



ELECTRICITIES OF NC

2018 ANNUAL REPORT



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MESSAGE FROM THE CHAIR AND CEO



MAYOR VIVIAN A. JONES
Chair



ROY L. JONES
Chief Executive Officer



There is an old African proverb that speaks to the importance of community. “If you want to go quickly, go alone,” it says. “If you want to go far, go together.”

It is a powerful reminder that when we work together, we can achieve so much more. That is one reason that we continue to devote substantial resources to bringing together our public power communities in ways that allow us to learn from each other.

The ElectriCities annual conference has always served as a valuable opportunity for public power leaders to come together to discuss industry trends, emerging technologies, and how to overcome common challenges.

Annual surveys of residential and business customers represent another way our public power communities are working together. The research enables us to better understand our customers and their changing expectations — insightful data that is collected in several public power communities, then shared widely across our membership.

In 2018, we also began planning for a brand new ElectriCities event, the Connections Summit, that would provide our members with the opportunity to dive more deeply into the complexities of using new technologies to better connect with our customers. Providing real-world advice from industry experts and public power

communities who are ahead of the curve will remain a primary focus for ElectriCities in the years ahead.

Indeed, this annual report is designed to help our members learn from the success of others.

On the pages that follow, you will see the unique ways that Benson is working to recruit new lineworkers (Workforce Development, page 12), how Wake Forest is leveraging social media to better engage its customers (The Value of Public Power, page 8) and how a cost of service study is helping Gastonia better understand its costs (Wholesale Power Cost, page 16).

You will also learn about members who have embarked on bold initiatives, including Fayetteville’s ten-year investment in new technology (Continuous Improvement, page 24) and Albemarle’s five-year effort to map every single pole in its electric system (Grid Modernization, page 20).

We know that our customers expect a lot from us. And as public power providers, we are committed to meeting those high expectations.

We have two advantages that give us an edge. First, we’re local. We have an in-depth understanding of the communities where we live and can adapt quickly to changing circumstances. The other advantage: the power of community. Our willingness to work together and learn from each other enables us to go a long way toward reaching our goals.

*If you want to go quickly, go alone.
If you want to go far, go together.*

— African proverb

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WAKE FOREST, NORTH CAROLINA

THE VALUE OF PUBLIC POWER

There are a lot of advantages to living in a NC Public Power community, but not everyone recognizes them. In fact, some customers may not even realize their power is provided locally. How do we change that? By telling our story and sharing the value of public power.

Wake Forest Power utilizes social media to engage with their customers. Betty Pearce and Wake Forest Power Electric Supervisor Jason Shambley discuss solutions for a scheduled meter replacement posted via NextDoor, a neighborhood social media app.

LEARNING FROM WAKE FOREST'S SUCCESS

Wake Forest had a unique opportunity to showcase the value of public power in 2018. As host of the National Public Power Lineworkers Rodeo, hundreds of lineworkers from across the country came to Wake Forest on a sunny April morning to show off their skills.

The day-long festivities provided a behind-the-scenes look at the experience and expertise these lineworkers put to work every day in public power communities like Wake Forest.

"It was a great event. It allowed our customers to see how skilled these lineworkers really are, and how effectively, efficiently, and safely they do their job," said Bill Crabtree, communications director for the Town of Wake Forest.

Crabtree leveraged the power of social media to connect with the broader community. It's a strategy that Wake Forest frequently uses to promote the value of public power.

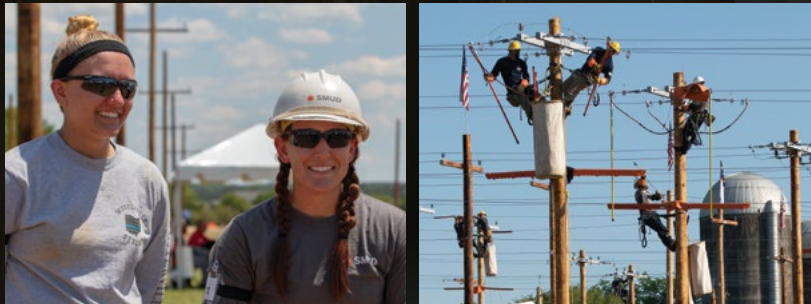
The town unveiled a dedicated Facebook page for Wake Forest Power during Public Power Week and frequently use it to provide updates on power outages, show progress on large

infrastructure projects, and promote community events. A series of short videos highlight the people of Wake Forest Power and emphasize the local aspect of public power.

NextDoor is another tool that has proven exceptionally popular with Wake Forest customers. The neighborhood app enables the town to reach specific groups of customers, which can sometimes pose a challenge in a community that has three electric utility providers.

Crabtree encourages other public power communities to experiment with Facebook and other social media tools to find out what works best in their communities. It's inexpensive and enables you to engage directly with your customers.

Another piece of advice — remember that actions sometimes speak louder than words. "On those rare occasions when we experience an outage, our crews are incredibly responsive, and they work to get the power back on as quickly as possible. That's probably the best way we communicate the value of public power."



Pictured from left to right: Donald Johnson and Jason Shambley test a meter; Betty Pearce checks for updates on the NextDoor app via a smart device.

◆ OUR SUPPORT

ElectriCities provides communications support and resources to help members spread the word about the value of public power, including materials to celebrate Public Power Week, social media campaigns, and a variety of promotional materials. It also consults with members as they develop their own events and campaigns to highlight the benefits of public power.

BENSON, NORTH CAROLINA

WORKFORCE DEVELOPMENT

Our workforce is changing. Employees with decades of public power experience are retiring in record numbers, and a new generation of utility workers must be recruited and trained. Providing competitive compensation and a clear career path are critical to attracting, developing, and retaining outstanding employees.

Glenn Core, Town of Benson Electric System Supervisor, leads a course on lineworker safety and key differences between various types of electric meters. Eddie Faircloth (left) and Garrett Johnson (right) are pictured in attendance.



LEARNING FROM BENSON'S SUCCESS

The shortage of skilled lineworkers is well known within the utility industry. North Carolina has an immediate need for nearly 1,800 electric lineworkers and about 1,500 more every year for the next decade. That demand is much less known by high school students who could fill those positions.

Benson Town Manager Matt Zapp is changing that with efforts to not only educate students, but also give them the training needed to become a lineworker. "Being a lineworker is an exceptional career," he says. "We have an opportunity to educate students about a good trade that requires limited training."

Benson launched the Johnston County High School Lineworker Academy in 2018. It attracted 14 students in its first year. To drum up interest, bucket trucks rolled up to 11 area schools to deliver an appealing pitch — a paid internship, a full-ride to a community college lineworker apprenticeship program, and a guaranteed job paying up to \$40,000 — less than a year after graduating high school. Students were offered free tickets to an all-day recruiting event at GALOT Motorsports Park, where Zapp hoped to attract thrill-seeking students who would be drawn to a high-thrill career as a lineworker.

The academy was also promoted through YouTube videos and on social media to reach students online. A website about the program — www.LineworkPays.com — drives home a key message about the high-paying, high-demand jobs. The effort is working, and Zapp hopes to see Benson's model duplicated in other public power communities. His advice: "Don't go it alone. It needs to be a collaborative effort."

Benson worked closely with ElectriCities, Johnston County Schools, and JCI to develop the lineworker academy. "It would have been impossible without the support of ElectriCities," Zapp says, "but it's a 'boots-on-the-ground' effort. It takes everyone to share the message and recruit new workers."



◆ OUR SUPPORT

ElectriCities works with NC Public Power communities to establish career development programs and provide assistance with compensation studies. A host of training programs are available through ElectriCities, including safety training, leadership training, and lineworker training programs.

In addition, ElectriCities is actively promoting energy careers to students and working in partnership with other utilities to address workforce challenges.



Pictured from left to right: Marc Denning instructs Garrett Johnson; Eddie Faircloth reviews a training manual.

GASTONIA, NORTH CAROLINA

3 WHOLESALE POWER COST

Securing a safe, reliable, and affordable power supply is the foundation of everything we do. It enables NC Public Power providers to effectively serve our customers, attract new businesses, and power our communities.

Lineworker Scott Nichols replaces traditional street lights on E. Main Street in downtown Gastonia with LEDs, which use significantly less energy.

LEARNING FROM GASTONIA'S SUCCESS

For Gastonia, the challenge of managing wholesale power costs begins with research. The city worked with ElectriCities to conduct a comprehensive “cost of service” study in 2016 — providing valuable data that served as the foundation for a five-year program to gradually adjust rates.

“When we started, we didn’t fully understand our costs,” said Gary Lutz, a power systems engineer and rate specialist for Gastonia. “The study showed that we were collecting the right amount of revenue, but there was a better way for us to allocate our costs.”

Gastonia’s five-year plan involved lowering the amount it charged per kilowatt/hour and making small increases to its basic facilities charge. While most customers didn’t notice much difference in their bills, the minor changes provide a better structure for the city moving forward.

Next, the city will start looking at how it can restructure rates to encourage conservation.

Gastonia is already making changes to lower its own energy usage, replacing street lights with LEDs that use significantly less energy. The city offers free energy audits for customers looking to lower their own energy use.

When its current five-year plan is complete, Gastonia will conduct another cost of service study to see if any additional adjustments are needed. And Lutz encourages other public power communities to do the same.

“You can’t set any kinds of rates until you know what your costs are,” he says. “If you need to adjust rates, implement the changes gradually to avoid surprises.”

His other recommendation: lean on ElectriCities for support. “We would have been walking in the dark without their help.”



Pictured from left to right: Scott Nichols, Darby Carithers, and Gary Lutz of the City of Gastonia prepare LED lights for installation.



❖ OUR SUPPORT

ElectriCities is committed to providing a stable, affordable wholesale power supply for NC Public Power communities through the North Carolina Eastern Municipal Power Agency and North Carolina Municipal Power Agency Number 1. ElectriCities provides support to members by consulting on rate issues, conducting energy audits in public power communities across the state, and educating customers about ways to improve energy efficiency.



Above: Gary Lutz enters Gastonia City Hall where LEDs have recently been installed.
Left: Scott Nichols completes LED streetlight installation.

ALBEMARLE, NORTH CAROLINA

4 GRID MODERNIZATION

Our nation's electric grid is one of the largest and most reliable in the world. More than 600,000 miles of transmission lines safely deliver energy to millions of homes and businesses. With our electric system being asked to do more than ever before, we must continue to invest in infrastructure improvements and new technologies that will keep our electric system reliable and efficient.



City of Albemarle employees Eric Wenzel (left) and Eric Howell (right) utilize technology to implement GIS mapping of the community's electric poles, a five-year project that began in 2016.

LEARNING FROM ALBEMARLE'S SUCCESS

It takes nearly 20,000 electric poles, connecting lines that stretch for 370 miles, to deliver power to Albemarle's 12,000 customers. Soon, the city will have a detailed online map containing a bevy of information about every single pole in its system.

Albemarle embarked on the ambitious effort to conduct GIS mapping of its electric poles in 2016. The five-year project involves inspecting each pole, taking a photograph, and uploading data about the pole's location and other relevant information.

"It's amazing how much data is at your fingertips. You can pull up our system map, look at a specific address, and immediately see what's on every pole," says Eric Howell, who helped spearhead the city's GIS mapping efforts.

"We use the map every single day. Before we send out a crew, we show them exactly what kind of poles they are dealing with and tell them what to expect."

Albemarle has already completed the process for about two-thirds of the system. It has data on more than 13,000 poles; the remaining 7,000 poles will be mapped over the next 18 months.

Eventually, the data will be integrated with Albemarle's SCADA system and will provide immediate alerts whenever a pole loses power. "That will help us pinpoint outages and give us the data we need to restore power more quickly," Howell says.

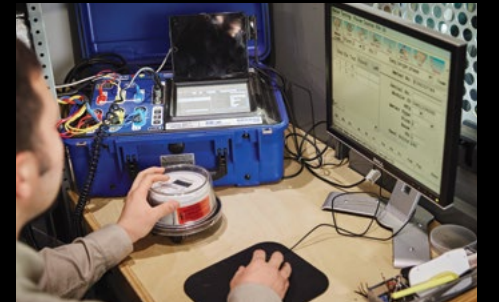


City of Albemarle employee Dennis Corlee operates the SCADA system in their operations center.



❖ OUR SUPPORT

ElectriCities regularly advises NC Public Power communities on infrastructure improvements and keeps members abreast of emerging technologies — from smart meters to SCADA solutions — that can improve operations, increase efficiencies, and enhance customer service.



Pictured from left to right: Joshua Herring scans a meter for testing which Brian Bowers will install at a customer location.

An aerial photograph of an electrical substation. In the upper left, a white utility truck with a bucket lift is parked on a gravel surface. A worker in a blue uniform and white hard hat is in the bucket, working on a high-voltage line. Another worker in a blue uniform and white hard hat stands on the ground near the truck. In the center, a worker in a blue uniform and white hard hat is working on a high-voltage line. To the right, a large, white, rectangular electrical transformer is visible, with several workers in white uniforms and white hard hats standing around it. The substation is surrounded by a concrete wall and a gravel area.

FAYETTEVILLE, NORTH CAROLINA

5 CONTINUOUS IMPROVEMENT

Being successful means always looking for ways to improve. For NC Public Power communities, that means embracing new technologies and adopting new processes to meet changing customer expectations.

Continuous improvement is always top of mind for the Fayetteville Public Works Commission (PWC). Below, PWC lineworkers implement upgrades to the electric infrastructure which helps to maintain exceptional reliability.

FAYETTEVILLE, NORTH CAROLINA

LEARNING FROM FAYETTEVILLE'S SUCCESS

As CEO/General Manager of the Fayetteville Public Works Commission, the state's largest public power provider, David Trego knows that maintaining the status quo is not an option.

"Today's excellence is tomorrow's expectation," he says. "If you don't constantly improve, people are going to pass you by."

Nearly ten years ago, PWC embarked on a major initiative to upgrade its technology. It was a complex project that involved multiple phases — each one enabling the utility to take another step forward. It began with new billing and accounting systems that could better manage data.

With that backbone in place, PWC began installing smart meters. It took five years to install 183,445 new electric and water meters, a massive undertaking that has significantly reduced vehicle costs and overtime hours for meter operators.

With smart meters fully deployed, PWC is now preparing to launch "time and use" rates. It represents the last step in a long journey.

Even though the final piece isn't yet complete, Trego is already working to leverage the investments PWC has made. That includes putting additional sensors in smart meters to identify water leaks and pressure issues, as well as installing

a new outage management system that can take advantage of data collected from smart meters.

At PWC, continuous improvement also means encouraging employee training and upgrading its electric infrastructure to maintain excellent reliability. Trego proudly notes that investments in training have increased every year since he arrived in 2015.

"The industry is changing, and we need our employees to stay knowledgeable so they can better serve our customers," he says. "We try to foster an environment where employees want to be better at their current jobs and prepare themselves to take on additional responsibilities down the road."

Trego encourages public power communities to get involved with organizations like the American Public Power Association (APPA) and ElectriCities to understand best practices in the industry. Smaller communities, he says, may find what was considered "cutting edge" technology only a short while ago is now much more affordable.

And he extends the following invitation: "Come to PWC and see what we are doing. Come here and learn from us. See how this technology works so you can make your systems better."

❖ OUR SUPPORT

ElectriCities regularly shares information about emerging issues and new technologies that can help public power communities improve their operations. In addition, ElectriCities consults with utility directors and connects public power providers to share best practices and innovative ideas.



Pictured from left to right: PWC lineworker Marshall Jackson tests a transformer; Electric substation technicians Dalton McCown and Cody Watson inspect a substation control panel; and Dalton McCown tests connections.



The energy behind public power

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