecasting tools were available. What started as an innocent-looking snow quickly escalated into something much more. The new power lines held for a time. After the snow on the lines accumulated to a depth of five inches or more, one after the other began to break. The Co-op was flooded with telephone calls from customers reporting outages. By 5 p.m., calls had stopped coming in from Hamblen and Grainger counties; all the telephone lines there were down. By nightfall, approximately 18 inches of heavy, wet snow covered the area. The dawn revealed a beautifully white and silent landscape; there was no power in any home or business in the whole Appalachian Electric Cooperative service area. The roads were impassable until snow plows began their work. Meanwhile, the next two days found Co-op employees analyzing the extent of the situation and buying up all the connectors and other materials they would need for extensive repairs. Line crews—including contract workers and a crew from another system—would work for the next 14 days with very little rest before power was completely restored.

Tragedy struck the Co-op on July 3, 1954. A member of the line crew, Odell Slover, was burned to death when the oil circuit breaker he was working on blew up. It was a loss that reverberated throughout the organization, particularly since the young man’s father, long-time Co-op employee Frank Slover, was with him at the time of the accident. Thanks to a stellar safety record, it would be 36 years before another work-related loss of life occurred. Still, it was a stark reminder of the inherent risks associated with working around equipment designed to distribute electricity—something even the line crews of today bear in mind every single time they go to work.

It was around this time that the first agreements for “pole attachment fees” were entered into. From the early days of the Cooperative, it made sense for electric and telephone lines to share the same pole—with a fee paid, of course, to the utility that owned the pole. The same basic arrangement continues today, with cable companies added to the mix. Revenue from these sources have grown from only a small amount in the very beginning to $300,000 a year in the early 1980s to more than $1.3 million annually today.
The population of our area grew, and with it, so did the need for additional capacity. This decade saw the construction of new substations at Alpha, White Pine, and Bean Station. The Co-op itself grew, too: An addition to the headquarters building was completed in 1965. Six thousand square feet of new space included a new assembly room, an engineering office, a new power use office, and a printing room.

In a sign of the times, a drive-through window was added to the main office building that same year. It was the very height of modern convenience to be able to offer members the option of paying their bills without ever having to leave the comfort of their automobiles. The new night deposit also made it possible—for the very first time—to pay bills after office hours.

The bill-paying function itself was suddenly based on a much more accurate measurement than in years past. It seems hard to believe now, but the fact is from 1940 until 1968, each member of the Co-op walked outside to read the numbers off his or her electric meter each month, marked the reading on a card, and mailed it in to the office. Each month’s bill was based on this “self-reporting.” Due to an increasing number of meters that were somehow not being voluntarily read and reported, it became necessary for Co-op employees to assume this responsibility. And so the days of “the meter reader” began. This new approach improved accuracy and helped ensure that members would be billed appropriately.

Sales promotions continued during this time as a way to reach members and influence buying behavior. Cash bonuses were given for the purchase and installation of new heating systems, air conditioners, dishwashers, electric ranges, electric water heaters, and water systems. Incentives were also provided to members for changing out their switchboxes to a larger size.
REACHING THE NEXT GENERATION

In 1965, the Co-op began a new initiative designed to educate young people about cooperatives and the roles they play in the lives of those they serve. They started sponsoring an essay contest, open to high school juniors throughout Jefferson and Grainger counties, offering cash prizes for the winners, college scholarship money, and a trip—along with other winners from across the state—to Washington, D.C. The contest and prizes continue to this day. Six first-place winners receive expense-paid, weeklong trips to the nation’s capital. In addition to seeing points of interest, Youth Tour participants have the opportunity to meet with members of Tennessee’s congressional delegation and learn more about the national issues facing cooperatives today. One student from the Tennessee contingent is chosen to serve on the national Youth Leadership Council and also to represent the state at the National Rural Electric Cooperative Association annual meeting. To date, Appalachian Electric Cooperative has awarded more than $42,000 in prize and scholarship money, and more than 225 students have participated in the Washington Youth Tour in the 45 years the program has been in existence.

A change in Co-op leadership occurred during this decade with the death of Manager Roy Hendrix. Taking his place was former Assistant Manager Charlie Balch, who started his Co-op career as Power Use Supervisor 15 years earlier.

You might say that the Co-op shifted focus a bit during this time period to meet the challenge of handling more functions internally. With the hiring of an operations engineer and several more employees, there was a new philosophy in place, an attitude of “we can do this ourselves.”

The issue of electric rates came to the forefront during the 1960s. A new 20-year power contract with TVA was signed, a new rate schedule was adopted, and an independent rate comparison study showed that, at that time, Appalachian Electric Cooperative had the lowest rates of any electric cooperative in Tennessee.
The decade began with a move to ensure that the members would have equal voices in the operation of the Co-op through the directors they elect. Ever mindful of the democratic nature of their representation of the membership, the Co-op’s Board of Directors revised the geographical boundaries of the nine districts within the service area in order to allow for a more even distribution of members.

And new members were joining the Co-op at an unprecedented rate. The 1970s would bring about the largest percentage of growth in the organization’s history; membership increased by more than 67% during this decade.

During the winter of 1973, consumers in our part of the country began to feel the effects of the national fuel shortage. There were long lines at the gas pumps, and for the first time, Co-op management appealed to the membership to conserve electricity. It was a new and unfamiliar idea to most folks, but Co-op members responded positively to the initiative by adopting conservation measures—a habit, formed then out of necessity, that continues to this day. A few years later, members were encouraged to practice something called “voluntary load management”—basically, an effort to cook, use hot water, and run the washing machine and other appliances during off-peak-demand hours.

The Co-op “went underground” in the ’70s, directing a major effort toward expanding underground services to its members. The practice continues today and undeniably contributes to aesthetics.

However, back then the method of choice was, unfortunately, “direct burial.” The lines were simply laid out in a ditch and covered over with soil. This method was quick and inexpensive at the time but would later prove to be problematic, considering the effort and cost involved when these same cables had to eventually be located and then dug up for repairs. Consequently, those on the line crews grew to dread a service call involving direct-buried lines. When underground service is run today, conduit is laid and lines run through that, making repairs much easier and more efficient.

Computers—or, more accurately, a computer—came to the Co-op in 1975. They were destined to completely transform the way the organization did business, but in the beginning the impact was much more modest. A System
3/Model 10 computer was leased from the IBM Corporation and installed in the main office. A computer programmer was hired to figure out how to make it handle functions such as billing, accounting practices, materials and inventory control, and transformer load analysis. It was a long way from a PC on every desk, but it was a start.

In 1977, TVA’s home insulation program was made available to Co-op members. Interest-free loans were made to bring attic insulation to an R-19 level—considered very energy-efficient at the time. The program was soon expanded to include installation of storm windows, insulated doors, floor insulation, and weather stripping/caulking.

The Co-op began in-house billing during this time. Payment of electric bills by bank draft became an option in 1978—another convenience for members, who could keep their account current without having to write a monthly check. That monthly bill was just a little less than what it had been before, due to the fact that the Co-op’s Board of Directors decided on a 2.5% rate reduction—a welcome development for the membership, certainly.

That same year, the Co-op signed an agreement with TVA to lease/purchase 13 substations and nearly 100 miles of 69 KV sub-transmission lines; at the end of the lease period, the Co-op would buy the facilities at a depreciated cost. Attention was paid to the growing fleet of Co-op vehicles during this time. After the purchase of the old Farris Motor Co. building, the Co-op had a garage and hired its first mechanic.

FINDING A WAY TO HELP THOSE IN NEED

In March of 1974, the Co-op first offered an Equal Monthly Payment Plan. Qualified members were allowed to pay a set amount for each month’s electric bill—based on their use the previous year. This helped eliminate the extra burden of having to pay a higher-than-normal electric bill during times of consistently high use linked to seasonal extremes, like sweltering summer months and bitterly cold winter months. By estimating similar use and spreading out the financial commitment over the course of an entire year, persons on fixed incomes could better plan their monthly budgets. Another example of this type of assistance came about in 1982, when the Co-op—in partnership with the Douglas-Cherokee Economic Authority—initiated “Project Deserve.” Members were given the option of checking a box on their electric bill to add an extra $1 charge—money that, with no deductions of administrative costs, would go directly toward meeting the emergency energy needs of elderly and disabled residents within the service area. To date, more than $115,000 has been collected and distributed to those in need, thanks to the generosity of Co-op members.

“My impression of Appalachian Electric Cooperative is based on kind of a dual perspective. Through my work with the Industrial Board, I’ve had the opportunity to appreciate what they do for regional economic development. They’ve always had a great willingness to help with industrial recruitment, and that has made a positive difference for our community. From my vantage point as a consumer of electric power, I’d have to say that we’ve had very few outages, and the response to any interruption of power has been extremely quick and effective. My take on it is that these folks know what they are doing. Our Co-op is a well-run organization with a lot of continuity. That stability over the years has served them well—and the membership has benefited accordingly.”

— Harrell Webb, Residential Member, Jefferson County
The 1980s

Technology comes to the forefront

The new decade began with a relocation. The Co-op’s downtown office had become overcrowded to the extent that no more additions were feasible. Several years earlier, land had been purchased in Jefferson County (the property was later annexed by New Market) for an engineering building and warehouse. Though the Co-op headquarters and administrative functions would remain in the downtown location for a while longer, the new state-of-the-art J.W. Ellis Operations Center—named after a long-time Board member and President, represented the first step in what would eventually be an entire “campus” for the Co-op.

The Center’s opening in 1980 made it possible to manage several of the Co-op’s functions—from engineering and dispatching to purchasing and warehousing—much more efficiently. Now the Co-op had the very latest operating equipment and computer programs for optimum speed and accuracy in load and system monitoring and control, including the brand-new Supervisory Control and Data Acquisition (SCADA) system.

Linked to remotely operated devices, the SCADA software program made it possible to monitor substations. Now it was possible to “see the load” and tell which breakers had tripped. They could be opened or closed directly from Co-op headquarters, thereby eliminating the need to send someone to accomplish in person what could now be done with technology. For the first time, employees had the ability to know where the power was out and to what extent. Supplementing this newly acquired knowledge was the addition of an evening shift in the Co-op’s control room.

There was much work to be done on the aging system at this time, including constructing a new substation in Rutledge, an ongoing effort to upgrade about 85 miles of old copperweld lines that had been put into service after World War II when no aluminum was available, and a massive undertaking to replace about 3,700 overloaded transformers. The Co-op also hired its first substation engineer and began to develop a substation crew.

In 1984, the Co-op made the transition to “utilicorders,” hand-held digital devices that were furnished to meter readers and linked to brand-new PCs—another first. This replaced the previous system, which involved the readers making pencil notations in a notebook with hundreds of pages—and then bringing the notebook back to the Co-op, where a keypunch operator would enter the data.

Load management devices were installed in mem-
bers’ homes to help “shave” demand. Residential customers could receive $2 rebates on their monthly bills if they agreed that their service to select appliances (water heaters and the like) could be temporarily interrupted during periods of peak demand.

In May of 1988, TVA made a commitment to hold wholesale power rates steady for a three-year period. The Co-op’s Board of Directors met the following month and passed a resolution to, among other things, not raise electric rates charged to its members for a period of three years.

THE CO-OP RESPONDS: CREWS SENT TO HELP IN AFTERMATH OF DISASTER

When Hurricane Hugo struck the coast of South Carolina in September of 1989, the call for help went out to cooperatives throughout the region. The devastation was widespread, and power was out to hundreds of thousands of homes and businesses in the state. A request for assistance was made by the Santee Electric Cooperative in Kingstree, South Carolina, and Appalachian Electric responded. The Co-op sent two four-man line crews, along with two bucket trucks, to the area. The damage was so great that the line crews spent a total of two weeks helping to basically rebuild the system. Working Foreman Brock Henry recalls the challenges of working under less-than-ideal conditions in a remote, unfamiliar location: “Something like this gives you a real appreciation for your own system—and we’ve got a good one. But it also puts things in perspective a little bit. ‘Being without power’ is a relative term, you know. Around here, we might start getting impatient after a matter of hours. Those people had been without electricity for a couple of weeks. And they were so desperate to get it back on that they would have done just about anything to make it easier for us. I’m telling you, if you’d wanted to drive a truck into somebody’s living room, they wouldn’t have cared. I still remember all the people who would wave at us as we drove by. It was a special feeling.” Through the years, the Co-op has continued the tradition of responding to natural disasters. Crews traveled to Kentucky after crippling ice storms and spent weeks in Mississippi in the aftermath of Hurricane Katrina.

“There is no question that Appalachian Electric Cooperative has benefited greatly from an involved and engaged Board of Directors. The individuals who have served in this capacity over the years have provided oversight, guidance and steady leadership. The trust they have placed in our staff and employees, along with the concern they have shown for the Co-op and our membership, has been a big factor in our success. Without the stability and integrity of our Board, the Co-op would be unable to accomplish our mission: ‘To provide the membership with reliable, safe, and efficient electric service in a courteous and timely manner at an affordable cost.’ It’s been a terrific partnership.”

— Bill Underwood, AEC General Manager
The new decade ushered in a new administration. After Charlie Balch announced his retirement at the end of 1989, Assistant Manager Kenneth Carpenter was elected by the Board of Directors as the Co-op’s new Manager, effective January 1, 1990. Later that month, the new Piedmont Substation became operational. It was a good time for an addition to the system. With a booming economy and no sign of a slowdown in sight, there was much reason for optimism. New people—retirees from other parts of the country, in particular—were moving into the service area, and tourism began to play a significant role in the local economy.

This period of relative prosperity was overshadowed by a devastating blow for the Co-op, when one of only two job-related fatalities in the entire history of the organization occurred. Lineman Tracey Price died on December 23, 1990, while working up in the raised platform of a bucket truck on a snowy, cold, windy night. He and another crew member were in the process of attempting to restore power when he was killed instantly after inadvertently contacting a live conductor and a ground. He was only 34 years old, and the Co-op family felt the loss deeply.

It was around this time that the word “deregulation” was beginning to be heard in connection with the power industry. In 1992, TVA introduced a wholesale rate change—from “demand and energy” to “end use” rates. With this new rate structure, the Co-op shifted gears from focusing on load management and peak demand. Budgeting was suddenly easier because net income could be predicted based on sales.

THE BLIZZARD OF ’93

Everybody who was around here at the time remembers it. The snow began falling very early on the morning of Saturday, March 12, and by the time it stopped, there was roughly two feet of snow on the ground—and on the houses, the roads, the trees, the power lines, etc. Ultimately, a single degree of temperature made a big difference in how things turned out: The area south of Cherokee lake experienced wet snow, while everything north of there was considerably drier. It was windy and cold, with temperatures dropping into the teens. The roads were impassable, except to ve-
hicles with tire chains. The Co-op called in every crew member that could make it in; initially, that group included only 13 linemen. The scene in dispatch was grim; it seemed like things were going from bad to worse. Lines were being lost, and people were calling in, desperate to know when their power would be restored. The system was so overwhelmed at that point that it was impossible to tell members when the crew would be in their areas, much less when their electricity would be back on.

The strategy for restoring power was clear: to work in locations that would result in getting the power to the most people back on the fastest. Even with an all-out effort, it would take until Friday before all of the Co-op’s customers had electricity again.

In a move designed to improve efficiency, the Co-op began partnering with provider Professional Computer Systems in 1995, turning to it for the software used to maintain the operating system, software, and support for all customer information. Today, everything from basic contact information to metering to online credit card payments is processed through this system.

In 1996, the rest of the Cooperative moved to New Market to join the engineering and warehouse departments—consolidating all the organization’s functions in a single location. Though they weren’t exactly under one roof, all the different parts of the Co-op were finally together in one place.

That turned out to be a good thing because a big job was just ahead. Equipment was aging, lines needed reconductoring, and the system in general was in need of attention. When Director of Office Services Bill Underwood took over as General Manager with the retirement of Ken Carpenter in 1998, upgrading the system became Job 1. And to do that, the Co-op needed to be staffed up. New employees were hired in several departments, including line crew and engineering. Office personnel were added in the cashier, bookkeeping, and service departments.

The Board of Directors made the decision to invest in the system to reduce maintenance costs and increase reliability. The Co-op obtained well-structured loans during this time to finance the needed improvements. There was a general recognition of the fact that, should the Co-op remain debt-free, it would—in effect—be overcharging the current membership for the benefit of future generations.

The need for increased capacity to address the area of population growth between Dandridge and Piedmont, combined with the fact that TVA was looking for a route to expand its service to Sevier County, led to the decision to build a new delivery point in the Dumplin Valley area. A new substation would be located right next to TVA’s switchyard to allow joint use of the property and the existing right of way.
The new millennium began with a commitment for yet another new delivery point. Since TVA was upgrading its facilities at Cherokee Dam, it became advantageous for the Co-op to consider future load requirements. A determination was made to implement major upgrades and move the delivery point to an adjacent site. A permanent easement was obtained on seven acres for what would be the Oakland Substation/Delivery Point. The decision to address two delivery points in the space of two years would significantly reduce line losses, increase capacity, and improve system reliability.

The Co-op went live on the World Wide Web in 2003 in an effort to provide an Internet-based source of information for the membership. And there was an important new reason to attempt to connect with customers. In a reversal from the era of deregulation, when there was ample generation of electricity by TVA, the agency began to stress the need for energy efficiency—and the Co-op responded accordingly.

This was a time of outreach: The Co-op as a whole—and the Power Use Department in particular—ramped up efforts to help members understand the importance of using electricity wisely. It was a different message than what was being shared back during the ’70s, when the idea of “conservation” seemed to suggest that the only acceptable course of action was to “turn it off.” This time, the emphasis was less about restricting the use of energy and more about learning how it could be used in a more efficient manner. The Co-op began to be involved in several programs that represented this new focus.

The “Green Power Switch” program was designed to encourage the use of renewable energy sources. By agreeing to pay an extra $4 (per 150-kilowatt-hour “block”) on their electric bills, members could support the use of solar power, wind power, and other environmentally friendly generating sources. Customer participation became, in effect, a “vote” for clean energy.

The “Generation Partners” program took the idea a step further. Members who chose to install solar panels, wind turbines, or other renewable energy-generating sources at their homes or places of business could receive cash incentives to help offset installation costs, and the Co-op would guarantee to purchase (at a premium price per kilowatt-hour) any generated electricity.

The newest program involves having a trained professional auditor conduct an on-site inspection and evalua-
tion of a member’s home: an assessment of what can be done to improve energy efficiency. The “In-Home Energy Evaluation” program has proven very popular; when homeowners take action on the auditor’s recommendations, the Co-op can provide assistance with both low-interest financing and incentives.

For some time now, the Co-op has been working to develop an automated system for handling trouble calls. Many of the components that will feed information into an “Outage Management System” (OMS) are now or soon will be in place. The goal is to establish an electronic framework that will allow the various programs and systems to share information essential to providing and restoring electric service to members.

The OMS is a bold initiative that promises to truly transform the way the Co-op responds to and handles outages by facilitating electronic transmission and exchange of critical data among key operational systems. From dispatchers who coordinate manpower and resources in response to an outage to the customer service representatives who handle calls and provide timely information about restoration efforts, the OMS will serve as the platform from which the Co-op will be able to offer a more efficient and effective response to trouble calls.

Smart grid technology will make it possible to pinpoint the location of outages, even before the first customer calls in with a report of trouble. Engineering provides the backbone of the OMS, furnishing the system connectivity that enables a “prediction engine” to actually forecast the likely nature and extent of an outage well in advance of data that can be obtained in conventional or more time-consuming ways.

One important tool, and certainly a foundation for the other applications of technology, is Geographic Information System (GIS) mapping. It allows for electronic spatial tracking of all the Co-op’s assets—poles, transformers, overhead lines, etc. Map overlays have been generated, based on a field inventory of the Co-op’s distribution facilities. This electronic mapping tool will be constantly updated—in part through on-the-ground input from crews in the field—and will result in better information for decision-making and thus faster response times.

“My department is really the first point of contact that people have with the Co-op. We help them get their power turned on, and from there we begin to build a relationship. I have been here for 42 years, and I can tell you first-hand that our employees work together for the good of the members. We treat them the way we would want to be treated. The Co-op has really grown during the time I’ve been here, but we’ll never get so big that we forget how important it is to maintain the personal connections we’ve established. At the end of the day, that’s who we’re working for: the members.”

— Patsy Houpt, Supervisor, AEC Customer Services Department
“Any good working relationship is going to involve integrity, trust, honest communication, and mutual respect. In the 15 years or so that I have worked directly with Appalachian Electric Cooperative, I have found that its management and staff personify those qualities. I interact with distributors throughout this part of Tennessee, but I’ll have to say that AEC officials exhibit a distinct and sincere concern for how decisions—from new programs to changes in rate structures—are going to impact their customers. With Appalachian Electric, that’s what it’s all about: They have an overarching vision of serving their members.”

— Michael Leffel, Customer Service Manager, Northeast District, Tennessee Valley Authority
It’s kind of like having to buy (or more accurately, build) a school bus big enough to carry the maximum number of students you’d ever have to transport on any given day. The only problem is, the bus is about half empty most days. You still had to sink all that money into obtaining it, you still have to pay the driver, you still have to buy the gas to cover the route, and you still have to invest in maintaining the bus so that it will operate safely and effectively. You’re just not using it to an extent that even approaches its capacity.

That’s sort of the way it is with the Co-op. We had to build a system with enough capacity to support customer demand on the very coldest winter nights and the most sweltering summer days. It’s simply not optional to do otherwise; the system has to be maintained in such a way as to be ready to function at those extremes, even though that type of demand only occurs on very rare occasions.

The situation is especially tough because of the composition of Appalachian Electric’s membership when it comes to the proportion of residential to industrial customers. Residential customers have very predictable (and cyclical) patterns of energy use. They get up to go to work in the morning, and they use a lot of electricity to get ready for the day. Then use drops off—until they get home in the late afternoon or early evening. Then they use a lot more power, until time for bed. After that, energy use drops off again until morning.

In contrast, industrial customers have very steady energy curves. Those that operate round-the-clock use energy accordingly, during all three shifts. But even those that run equipment mostly during the day do so consistently, without the drop-off that happens with residential customers. But the fact is, there are relatively few of these types of customers—in comparison with the much larger number of residential members—here in our service area. Much fewer than are represented in the service areas of some of the utilities surrounding us. The measure of the percentage that an electric system is being utilized is called the “load factor.” Because of the nature and composition of our membership, Appalachian Electric has one of the lowest load factors in the whole state. It’s just a tough reality that adds yet another challenge to providing reliable and affordable electricity.

So what can we do to help the situation? We can try to get more “students” on the “bus.” That’s one of the reasons why the Co-op has always been active in helping to recruit quality industries to our area—and is equally committed to supporting our existing industries in whatever way we can. The closer we come to regularly using our system at more of its built capacity, the better chance we have of being able to keep electric rates stable. It helps every member of the Co-op—large or small—when our load factor improves. We want to make sure we’re doing everything we can to keep those bus seats filled.

“You’ll hear our crew members talk about some of the brutal conditions they sometimes have to work in. And I have, too, during my career here at the Co-op. There’s a certain point where you’re not doing it for the money. There’s not enough money out there to pay you for what you endure. You’re doing it because you know people are getting cold. They’re without power, and it’s within your capability to do something about that, so you do it—regardless of the circumstances and to the very best of your ability.”

— Dickie Chesney
AEC Chief Operating Supervisor
WE’VE COME A LONG WAY, BABY!

The Co-op has changed dramatically over the years. The tools and technologies we use have evolved in ways that could hardly have been imagined back in the early days.
• From a roll-a-tape to a laser range finder.
• From Willie Wiredhand to Louie the Lightning Bug.
• From mineral oil-filled transformers to those filled with soybean-based oil.
• From keypunch cards to computer systems.
• From a pair of post-hole diggers and a strong back to an 18-ton digger derrick truck that can bore a two-foot diameter hole eight feet deep in a matter of five minutes.
• From hand-drawn service maps to the latest GIS imaging.
• From porcelain insulators to those made from silicone rubber.
• From handwritten records in a notebook to automated meter reading.
• From a safety belt and a pair of spiked climbers to a hydraulic bucket truck.
• From a system featuring wood poles exclusively to one that includes poles made from steel, concrete, and even ductile iron.

“I take a lot of pride just driving the roads around here and noticing what a good job the line crews have done. Sometimes you’ll be traveling through other systems and you’ll see stuff like poles leaning every which way; I’m telling you, it’ll make you stop and wonder how the power even stays on! Not around here, though. Appalachian Electric Cooperative does things right. Every one of the guys believes in doing a good, neat job, and it shows.”

— Bill Carmichael, AEC retiree
HOW APPALACHIAN ELECTRIC COOPERATIVE SERVES OUR COMMUNITY

Yes, they’re there to keep the lights on. But Co-op employees do so much more than that. They’re out there every day, touching our lives and making an important difference in ways that most of us never stop to think about. Co-op employees are active in the community: Many of them run for and hold public office, serve on civic groups and area nonprofit organizations, hold leadership positions in area churches, work with Scout groups, coach Little League, and work tirelessly in our schools, parks, fairs, and festivals.

They’re also involved as part of their jobs. Consider the following scenarios, each of which illustrates some of the less-well-known aspects of what the Co-op does. These kinds of activities, while they don’t occur every single day, nevertheless add up to an improved quality of life for residents of our area.

• A large manufacturing company is considering locating in our area. As it begins the site selection process, it wants to know more about the quality of local commercial electric service—rates, reliability, etc. Co-op employees meet with company representatives to share information and establish the framework for a future working relationship.

• A class of fifth-graders is interested in energy—how it is produced and how it can be conserved. A Co-op employee is there to help these young people understand the ins and outs of electric generation and distribution, answering questions on everything from wind power to how squirrels keep from being electrocuted when they run along power lines.

• A truck skids off the road on a rainy night and takes out a utility pole. Police officers report that live wires are down. Co-op employees are on the scene right away, securing the area and ensuring the safety of those responding to the accident.

• A small group of citizens meets every month, looking for ways to convince local businesses, governments, community groups, and individuals to take steps that will result in environmental improvement and protection. A Co-op employee is a volunteer on the team, contributing valuable ideas and expertise.

• A group of volunteers spends an entire Saturday fishing trash out of the water and cleaning up litter along the shoreline of Cherokee Lake. Co-op employees are there, helping out and providing gloves and trash bags and even arranging for a trash bin to be delivered and picked up.

• The hospital conducts an emergency preparedness drill, simulating the event of a major tornado touching down. Co-op employees are on hand to go through the steps involved in restoring electric service so that patient lives are not at risk.

• Little League supporters have just raised enough in donations to install lights at the ballfield. Co-op employees show up with a bucket truck to help make night games possible.
At Appalachian Electric Cooperative, we’re of the opinion that we do what we do better than almost anybody else. We are truly committed to the relentless pursuit of excellence. But don’t just take our word for it. There are ways to objectively measure performance, as shown in the statistics below. One look and you’ll see why we’ve earned a reputation for achieving exceptional results on behalf of our members.

Although they clearly indicate we’re among the best in the business, these performance measures mean more to us than mere “bragging rights.” They offer real proof that we’re doing what it takes to keep your electric rates as low as possible. That we take our stewardship role seriously by tightly controlling costs and giving our members the best value for their dollar. That we make appropriate investments to keep our facilities up-to-date, working well, and able to handle the capacity needed for tomorrow—as well as today. And that those investments are paying off with reduced system losses and greater returns overall for our members when it comes to improved reliability.

**KEY:** All data shown is from 2009. When comparing our performance with other electric cooperatives, it’s probably most useful to look at how we’ve done in relation to those:

- across the nation (indicated in blue)
- within the state of Tennessee (indicated in orange)
- across the TVA service area (indicated in red)

Appalachian Electric Cooperative’s performance numbers are shown in green. These statistics refer to the “median.” The number shown represents the mid-point; half of what’s being indicated falls above that point, and half falls below it. Our rates are lower than those of many other power distributors. A comprehensive and ongoing effort to control costs, eliminate waste, and enhance operational effectiveness allows us to charge less for electricity.

**Electric revenue per 1,000 kilowatt-hours sold**

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<th>AEC</th>
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<th>TN median</th>
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<tr>
<td>Revenue</td>
<td>$95.49</td>
<td>$98.81</td>
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We operate very efficiently. Our power cost (what we are charged for electricity by TVA) is a bigger percentage of our electric sales revenues than that of many other co-ops. We work on smaller margins to squeeze value out of every dollar you pay us to make it go farther.
Power cost as a % of revenue (includes service charges and pole attachment fees)

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<tr>
<td>75.49%</td>
<td>62.30%</td>
<td>75.32%</td>
<td>75.16%</td>
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We invest wisely in our system by owning and operating our own substations and transmission lines. By managing our finances conservatively, we have been able to spend the capital necessary to build and upgrade our “plant”—the physical facilities, structures, and materials used to distribute electricity. We spend more on these things to offer our members better quality. The numbers shown reflect an interesting (and challenging) reality: Our Co-op has one of the highest “densities of customers” in the entire state. Because we serve more members per mile of line, we must build and maintain additional electrical facilities to meet customer needs. Despite this high density, the return on our investment is paying off with increased reliability and efficiency and the assurance of adequate capacity for future load growth. It’s the smart thing to do.

Total plant investment per mile of line

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<tr>
<td>$60,830</td>
<td>$26,205</td>
<td>$34,067</td>
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Our system losses are low. Due to the natural laws that are involved in the transmission of electricity, there are always going to be differences between the amount of power we buy from TVA and what we deliver to our customers. But we work really hard to make sure that difference is as small as possible. The success we’ve had in this regard is a direct reflection of the investment we’ve made in our electrical facilities.

System losses

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<tbody>
<tr>
<td>4.51%</td>
<td>5.96%</td>
<td>5.50%</td>
<td>5.53%</td>
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“Our work is highly technical. We focus on designing electric facilities—and then constructing and maintaining them. It’s important work, and having the right personnel has been one of the keys to our success: I’d put our engineering department up against anybody’s, and our line crew is second to none. But we also have the support we need from Co-op management and the Board. It might seem surprising, given our rural location, but Appalachian Electric has historically been on the edge of technology. Not the bleeding edge, mind you; we make it a policy to wait until a proven track record has been established before rushing in to adopt the latest and greatest idea. But we are ahead of many of the utilities around us. The reason we’re in that position has to do with being so well managed from a financial standpoint. I can say with confidence that the improvements we make are not funded on the backs of ratepayers. We invest wisely, spreading costs out over time and gradually making system upgrades. The results we’ve achieved inspire us to reach for even more lofty goals; we are constantly raising the bar. When a technology emerges that has the potential to enhance reliability, increase efficiency, and improve cost-effectiveness, the Board has been quick to authorize the necessary expenditures. And that has less to do with acquiring the latest specialized computer-based tools and more to do with providing the greatest benefit for our members.”

— Greg Williams, Vice President, Engineering and Operations
SMART METERS:  
Better data, better reliability

Chances are, if it’s not already there, it’ll be coming soon. Some time within the next three years, the Co-op hopes to have upgraded all the old meters throughout the system with new “Smart Meters.” (They are part of the Advanced Metering Infrastructure, or AMI, which is being developed and phased in as one of the components that will provide information to the Co-op’s Outage Management System.) Smart Meters use radio frequencies to communicate both remotely and automatically in two directions. And the range of information that can be accessed through their use is truly amazing. Energy use at a given location can be “read” on an hourly basis—a feature that will become even more relevant when “time of use” electric rates go into effect. They will, in effect, be like “eyes out in the system,” sending back useful data that can accomplish everything from flagging the exact location and extent of power outages to alerting Co-op personnel of the need to replace soon-to-fail transformers. All this results in increased cost effectiveness; since these meters can be accessed remotely, the need for meter readers can be gradually phased out.

A visual representation of outage information will be added to the Co-op’s website. The Supervisory Control and Data Acquisition (SCADA) system has been in place since the 1980s. An Interactive Voice Response system will answer and direct telephone calls during outages in such a way as to give members better, quicker information. The Customer Information System provides a linkage to billing and account information. It all adds up to a revolutionary new way of seamlessly transferring information that will give Co-op employees an important tool in responding to the needs of customers and improving system reliability. Bottom line? Better service for Co-op members.

In 2009, Appalachian Electric Cooperative dedicated a new space, the Frank C. Hodge Engineering & Control Center, adjacent to and connected with its main headquarters building. It’s hard to overestimate the significance of this step forward; the addition of the new state-of-the-art control center represents a decision on the part of the Co-op to maximize the use of 21st century technology in a secure underground setting. Once again, this move is evidence of the ongoing commitment on the part of the Co-op’s management and Board of Directors to provide staff and employees the right tools—in the right setting—to do the best possible job.

The end of the decade brought about a major redesign of the Co-op’s website, with a nod to interactivity. For example, members can now view their energy use by accessing their billing history, sign up for many of the programs offered by the Co-op, or pay their electric bills online.

“Our operations are extremely sensitive to power interruptions. FILMtech runs around the clock, and—depending upon where we are at a given time in the manufacturing cycle—losing electricity even momentarily can cause us to incur significant costs. When we first started up back in 2002, we were having brief outages twice a week or so. The folks at Appalachian Electric Cooperative performed some proactive maintenance to help improve our power reliability and also automated an alternate power source feed to our location here in the industrial park. It’s made a noticeable difference. Now, I’d say we might have an issue only once every eight or ten months. The fact that they made a commitment to do what was necessary to provide us with the best possible service says an awful lot; they’ve been great to work with.”

— Mark McGarel
General Manager, FILMtech Inc., Industrial customer, Grainger County
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Celebrating
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Forecasting is never an exact science, but if there’s anything we can be sure of as we move forward, it’s that things are constantly changing. It’s up to the Co-op to anticipate those changes, and respond to them effectively. New laws, regulations, and requirements promise to keep things interesting—everything from new ways that members’ personal information must be protected to proposed “cap and trade” legislation to changes to electrical safety codes.

Probably one of the things that is most likely to impact our members is a recent decision by TVA to change the wholesale rate it charges its distributors for electricity, starting in April of 2011. This “demand and energy” rate includes a “time of use” component. Though a decision has not yet been reached in terms of whether Appalachian Electric will eventually adopt a similarly structured rate change for retail sales to consumers, the industry as a whole appears poised to shift to a retail rate structure that will reflect this change.

What would this mean for our members? A real choice in regard to managing your power use that will translate to the amount you are billed for electricity. A new awareness of “on-peak” and “off-peak” hours. Lots of good reasons to get educated about ways to become more energy efficient.

For the first time, there’ll be a difference in what you are billed for electricity, depending upon when you use it. During hours of peak demand—when it’s more expensive to either produce power, or (as TVA sometimes does) purchase it on the open market—those kilowatt-hours will cost more. It’ll be more expensive to use electricity in the morning hours during winter, when demand is highest. By the same token, electricity used during the afternoon and early evening hours will cost more during the summertime.

It’s kind of like the premium price we all pay at the grocery store for a fruit or vegetable that’s “out of season.” We expect to have to pay more for a peach if we buy it in the middle of winter; it costs more to buy at that time of year because of the additional costs of transporting it from the far-away climate where it was grown. This new rate structure works kind of like that: We’ll need to understand that if we use power during the time of day when it’s most expensive to produce, we’ll be paying more for it.

“Time of use” rates will make it more important than ever to practice energy efficiency. By adjusting the times of day you choose to do things that require “extra” electricity (such as turning on your washing machine or dishwasher), you can save money on your electric bill. It’ll be something new to get used to, but hopefully we’ll all become more conscious of the things we can do to save energy and reduce our monthly power bills.

There’s no such thing as complacency in this business. You can’t sit back and rest on your laurels. To be true to the Co-op’s mission, we must be continually evaluating our performance and planning for the system’s future needs and requirements. Actions must be taken now to ensure adequate capacity and reliability for the future.

The Co-op engages in long-range planning at regular intervals: four-year and 20-year work plans are both developed and then re-evaluated as needs and conditions change. Staff members forecast growth areas
to determine where to build substations to meet the additional load. They forecast equipment lifespan and build a timeline for replacement. They factor in upcoming or proposed developments that will require electric service. On the administrative side, 10-year financial forecasts are developed and used to project cash and rate requirements.

Goals are set, and steps are taken to ensure that each department is working strategically toward stated objectives. When impossible-to-anticipate events arise, then, naturally, adjustments to the plans have to be made. But the planning process itself is a good way to stay on track—to make sure the Co-op is doing the things that have been determined to make the most difference for the membership.

It’s impossible to know precisely what issues and conditions the Co-op will be dealing with in years to come, but regardless of what’s ahead, we will continue our steadfast commitment to stay true to our mission by providing reliable and affordable electric service for the benefit of our members.

What that may look like a few decades from now is anybody’s guess, but we’ll still be here, doing whatever it takes to keep the lights on.

“I’m always mindful that the accuracy of our financial information affects every single one of our members. When we prepare our annual budget, we know that it’s used by the Board and by our management to make key decisions that are going to impact our customers for decades to come. We take that responsibility very seriously. Hand in hand with that duty comes the obligation to manage the Co-op’s finances wisely: to make prudent investment decisions, to be judicious in managing debt, to borrow appropriately—when that’s the best course of action—and basically to make each ratepayer’s money work as hard as possible. Some may say that Appalachian Electric Cooperative has a reputation for being conservative when it comes to financial matters. That’s a label we wear with great pride.”

— Dale Lawson, AEC Vice President of Administration

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"When I think of Appalachian Electric Cooperative, I think of the word ‘dependability.’ I recall a time when I was worried about a tree that looked as if it might fall on the power lines. I called the Co-op, and they sent somebody right out to take care of it. I liked the fact that they were proactive; they didn’t wait for me to have a problem before they responded. When you stop to think that they’ve been around for 70 years now, that’s really a testament to good management and excellent customer service. In terms of what that means to me, well, I’ll just say that with that kind of history, I don’t feel like I have to worry about the future."

— Carolyn Price, Residential customer, Hamblen County

"It has been an honor to serve on the Board for the past 15 years. I take my responsibility to the membership very seriously, and so does each of the other directors. We receive rigorous training to be board-certified; this process affords us the opportunity to learn a great deal about the issues affecting cooperatives in general and Appalachian Electric specifically. We are able to acquire the tools and develop the perspectives we need in order to make sound decisions on behalf of the members. They deserve someone in a policy-making position that has the skills and judgment to see that the system is being well managed and operated—and who works hard to keep electric rates as affordable as possible."

— Doris Sharp, Vice-President, AEC Board of Directors

COMMITMENT

Neighbors helping neighbors

The story of Appalachian Electric Cooperative is a story of service. Not just service in the literal sense, but more about the broader meaning of service; a sincere desire to be of assistance to the membership and to the community at large; a strong commitment to help bring jobs to this area through our efforts to support responsible economic development; a solid promise to hold ourselves to the principles that are the bedrock of the cooperative concept, and a fulfillment of the potential of public power to improve the quality of life for those served by it.

We been there to meet the challenges of our times. During wartime and peacetime. During times of prosperity and times of recession. During times of stability, when careful maintenance was called for—and also during times of rapid growth and expansion, when major outlays of capital were necessary. During times when Mustering a workforce of mostly manual laborers helped build the system, and during times when new technologies were transforming operations in previously unimaginable ways.

Through heat waves and cold snaps. During rate increases as well as long periods of time when rates remained unchanged. When we were bursting at the seams and when we finally moved into a brand-new operations center. There were the easy times and the not-so-easy times: when ice coated power lines, when woodpeckers drilled into wooden poles, when tree limbs fell, when transformers blew, when squirrels got into substations, and when heavy, wet snow made life miserable for those whose job it is to get out there in even the worst of conditions and do whatever it takes to get the lights back on.

Through it all, the Co-op’s board of directors has provided steady guidance, making the sometimes tough decisions necessary to ensure that the organization’s mission is fulfilled. The managers—each in his own way—have left their marks, using their talents and expertise to provide the structure and framework needed to keep the system robust and the Co-op itself in good shape from a financial standpoint. Employees have been the foundation of the important work that has been accomplished over the years, many of them devoting their entire professional lives to making the
Co-op what it is today. These folks know that when they get up to go to work each day, they have the opportunity to make a positive impact on the lives of those around them—and it shows in everything they do.

Woven throughout the Co-op’s work—from the meaning found in accomplishing day-to-day tasks safely and effectively to the rationale for engaging in long-range strategic planning—is its core, its starting point, its entire reason for being: the membership.

There is unquestionably a special relationship there, and it works both ways. Employees are constantly aware that they are, in essence, working for the members; that customer “ownership” is, in fact, the very basis of the cooperative concept. These people are their friends and neighbors, and they feel a keen sense of responsibility to do their best; in most cases, they make it a matter of personal pride. In turn, members know that this is “their” Co-op; they appreciate the voice they have—through the board of directors they elect—in the direction and future of the organization. They understand the authentic connection between the Co-op and their quality of life: When Appalachian Electric does well, that typically means the community as a whole is also doing well.

It’s not going too far to say that there is a distinct family feeling about the Co-op, the staff and employees, the board of directors, and the membership itself. We know each other, and—more importantly—we know we can count on each other. There’s a mutual respect and synergy as well as an innate realization of the long-standing interdependence that actually serves to make each of us stronger and more effective than we could ever be on our own.

Just like our own families, there are times when we all don’t see eye-to-eye. But the feeling of caring for each other and for our community sees us through. For the past 70 years, the men and women of Appalachian Electric Cooperative have worked diligently to “keep the lights on,” but in so doing, they have accomplished much, much more. The world is genuinely a brighter place for the folks served by the Co-op—in a way that has nothing to do with kilowatts.

As we pause to celebrate nearly three-quarters of a century of service to the community, it pays to remember that what we’re really commemorating is a relationship—one built on trust and faith and hope for the future. Our sincere thanks to you, our members, for believing in us and for helping us get to where we are today. We plan to continue the work we first began 70 years ago, striving for nothing less than to provide you with the best possible service and to earn your trust for many more years.

“The dedication of Co-op employees is nothing short of remarkable. Situations arise from time to time that require an ‘all hands on deck’-type response. If that happens on a Saturday, you’ll have folks who literally just close the lid on the grill and come in to work. Or you’ll place a call to someone’s cell phone and hear, ‘I’m at Dollywood, but I’ll be there in 45 minutes.’ That kind of commitment is why the Co-op is really the heartbeat of our community. We do whatever it takes to make a difference. In my case, that involves engaging in direct communication with members—sharing important and viable information in a timely manner. It’s hard to imagine a more rewarding interaction. Many times, we are able to leave our workplace knowing we did something today that made tomorrow better. What more can you ask for?”

— Mitch Cain, Supervisor, AEC Power Use Department

“My sense is that the members of Appalachian Electric Cooperative have more of a personal relationship with the company than is typical of the customers of other utilities. That’s due to both the quality of service they provide and the fact that we have a voice in how the Co-op is run by electing board members. I have a lot of peace of mind when I consider this organization and the impact it’s had. My impression is that it’s had good leadership through the years, and—most importantly—it’s always had the best interest of this community and this region at heart.”

— Terry Acuff, Residential customer, Grainger County
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At first, it was nothing more than an idea—and a fairly radical one, at that. But the community leaders who first conceived of making electricity available to our part of East Tennessee would not be dissuaded. The stakes were too high; a better standard of living for the people of this rural community depended upon swift and decisive action being taken. After much diligent work, their idea became reality when a new entity, Appalachian Electric Cooperative, was established in September of 1940.

Today, we are celebrating the Co-op’s 70th birthday. At that “advanced” age, you might naturally think that the tangible assets of the Cooperative (the poles, wires, transformers, and such) would be in a state of decline. But very few of those components, materials, and pieces of equipment that were originally installed on the electric system back then are still in existence today. Over time, almost all have been replaced by newer, stronger, better, and more modern versions.

It’s kind of the same thing when it comes to Co-op employees. None of the original employees who were first hired on back in 1940 are still living, and only a few who worked here in the 1960s are still on the payroll. These men and women have left their imprint on our organization, and the echoes of their life’s work resonate through the years. The lessons they learned and their hard-won accomplishments became the foundation for new achievements and innovation. Respect for the past and for established traditions influences the work we do today—just as the latest technology helps to advance our profession in previously unimaginable ways. New employees are hired, and they learn from the “old-timers.” Wisdom is passed to the next generation, and the work of the Cooperative continues.

So, if both the people and the physical assets of the Co-op are always in some phase of gradual turnover, what is there that really remains?

The fact is, Appalachian Electric Cooperative is much more than the things you can touch or even the people who work here at any given point in time. It’s the intangible assets that make the Co-op what it is: the spirit of commitment and dedication that has been the hallmark of our workforce, the far-reaching vision and disciplined guidance provided by our Board of Directors, and—most of all—the unwavering faith and steadfast support offered by you, our members.

That’s our touchstone, our purpose, our reason for being. It’s why we get up in the morning to come to work, and it’s why we often stay long past quitting time in the evening. This great work in which we are engaged elevates us all. We are here to do much more than distribute electricity; in a fundamental way, we are making life better for our friends and neighbors. We are helping the community and the region that we call home.

The idea that led to the formation of the Co-op so long ago is bigger than any of us individually and will live on long after we are gone. It endures today and will see us through whatever lies ahead in the years to come.

— Bill Underwood, General Manager, Appalachian Electric Cooperative
HONORING THOSE WHO HAVE SERVED

The following individuals have given their time and talents in service to the membership of Appalachian Electric Cooperative

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<th>Directors</th>
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<td>ALEX CHAVIS</td>
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<td>C.S. RAINWATER, JR.</td>
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Board Presidents

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<th>ALEX CHAVIS</th>
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<td>ALFRED SWANN</td>
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<td>J.W. ELLIS</td>
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<td>C.S. RAINWATER, JR.</td>
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<td>JOE CHAPMAN</td>
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<td>ROY MESSER</td>
<td>1983-1996</td>
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<td>FRANK HODGE</td>
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<td>ROBERT DRINNEN</td>
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“The management and staff always make sure that we have enough accurate information on which to base the decisions we make on behalf of the membership. They provide us with background on the issues and the time we need to sort it all through before acting. A big part of the Board’s strength and effectiveness comes from the fact that we have such a broad representation of diverse perspectives. And I can truly say that not a single director is there to advance his or her own agenda. We may not always agree, but it’s very seldom that we have a marked difference of opinion. I can tell you why, too: It’s because we really respect each other and believe in what we’re doing. We have the membership uppermost in our minds when we ask ourselves, ‘Is it going to be good for the Co-op?’”

— Robert Drinnen

President, AEC Board of Directors

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Gary Arrants

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Line Crew Lingo

There’s a certain language unique to those who work on the line crews, terms that take on a whole new meaning when applied to the skills and materials specific to the profession:

**Bird Dog** An individual or a two-man crew that travels ahead of a bucket truck to assist in troubleshooting. A bird dog is more mobile and can ride out a power line much quicker than a bucket truck.

**Firecracker** A secondary service connector used in splicing.

**Popsicle** A secondary service connector used to connect to a transformer.

**Greasy bugs** A bonding clamp for a guy wire.

**Poly bells** A polymer/silicone rubber suspension insulator.

**Goat heads** A %-inch angle-eye thimble used for guy wires.

**Peanuts** Guy-bonding clamps that are inserted into an anchor eye.

**Shotgun stick** A six-foot fiberglass insulated tool.

**Pickles** A guy splice.
MEET OUR DEDICATED EMPLOYEES

General Manager Bill Underwood (seated), Vice-President of Administration Dale Lawson, Executive Secretary Ruth Christian, and Vice-President of Engineering and Operations Greg Williams.

Supervisor of AMR Metering Chad Orr, Administrative Assistant Joyce Hodge, and Director of Office Services Conard Frye.
Accounting Department: Patty Livesay, Robert Gass, Dale Lawson, and Sherry Rouse

Cashier Department: Pat Dixon, Karen Stansberry, Scott Tipton, Tammy Majors, and Christie Davis

Power Use Department: Mitch Cain, Lora Justice, Glen Dearing, and Darrell Miller

Service Department: Karen Jones, Patsy Houpt, Pauline Allen-Holbert, and Gail Kerr

Bookkeeping Department: Alaina Presnell, Beverly Ball, Scott Tipton, Heather Letterman, and Tracy Jett

Information and Technology Department: Bette McCampbell, James Marion, and Tracey Morgan
Collections and Meter Installation Department: Brian Warf, Jamie Orrick, Tracy Coffey, Rick French, Rick Gentry, and Tim Hodges

Metering Department: Jesse Cline, John Turner, and Jamie Hayes

James Rogers, Director of Purchasing

Dianne Gray, Switchboard Operator

Rick Hankins, Right-of-Way Supervisor

Substation Maintenance Department: Marty Luther and Paul Weir

Fleet Maintenance Department: Doug Hayes and Kenneth Whillock
AEC Line Crew Department: (first row) George Ramsey, Brad Watson, Travis Collins, Brad Walker, Brad Peels, John Spivey, James Slagle, Donny Lowe, Butch Carmichael, Brock Henry, Brian Morgan, Tom LeValley, Brian Boruff, and Adam Mallicoat. (Second row) Kenny Hurst, Ray Turley, Chris Turley, Brad Witt, Jeff Greenlee, Brian Dortch, Scott Davis, Josh Longmire, Ryan Rice, Jeremy Loveday, David Collins, Shane Alvey, and Kim Farrow

Warehouse Department: Fred West, Wendy Humbard, and Johnny Watson

Louie The Lightning Bug, Co-op Mascot
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FOR 70 YEARS OF OPERATION
THANKS FOR ALLOWING
DILLARD SMITH CONSTRUCTION TO WORK WITH YOU FOR 60 YEARS, KEEPING THE POWER ON.
Engineering Department: Adam Newcomb, Jim Greer, Linda Wilson, Greg Williams and Joe McCarter

Engineering Department: Ronnie Cox, Les Byrd, Mary Reed, Steve Drinnon, Charla Hurst, and Todd Kesterson

Engineering Department: Mark Stepp and Marty Mills

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