

Built to last

Allegheny celebrates 75 years of providing power

Electricity is a simple concept to understand — you flip a switch or insert a plug into an outlet and voila, good things happen. Your light comes on. Your coffee is hot. Your phone is charged. Your garage door goes up so you can leave for work. But how that all happens is a more difficult concept to wrap your head around.

In its simplest terms, the “how” of electricity can be compared to the country’s highway system that brings a new coffeepot to your doorstep so you can continue to have your morning cup of joe. Chances are, your new coffeepot is waiting for you at a warehouse near a major, multi-lane highway. By phone or online, you let the company know you want to trade

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some of your money for one of its coffeepots. The coffeepot leaves the warehouse by way of the large highway, exiting that highway at a narrower, less busy highway, followed eventually by traveling down your county road before arriving at your house.

That’s the same path that electricity takes — it moves from the warehouse (the generation plant), down a series of ever-smaller highways (transmission lines and substations) until it finally arrives at your home via a small county road (the distribution cooperative’s service lines that provide power to residences and businesses in rural Pennsylvania).

This year, your electric cooperative’s generation/transmission provider — Harrisburg, Pa.-based Allegheny Electric Cooperative, Inc. (Allegheny), — is celebrating its 75th anniversary, many times referred to as a “diamond anniversary.” Every electric cooperative member is familiar with their local electric cooperative, and many could describe where the nearest cooperative substation is located. Few could trace their power all the way back to its generation source.

Cooperation

In Pennsylvania, approximately two-thirds of all electricity that flows to approximately 230,000 rural electric cooperative member homes and businesses is generated at power plants

POWERFUL PLANT: Allegheny Electric Cooperative, Inc., generates about 60% of the electricity needed by Pennsylvania and New Jersey cooperatives through its 10% ownership share in the Susquehanna Steam Electric Station, a nuclear power plant near Berwick, Pa.

PHOTO COURTESY OF TALEN ENERGY

owned by Allegheny, a wholesale power supply cooperative formed in 1946 to serve 13 Pennsylvania cooperatives plus one in New Jersey. Most of the remaining electricity needed by cooperative members is purchased on the PJM-operated open market through Allegheny, which is governed by an elected board of directors comprised of one member of the board of directors from each of the 14 cooperatives it serves.

“Incredible changes have taken place in the industry since Allegheny’s first board meeting in 1946,” says Frank Betley, president & CEO of Allegheny and the Pennsylvania Rural Electric Association (PREA), the statewide organization representing the Pennsylvania and New Jersey electric cooperatives. “Allegheny was formed as a way to purchase power at a more reasonable cost than when each cooperative purchased it individually. In the years since then, Allegheny has transitioned from buying all of the power needed by the cooperatives to owning the majority of our generation.”

The one thing that has not changed, however, is the organization’s goal of supplying safe, reliable and affordable

electricity to cooperative members, Betley emphasizes.

“We meet nearly 70% of our generation needs from our own clean, carbon-free resources, including a 10% ownership share in a nuclear power plant — the Susquehanna Steam Electric Station — and a hydro plant — the Raystown Hydroelectric Project, along with long-term contracts with the New York Power Authority for hydropower generated there,” Betley notes. “That means we are not at the mercy of the price changes often reflected in the open market, and it is one of the major reasons we have continued to be among the most competitively priced electricity providers through the years.”

Allegheny’s first board meeting was held in the summer of 1946, but the history of the wholesale power supplier begins more than a decade earlier. Only a small percentage of Pennsylvania’s rural residents had access to electricity in the early 1930s. In an effort to increase that number, President Franklin D. Roosevelt established the Rural Electrification Administration by executive order in 1935, which led to the subsequent formation of rural electric cooperatives. Even though the availability of electricity grew across the rural areas,

the price of wholesale electricity being purchased by each cooperative for its members was significantly higher than the U.S. average, leading to higher electricity bills for cooperative members.

Early mission

“Pennsylvania cooperatives, realizing there would be a cost savings associated with buying in bulk, voted to form a wholesale power purchasing cooperative to buy power for all of them,” says Jay Grove, chairman of the Allegheny board and a member of the Gettysburg-based Adams Electric Cooperative. “The reason Allegheny was created was to help lower the cost of power for local co-ops. It continues to do just that. It also means the local co-ops can better control their own destinies by being in control of their power supply.”

The first formal step toward the creation of what would become Allegheny Electric Cooperative, Inc. was taken on March 17, 1944, at a PREA meeting. (PREA was established by the cooperatives in 1942 and its board is also made up of one director from each electric cooperative in Pennsylvania and New Jersey.)

Early on, private power companies showed little interest in serving rural





LIGHT THE WAY: In coordination with Allegheny Electric Cooperative, Inc., electric cooperatives in Pennsylvania and New Jersey distributed nearly a million energy-efficient LED lightbulbs free to all cooperative members within the two states in 2018. The program was designed so that consumer-members who switched out old incandescent lightbulbs would save energy for many years, lowering supply needs during peak demand periods, ultimately driving down energy costs for all members.

customers, due mostly to the long distances they would have to string lines for only a few customers, making it financially less lucrative than more populated areas. Once the formation of Allegheny was announced, however, the private power companies attempted to stop the incorporation of the

new cooperative. The subsequent lawsuit went to the state Supreme Court, which ruled in favor of the cooperatives. Soon thereafter, the state granted a charter to Allegheny.

The first official meeting of the new generation and transmission cooperative was held in July 1946 with the first

order of business being to begin negotiating with private power companies to purchase power for the electric cooperatives at a discounted price. Within a year, the private power companies had agreed to a deal that would save Pennsylvania and New Jersey cooperatives (and ultimately, their members) about 20% of what they had been paying.

Working together, Allegheny and PREA soon hired their first full-time manager, who was asked to work with the General Assembly on territorial legislation that would prevent private power companies from taking over territory in rural areas that had been designated for cooperatives. It wasn't until 1974 that legislators eventually passed a bill that defined rural electric

MONEY-SAVING AGREEMENT: A 1966 agreement between Allegheny Electric Cooperative, Inc., and the New York Power Authority (NYPA) has saved member cooperatives an estimated \$414 million compared to the cost of buying power from other sources. The Niagara Power Project, below, is one of NYPA's hydroelectric projects.



cooperative territories and allowed electric cooperatives to continue serving the areas where they had been providing power.

One of the early actions by the Allegheny board continues to be financially beneficial today. In 1966, Allegheny entered into a long-term, low-cost power supply agreement with the Power Authority of the State of New York (now known as the New York Power Authority or NYPA). Since then, this agreement has saved Pennsylvania's member cooperatives an estimated \$414 million compared to the cost of buying power from other sources.

In a bid to control their own future, Allegheny researched a number of possible power supply sources and eventually purchased a 10% ownership of the Susquehanna Steam Election Station (SSES), a nuclear power plant near Berwick. Unit 1 of SSES began commercial operation in June 1983 while Unit 2 came on-line in February 1985. Today, the nuclear power plant provides approximately 60% of the annual power needs of Pennsylvania and New Jersey cooperatives. Now operated by Talen Energy Corporation, the facility set a generation record in 2019, sending 20,919 gigawatt-hours of electricity to the grid with no unplanned outages for either unit.

Allegheny also built a small hydroelectric project at Raystown Lake near Huntingdon, Pa. The hydroelectric project at Raystown Lake began com-

PHOTO PROVIDED BY TRI-COUNTY REC



RENEWABLE ENERGY: The 600th consumer-owned renewable energy project interconnected with Pennsylvania-New Jersey cooperative lines is owned by Andrew Harding, Gillet, a member of Tri-County Rural Electric Cooperative. The 24.1-kilowatt solar system was put into service in February 2020. Currently, more than 700 consumer-member-owned renewable energy projects have been interconnected with cooperative lines in cooperation with Allegheny Electric Cooperative, Inc.

mercial operations in 1988. In recent years, it has provided 2.5 to 3.5% of the cooperatives' power needs each year.

Energy initiatives

During the same time frame as SSES and the Raystown Hydroelectric Project were in the planning and construction stages, Allegheny was exploring other ways to provide affordable, reliable power to member cooperatives.

"Over the years, we've seen an increase in renewable sources of power and the deployment of smart meters, and have come to realize that the most cost-effective kilowatt-hour is the one that is never generated," Betley explains. "As a result, we've focused on the development of energy efficiency initiatives."

In 1983, a pilot project at three Pennsylvania electric cooperatives revealed direct control of home electric water heaters could be used as a way to smooth out peak periods of electric use to reduce monthly demand charges for cooperatives. Electricity is the most expensive during peak use periods, so curbing demand during those periods reduces costs for cooperatives (and thus the members).

This led to the launch of Allegheny's effort to manage electric loads during peak periods, known as the coordinated load management system, in 1986. Since then, this initiative, known by some members as "the water heater program," has resulted in a total savings to cooperatives of nearly \$155 million in avoided purchased power costs, and has been recognized as a model of energy efficiency and demand response innovation.

"The coordinated load management system works because cooperatives, which are member-owned, are focused on keeping power costs affordable for members, not maximizing profits," explains Todd Sallade, PREA/Allegheny vice president — power supply & engineering.

In more recent action, in 2006, Pennsylvania and New Jersey cooperatives began partnering with Allegheny to coordinate the interconnection of consumer-owned, renewable energy projects to cooperative lines. According to Sallade, as of the end of December 2020, more than 700 projects, including solar arrays, wind turbines, anaerobic digesters and one hydro facility,

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MANAGING THE LOAD: Allegheny staff members in Harrisburg work with local cooperatives to reduce the use of electricity during periods of peak demand, leading to lower costs for all cooperative members.

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have been interconnected with cooperative lines. The nameplate capacity of the projects is close to 10 megawatts.

To help offset a cooperative's costs in the interconnection process, funds from PREA's Renewable Energy Assistance Program (REAP) have been used for most of the projects. The program provides grants to electric cooperatives to cover various interconnection and transitional costs to help ensure that other cooperative consumer-members are not required to subsidize the installation of an individual cooperative member-owned renewable energy system. REAP grants are funded through the sale of renewable energy certificates produced by the Raystown Hydroelectric Project.

In an even more innovative energy-efficiency program in 2018, the cooperatives and Allegheny worked together to distribute nearly a million 60-watt-equivalent LED lightbulbs free to all cooperative members within the two states (four to each household and business). The philosophy behind

the distribution was that if cooperative members immediately switched out four incandescent lightbulbs and installed their four new LED lightbulbs, they would save energy. Lots of it. Allegheny staff estimated that if all members switched out the bulbs, each member would save more than \$500 over the life of the four bulbs. And just as importantly, widespread participation in the program continues to drive down costs for all members as power supply needs during peak demand periods fall with the substitution of the energy-efficient LED bulbs for older, energy-gobbling incandescent bulbs.

Coordination

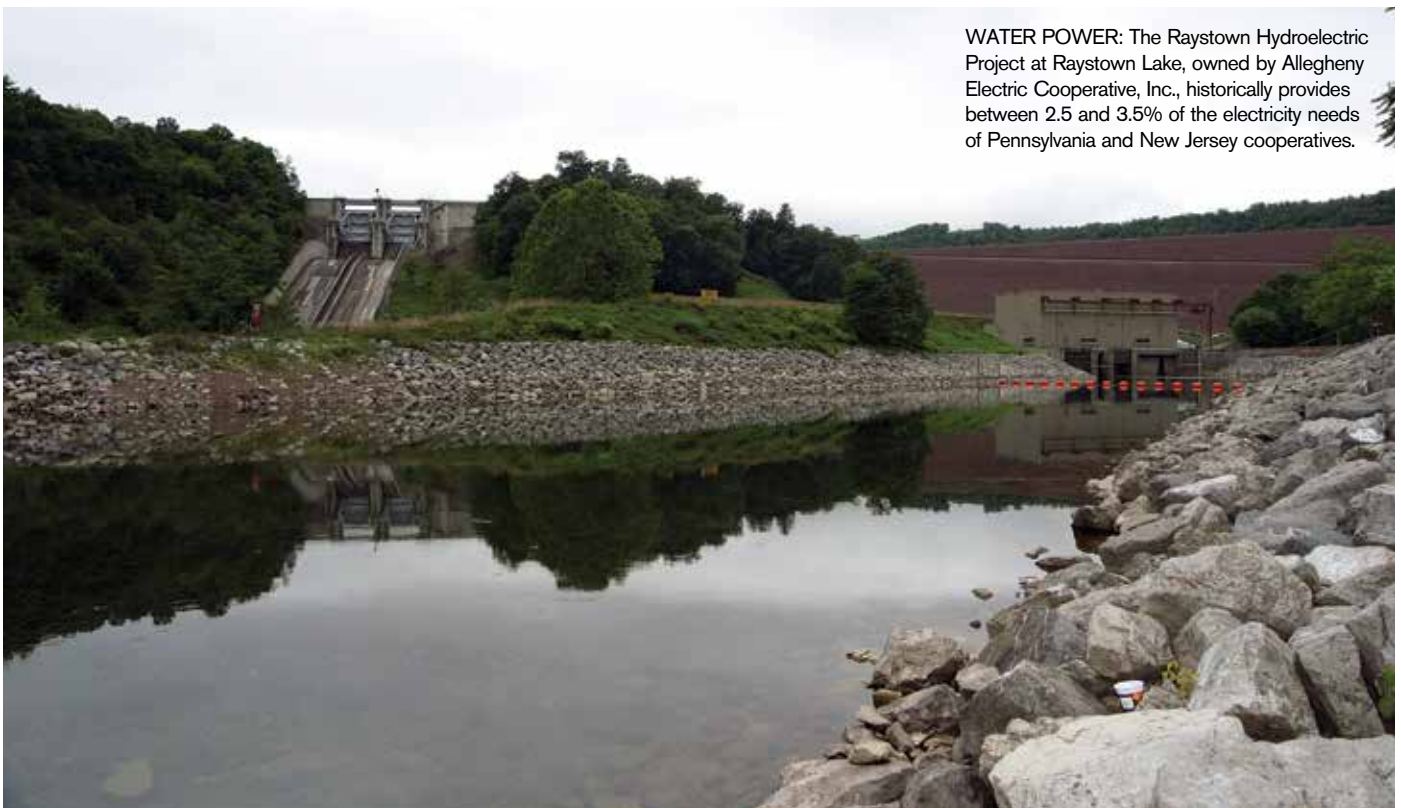
"All of these things working together is what makes the system run," Sallade notes. "From NYPA, the nuclear plant and Raystown, to the load management program and other, more-recent energy efficiency initiatives, the goal has been keeping costs down for cooperative members. And we've been largely successful. For many years, Allegheny's generation rates for consumer-members have been among the lowest and

most stable in the region."

Grove adds, "Working together with Allegheny has brought all of the co-ops closer. We share common goals, concerns, and challenges, and we work through them together, learning from each other. As we look to the future, I am certain local co-ops will continue to see the positive impact Allegheny has had. It remains strong and true to its original purpose of supplying electricity to local co-ops at a reasonable rate, and that benefits all cooperative consumer-members across the state."

Many things have changed in the power generation and transmission arenas over the past 75 years, but cooperatives have managed to thrive while other businesses have faltered and even failed.

"The energy industry can be volatile, and many companies have come and gone during the past 75 years," Betley observes. "But because of their member-driven focus and ability to adapt to changing conditions, cooperatives have demonstrated they have staying power. Cooperatives are built to last, and Allegheny looks forward to the next 75 years of serving its members." 🌞



WATER POWER: The Raystown Hydroelectric Project at Raystown Lake, owned by Allegheny Electric Cooperative, Inc., historically provides between 2.5 and 3.5% of the electricity needs of Pennsylvania and New Jersey cooperatives.