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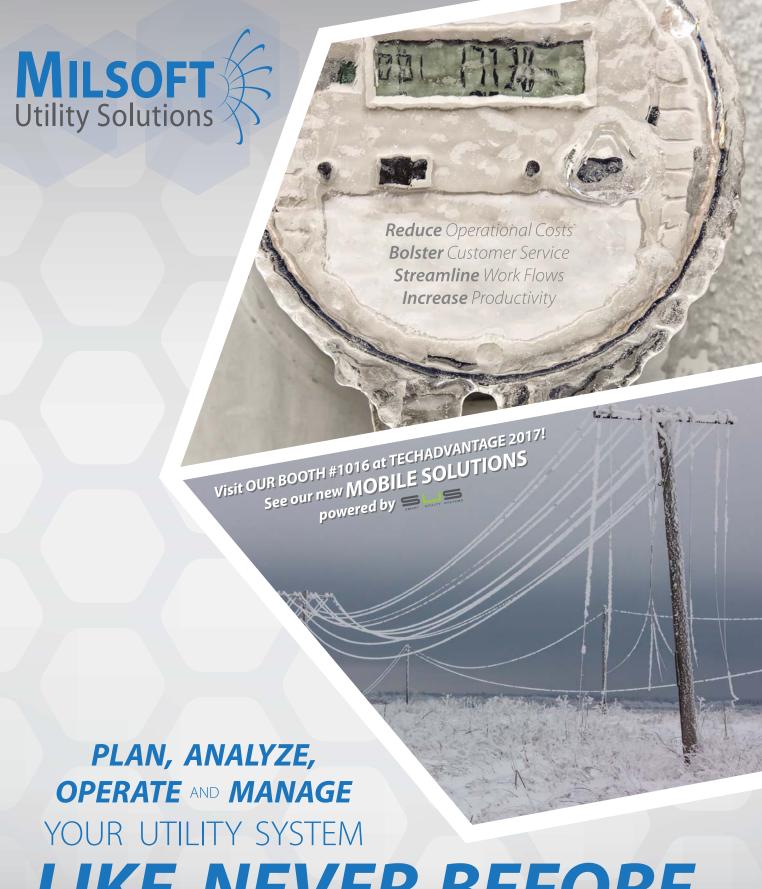
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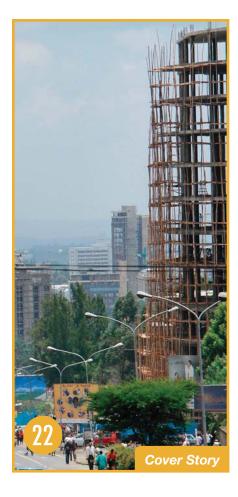
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VOLUME 75 • NUMBER 5

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WHAT'S NEW ONLINE?

NRECA International has launched a brand new website. Visit nrecainternational.coop for news, information, and details on how to get involved.



HAITI NEEDS OUR HELP

Join NRECA International in helping to restore power and rebuild the community in Coteaux, Hailt, following Hurricane Matthew's devastation. Our relief fund will assist CEAC, an electric co-op that serves 1,200 members in that region.



Technology's Hard Finding a Technology Partner Shouldn't Be.

That's why we exist – to help you leverage today's evolving technology in smart grid, smart communications, advanced analytics and advanced energy. That starts with listening to you, developing a customized solution to address your needs and supporting you from evaluation through implementation and beyond.



THE LEGENDARY WIT OF J.C. BROWN

BY FRANK K. GALLANT



J.C. Brown (right) with Paul Wesslund

Every organization has its colorful characters, men and women who are still talked about years after they have retired. NRECA's J.C. Brown, editor of RE Magazine and the old Rural Electric NEWS Letter from 1973 to 1993, was just such a character.

A high-wattage intellect, an absurd sense of humor, and a big heart combined to produce his colorful personality. A talent for editorial column writing spread his legend around the electric co-op community and beyond.

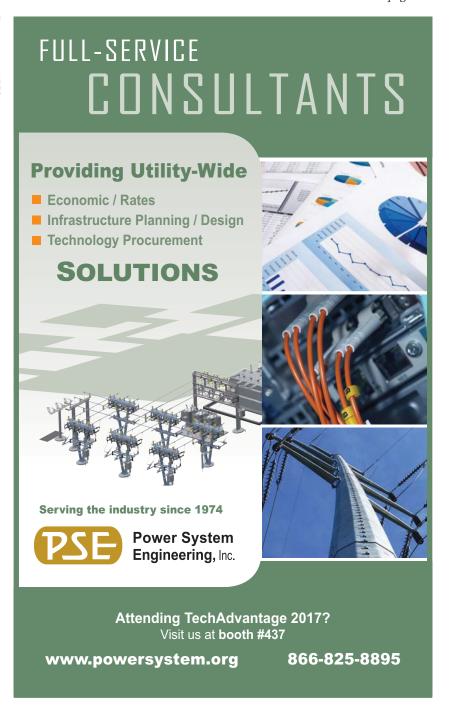
After Brown shut off his electric typewriter for the last time, NRECA collected the best of the "Conversation Pieces" he wrote for the NEWS Letter in a volume titled Twenty Years of Wit and Wisdom.

In the book's 32 columns, Brown writes about the Rural Electrification Administration (REA), electric co-ops, and Washington politics and media, of course, but he also gives baseball, a 1988 flu epidemic, scam artists, the Eagle No. 2 pencil of his school days, and small town milkmen their due. One column is titled, "Dear SOB."

The proof that REA was a successful federal agency, he wrote in an April 1990 column, was that "you and I can go to almost any inhabited place in the United States and find reliable electric service at a reasonable cost, settle down and do business, or

just relax and watch TV." On November 18, 1988, he observed, "Government is a bother, and bureaucrats are often, well, bureaucratic..."

continued on page 128



COMMENTARY POLITICS AND POLICY AFFECTING NRECA MEMBERS

JIM MATHESON, CEO

ast month, the Department of LEnergy (DOE) released the second installment of its Quadrennial Energy

This review was broken into installments that examined different sectors of the national energy system. The first was published in April of 2015 and looked broadly at the transmission, storage, and distribution systems for all

forms of energy. The most recent takes a closer look at our electricity system.

As you might imagine with a comprehensive document containing 76 recommendations spanning nearly 500 pages, there are some ideas we enthusiastically



consolidating the perspectives and unique needs of electric cooperatives.

The fruits of those significant efforts can be seen throughout the report.

Roanoke Electric Cooperative and Alaska Village Electric Cooperative are both recognized for their leadership on home energy efficiency and microgrids, respectively.

> It's great to see our cooperatives mentioned by name, but it's even nicer to see our ideas woven into the fabric of such an important document.

In the weeks and months ahead, we will digest the full report and develop a strategy



It remains to be seen what the new Administration and Congress will do with these recommendations, but we believe a safe, reliable, modern, and secure energy system is a concept that transcends party lines.

support and others that give us pause.

Perhaps the most exciting outcome is DOE's recognition of the environmental benefits of electricity as an energy source for vehicles, heating, and other end uses that currently rely on other energy sources.

The report also draws attention to the vital role the electric grid plays in our national security and the urgent need to improve broadband infrastructure in rural America.

As important as these findings are, the process that led to this document offers us an equally important lesson in the value of advocacy. Over the past year, more than a dozen CEOs and senior staff representing distribution co-ops and G&Ts from across the country participated in nine forums and workshops hosted by the DOE.

In addition, NRECA staff was engaged throughout the process, meeting with regulators, testifying at hearings, and submitting nearly 100 pages of formal written comments

to promote the recommendations we support and encourage refinements to recommendations that don't align with our policy positions.

It remains to be seen what the new Administration and Congress will do with these recommendations, but we believe a safe, reliable, modern, and secure energy system is a concept that transcends party lines.

No matter how they decide to tackle these important issues, we will continue to take a proactive, constructive, and non-partisan approach to advancing our positions.

The Quadrennial Energy Review proves yet again that policymakers in Washington are eager to listen to our ideas and respect our industry leadership.

I look forward to working with you to build upon this momentum and advocate for a modern energy system that ensures a prosperous, secure future for the communities we serve and the nation as a whole. RE



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FITCH: PRESSURE TO CUT CARBON WILL REMAIN

Even if the Clean Power Plan (CPP) goes away, the pressure on electric cooperatives and public power utilities to reduce carbon emissions will remain, Fitch Ratings says.

In a December 2016 analysis, Fitch cited increased uncertainty about the fate of the plan following the election of Donald Trump as president. Trump vowed to repeal the regulations, which seek to cut greenhouse gas emissions from coal plants by 32 percent by 2030.

Fitch said factors such as alternative federal regulations, policies that reduce investment in coal plants, and state environmental requirements "will keep the spotlight on carbon emissions in the coming years and affect utilities' resource planning, whether the CPP is repealed or not."

Additionally, co-ops and public power utilities will have to consider the massive growth in distributed generation, which also has the effect of reducing emissions by bringing more solar energy into play. Fitch called that "an increasing long-term threat to the traditional utility model" as the falling cost of solar panels, tax breaks, and customer preferences lead to more distributed generation.

Despite questions about carbon emissions and distributed generation, Fitch gave the sector a "stable" rating going into 2017.

While expectations of higher interest rates and fuel prices do not pose a significant risk, rising costs could limit the ability to increase rates and eventually influence ratings, it said.

"Independent rate-setting authority, the essentiality of electric service and reliable cash flows, should support the public power and electric cooperative sector's fiscal foundation in the year ahead, despite the uncertainty surrounding the incoming administration," says Dennis Pidherny, managing director and head of public power at Fitch.

-By Steven Johnson





A RATE CUT THAT KEEPS ON PAYING

Members of Pahrump, Nev.-based Valley Electric Association (VEA) got a bonus on January 1 that will keep on paying: the rollback of a 9.9 percent rate increase that went into effect last July 1 and a forecast of rate stability for the next 10 years. That's on top of a one-time cash payment of \$579 for every member.

The rollback is the result of the sale of a 230-kilovolt transmission line to GridLiance for \$200.6 million, 2.4 times the net book value and \$110.6 million above what it cost the co-op to build the line.

The sale required a two-thirds majority vote of the membership and must be approved by both the Federal Energy Regulatory Commission and the California Independent System Operator, expected early this year.

VEA board President John Mauer described the lengthy negotiation with GridLiance and regulators as "truly a monumental, once-in-a-lifetime event."

CEO Tom Husted says VEA forged "a partnership with one of the country's foremost transmission companies. That's the way GridLiance looks at it too: forming a relationship with our cooperative as they enter the Western markets. There are no downsides to this partnership."

Under the agreement with GridLiance, the co-op will continue to operate and maintain the line. No jobs will be lost. In fact, VEA expects to add jobs as GridLiance expands the local transmission system to serve renewable energy loads.



BAD YEAR FOR COAL

R egardless of where you come down on the fossil fuel issue, the fact of the matter is that coal had a terrible 2015.

According to the Energy Information Administration (EIA), U.S. production dropped more than 10 percent in 2015 to 897 million short tons, the lowest level since 1986, while consumption by electric utilities and other industries fell by 13 percent.

Production was down in all three coal-producing regions of the U.S.—Appalachia, the Midwest, and the West—and this cost thousands of coal miners their jobs. Employment fell by 12 percent to 66,000, "the lowest level since EIA began collecting coal mining employment data in 1978," the federal agency said.

West Virginia and Kentucky had the most job losses, with 2,840 (16 percent) and 2,013 (19 percent), respectively.

Coal's downward trend continued late into 2016. As of October 29, year-to-date coal production was down 20 percent from 2015.

U.S. LAGS IN BROADBAND

The best states for fast Internet service are California, Delaware, Missouri, New Jersey, Washington, and New York, where, according to Broadband Now, the average download speed is 38 mbps or higher.

But the group says the U.S. trails many other nations when it comes to broadband penetration and access speeds.

"We still have 874,222 Americans without access to any broadband [3 mbps or higher] connection, even wireless," says Broadband Now's Nick Reese.

Broadband Now (**broadbandnow.com**) calls itself a champion for the consumer against the confusing world of broadband technology and the hundreds of providers across the country. A particular concern is the underserved areas of the country, where many electric co-ops do business.

"One of our primary goals is to bring attention to underserved areas to help raise awareness and foster competition," Reese says.

On BroadbandNow.com, consumers can compare local providers by entering their ZIP code. For example, enter 66952, the ZIP code for Lebanon, Kan., and two providers pop up: Nex-Tech, both fiber and fixed wireless, and Great Plains Communications, DSL. Beside each company are four columns, for customer rating, availability, fastest speed, and lowest pricing, where a button takes the viewer to all prices and plans.

Running down the lefthand side of the page are facts about broadband in the state and region, including that Kansas has 172 Internet providers, and 79.9 percent of the population has access to speeds of 100 mbps or faster.

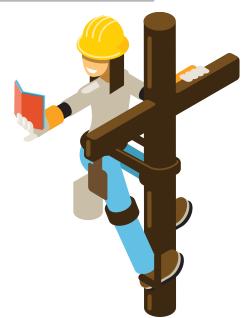
GIRL, GET YOUR HARDHAT!

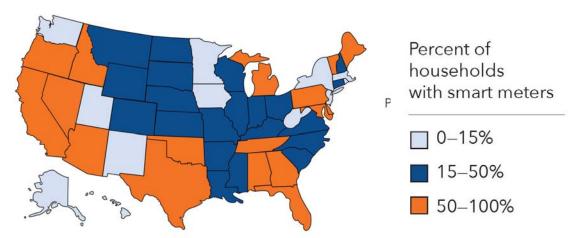
Massau Community College is "looking for a few good women."
The Long Island, N.Y., school has launched a new program, Utility
Readiness for Gaining Employment for Non-Traditionals: Women, or URGENT, to help women land career-path jobs in the electric utility industry.

According to *Newsday*, the program will provide participants with more than 130 hours of free classroom training, workshops, and access to recruiters from PSEG Long Island, National Grid, and other utilities.

ConEdison, another New York utility, boasts on its website that women already "work above ground in bucket trucks, below ground in manholes, and everywhere in between. Whether they are general utility workers repairing electric cables, mechanics keeping our gas system safe, engineers developing cutting-edge new technologies, or control center operators keeping the lights on, we are proud of the talented, strong, and powerful women who fill our ranks."

Nationally, about 2 percent of utility lineworkers are women.





MAKING THE GRID SMARTER

By the end of 2015, American utilities had installed 65 million smart meters comprising 50 percent of U.S. households, according to a new report from the Edison Foundation Institute for Electric Innovation (IEI), Electric Company Smart Meter Deployments: Foundation for a Smarter Grid.

The total is projected to rise to 90 million by 2020, up from 7 million in 2007. More than 30 of the largest utilities have already deployed a smart meter at every household and business they serve.

"Electric companies across the U.S. are leveraging smart meter data to better monitor the health of the energy grid, more quickly restore electric service when outages occur, integrate distributed energy resources, deliver energy information to customers, and provide smart pricing options to customers," the report says.

A chart in the 18-page study shows that co-ops and municipal utilities had 16,102,000 of the 65,572,000 smart meters installed by 2015, and they would add another 5,709,000 by 2020.

IEI says it based the study on a 2015 survey of 48 utilities accounting for roughly 29 million of the 65.6 million installed smart meters, as well as data collected by the federal Energy Information Administration.



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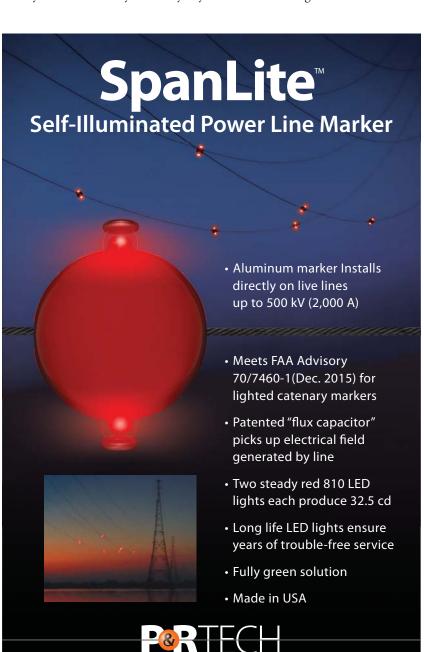
SPREADING GOODWILL (AND DOLLARS) AROUND

Like many of its peers, Illinois's Adams Electric Cooperative rounds up participating members' electric bills each month and uses the money—50 cents per bill on average—to make "Penny Power" grants to local organizations. Since 2005, \$387,965 has been awarded.

What stands out is the small size of the awards. The Camp Point distribution system really knows how to spread goodwill around.

Last year Adams Electric made 88 grants totaling \$35,668.57. The smallest grant was for \$100 (there were two); the largest, \$1,000 (also two).

One of the \$100 grants paid for a subscription to *Music Express Magazine* for Seymour Elementary in nearby Payson. The other bought reusable water



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bottles for the Midsummer Arts Faire in Quincy.

One of the \$1,000 grants went toward the cost of building a shelter in a park in Quincy. The other paid part of the cost for improving the drainage system at the Adams County Fairgrounds in Mendon.

Bill Stalder, the co-op's manager of marketing and member services, has been responsible for the Penny Power program since its inception. A six-member review committee—three from the Member Advisory Committee and three staff members—consider the grant applications.

Stalder says he remembers some \$4,000 and \$5,000 grants early on, before the program became well known and applications flooded in each quarter. General Manager Jim Thompson says he likes to see the money spread out among the service territory and contributing to the success of many organizations. The smaller increments allow the co-op to have a larger impact.

"We've always said that we don't want to be the sole source of funding," Stalder says. "The majority of our grants are partials, seed money for a project, or the money that puts the project over the top." **RE**



CHALLENGE YOUR THINKING

TO MOVE FORWARD, SOMETIMES YOU HAVE TO BE WILLING TO CHANGE YOUR MIND BY ADAM SCHWARTZ

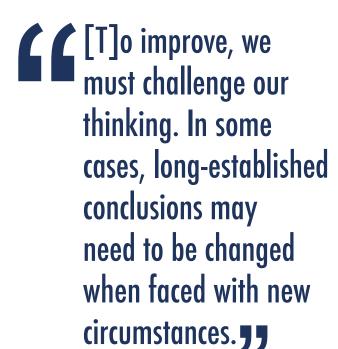


In January, I wrote about co-ops adapting to change by finding a way to say "Yes" to their members. This month, I'll show what saying "Yes" actually looks like.

Each of us knows that to improve, we must challenge our thinking. In some cases, long-established conclusions may need to be changed when faced with new circumstances

I've started asking a question at my trainings: "Are you willing to change your mind when new information is presented?" The question, which is applicable to all co-op employees, elicits interesting responses. I tell students that during times of change, a willingness to adapt may be a co-op's most valuable asset.

Co-op scholar Brett Fairbairn, from the Centre for the Study of Co-operatives at the University of Saskatchewan, has said, "Cooperatives are highly adaptable, complex institutions." I agree, but with one caveat. Co-ops *can be* highly adaptable, but they have to *choose* that direction and attitude.





Discussion Continues Online

See the weekly *RE Magazine* newsletters or visit us at REmagazine.coop for information about Adam's February online discussion.

Fairbairn says co-ops must do at least two things to increase their long-term viability:

- Stay current with industry trends and direction.
- Never lose the connection with members.

I suggest there's a third key action: Empower your employees.

This is where challenging our thinking comes into play. Historically, electric co-ops have tended to be very top-down organizations. But in today's utility environment, this structure can be detrimental, stifling innovation and leaving unsaid many good ideas that could help a co-op progress and meet its members' needs.

Some co-ops are doing innovative things in this area. Sean Vanslyke, CEO at SEMO Electric Cooperative in Sikeston, Mo., has embraced employee-centric policies, bringing non-managers into the boardroom to discuss what they see at their level; sending staff for training and having them report lessons learned; and putting multiple employees through NRECA's executive training program.

At Poudre Valley REA in Fort Collins, Colo., CEO Jeff Wadsworth and I developed an employee-centered program to promote the cooperative business model. A dozen employees at all levels of the organization met every six weeks for eight months to discuss ways to demonstrate how the co-op lives up to the cooperative principles. The ideas are presented to the executive team for consideration and implementation. Next month, we will kick off round two with 12 different employees.

I'm convinced that co-op leaders who are willing to challenge their own cultures and ideas will be better positioned to lead as the electric utility industry evolves. It boils down to a simple formula: try new things; learn lessons; work to improve. **RE**

Adam Schwartz is the founder of The Cooperative Way, a consulting firm that helps co-ops succeed. He is an author, consultant, educator, speaker, and member-owner of the CDS Consulting Co-op. You can follow him on Twitter @ adamcooperative or e-mail him at aschwartz@thecooperative way.coop.



Bringing the IoT to Rural America

Randolph Wheatley VP of Communications Solutions Marketing, Sensus

If there's one pervasive characteristic among our nation's rural electric cooperatives, it's this: progress. From 1935, when President Franklin Roosevelt helped establish the Rural Electrification Administration (REA) to 2017, generations of rural residents have witnessed massive changes that electricity, ingenuity and technology have brought to their farms and front porches.

Today, the Internet of Things (IoT), which allows devices to communicate directly with each other, delivers a wealth of benefits that will once again significantly change the way electric cooperatives serve their communities.

The Right Time for the Right Network

What is the best way to capture the benefits of IoT? It all starts with the right network. While power line communication (PLC) networks have been in use for some time, their efficacy is limited to automated meter reading (AMR). Mesh networks have proven viable in urban settings, but they're an expensive proposition that requires significant infrastructure and blended technology to cover rural areas. More to the point, we've moved beyond metering to new, intelligent sensors that require a more robust communication vehicle: a long-range radio (LRR) network.

These smart sensors, which cooperatives can place virtually anywhere, are driving the adoption of IoT. IHS forecasts that the smart grid sensor market, on its own, will account for 75 percent of the total

sensor market by 2021. (Deans 2015) The core mission of these sensors is to collect and share data that helps deliver greater operational efficiency and customer satisfaction through analytics.

With a long-range radio network backbone, IoT can be the next game changer for electric cooperatives.

- Infrastructure and cost: LRR networks can cover up to 50 miles between base stations, depending on the vendor. The technology typically covers the same area as low-power solutions at 10 percent of the infrastructure cost. (Engerati 2015)
- Installation: LRR relies on hardened, enclosed base transceiver stations (BTS) that typically mount on substations or communication towers, instead of telephone poles. One of the benefits is that in the event of a major storm, staff can focus on power restoration rather than worry about the network infrastructure.
- Bandwidth: PLC uses potential transformer (PT) meters, which have high impedances and can introduce noise signals. Mesh can be used in more populated areas, but cannot economically provide the same level of service or redundancy in rural locations. LRR, however, offers secure, licensed bandwidth that ensures transmission speeds of up to 300 kbps. This is an important consideration given that most electric meters are read up to four times per hour, and IoT is expected to increase network traffic exponentially.
- Firmware upgrades: It is not possible to effectively download firmware to end points



with a PLC system. Over-the-air (OTA) firmware upgrades are possible—and easy—with long-range radio networks. Faster upgrades equal better customer service and less downtime.

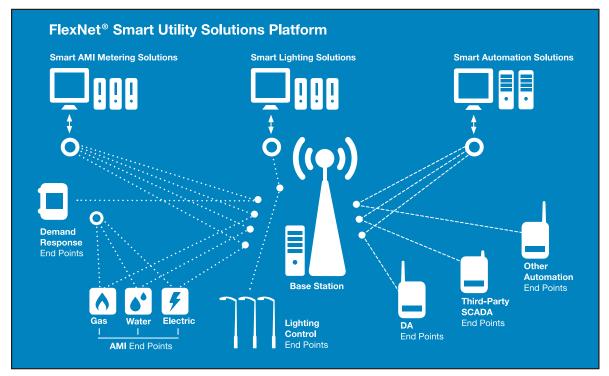
- Security: Hacking concerns continue to proliferate across the IoT ecosystem. LRR employs AES-256-bit encryption and supports password complexity. Rest assured that your co-op can confidently control who has access to the grid and who doesn't.
- Real-time restoration: In rural settings, travel times during restoration efforts can be long. LRR provides real-time outage and

restoration information—without looking through a windshield.

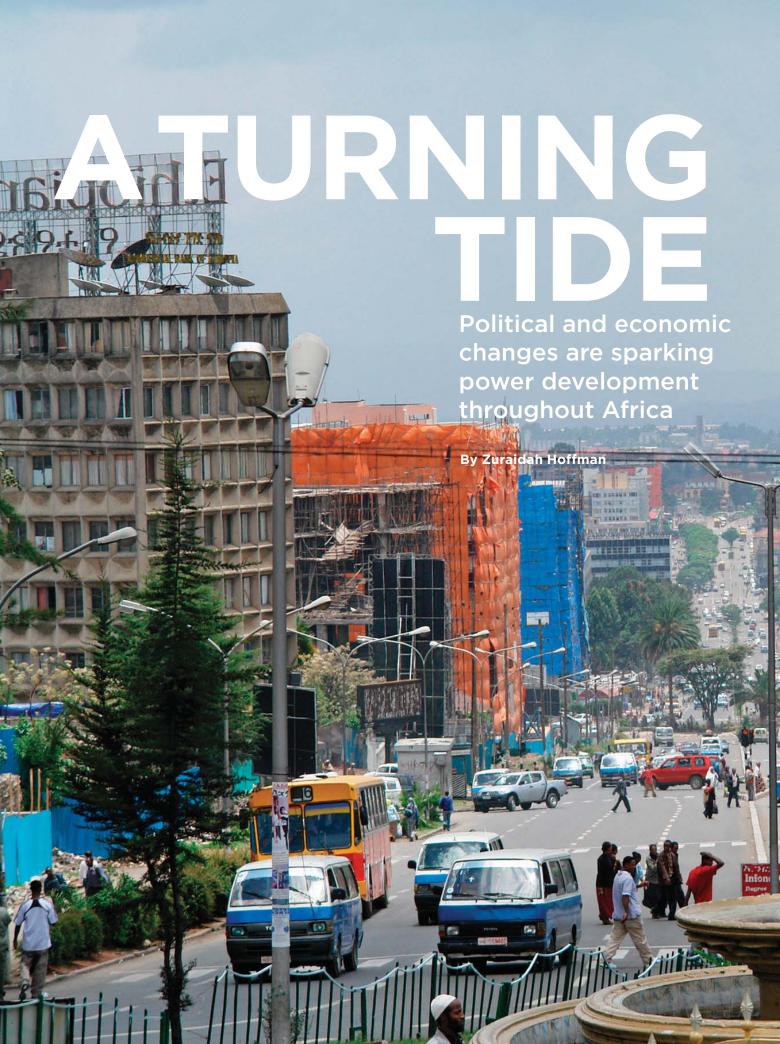
LRR technology will usher in the newest chapter in our nation's rural electric cooperatives. The distribution system will be more reliable. The data will be more secure. And the legacy will live on.

President Roosevelt would have been proud.

Learn more at sensus.com and follow @SensusGlobal on Facebook, LinkedIn, Twitter and Instagram.



With the right communication network, the Internet of Things (IoT) can deliver a wealth of benefits that will change the way electric cooperatives serve their communities.







It's a stark turnaround for a nation that, in the mid-1980s, lost half a million people to famine and whose progress has for decades been hampered by animosity with its neighbors and internal political instability.

A government plan to make Ethiopia a middle-income country by 2025 and massive state-funded infrastructure and development projects are credited with sparking the recent progress. One of the country's most ambitious initiatives is a goal of achieving 100 percent access to electricity by 2030, and the government has hired NRECA International to provide its national electrification plan. Currently, only 23 percent of the country's 100 million people are connected.

"There has been progress, and the electrification program is now focused on connecting households and businesses instead of just public facilities," says Dan Waddle, senior vice president for NRECA International. "Like many countries in the region, the government of Ethiopia has begun

to engage a more aggressive off-grid approach, one that will be needed to reach the more remote regions of the country."

Waddle says Ethiopia's focus on electrification and other infrastructure is part of a turning tide in Africa, where an increasing number of leaders are seeing the connection between bringing power and economic productivity beyond population centers to the countryside.

"Past electrification efforts throughout Africa would inevitably fall short or stall for lack of financing and political will," Waddle says. "Now, we're seeing the emergence of strong leadership in several African countries where there is increasing understanding of the widespread economic benefits of universal access."

Waddle says the positive developments have spurred NRECA International, which has helped bring electricity to more than 120 million people in 43 developing countries, to bolster its work with partners throughout Africa.

SE4ALL AND POWER AFRICA



cornerstone of electrification Aefforts in Africa and throughout the developing world is the United Nations' Sustainable Energy for All (SE4All) initiative. Begun in 2011, its goal is to extend modern energy services by 2030 to the 1.6 billion people on Earth without access to power.

More than 100 donor countries have signed on to SE4All, providing financial or in-kind contributions or working on tailored national strategies and investment plans.

"Energy is the golden thread that connects economic growth, increased social equity, and an environment that allows the world to thrive," said

then-U.N. Secretary-General Ban Ki-Moon at the initiative's launch.

The program has helped spark electrification efforts in dozens of countries. But a U.N. progress report in 2015 found that while there have been notable advances in South Asia, work to increase access in Africa has struggled to keep pace with population growth. About 600 million people in sub-Saharan Africa are still

without power, the report notes.

A majority of the 44 SE4All recipient countries in Africa have completed assessments of their energy sectors and identified challenges to achieving the 2030 goals. More than half have defined strategies to overcome those barriers and to finance rapid electrification programs.

"SE4All laid the groundwork for countries to take stock of what steps they need to take to achieve universal access," Waddle says. "Many partnerships have formed and important discussions have taken place to create the frameworks needed to move forward."

Power Africa is the flagship U.S. government-led energy initiative created in 2013 with the goal of doubling access to electricity in sub-Saharan Africa by 2030. The

A 50-YEAR PARTNERSHIP

THE WORK OF NRECA AND USAID STANDS THE TEST OF TIME

The U.S. Agency for International Development (USAID) was barely a year old on November 3, 1961, when NRECA won its first contract to bring the cooperative model to overseas electrification work.

The contract-signing ceremony was to have been at the State Department, but President John F. Kennedy personally requested that the venue be moved to the Oval Office.

"It seems to me that contract holds special promise for those countries which have realized only a small fraction of their energy potential," Kennedy said at the time. "I express the hope of all that the results of the contract will be an improved standard of living for millions of people."

It was the beginning of a partnership that would result in the establishment of some of the most successful rural electrification programs in developing economies,

impacting tens of millions of small businesses and households around the world. Three of these programs included the Philippines National Electrification Administration (NEA) the Bangladesh Rural Electrification Board; and creation of the Cooperativa Rural de Electrificacion (CRE) in Santa Cruz, Bolivia.

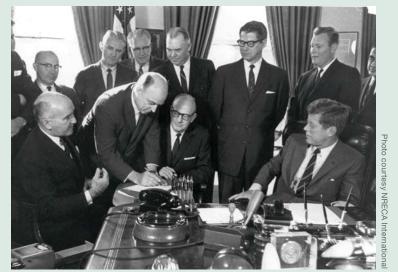
In 1968, NRECA International designed three pilot rural electric cooperatives in the Philippines in a program financed by USAID. The success of the program led to the creation of

the NEA that, with NRECA assistance, has helped create 119 electric co-ops serving more than 50 million people in 36,000 rural villages and towns throughout the archipelago.

In Bangladesh, more than 85 million rural residents now have access to electricity. Progress began in 1977 with a USAID-funded electrification project led by NRECA International. Seventy-nine electric cooperatives have since

> been created with more than 15 million connections.

A 1962 meeting between then-USAID Director Fowler Hamilton, NRECA CEO Clyde Ellis, and Bolivian community leader Ruben Terrazas led to the creation of CRE. Over the next 50 years, the co-op grew to become the largest electric cooperative in the world, now serving 600,000 consumer-members. The model of



NRECA President Clyde Ellis (center-left) signs the first electrification contract with USAID as President Kennedy (seated right) looks on.

consumer engagement and empowerment that proved so successful in these countries is still being deployed by NRECA International and USAID today.

"Together with USAID, we've made it work for more than 50 years," says Martin Lowery, NRECA executive vice president for member and association relations. "We will continue to identify innovative approaches to tackle challenges, power communities, and empower people to improve the quality of their lives."

Electrify Africa Act, supported by NRECA and signed into law in 2016, codifies and expands the Power Africa initiative and America's commitment to increase access to electricity in Africa.

Power Africa, which is coordinated by the U.S. Agency for International Development (USAID), pairs more than 130 public and private sector partners with technical, legal, and financial experts to facilitate generation and transmission project development and access programs.

Since the initiative's launch, more than 15 million people in Africa have gained access to electricity, and some 5,500 MW of U.S. governmentand partner-supported power projects there have been completed, says Andrew Herscowitz, Power Africa coordinator.

"Power Africa and its partners have created international momentum to meet the needs of the 600 million people in sub-Saharan Africa who don't have access to electricity," he

says. "We have mobilized more than \$54 billion in public and private capital and created business opportunities for U.S. companies while bringing light and power to millions."

Waddle says the renewed emphasis on powering Africa is promising, but he cautions that success will require practical solutions that have long-term impacts.

"To reach people in remote areas, electricity expansion plans must balance extending power grids with support for off-grid energy systems and small-scale lighting technologies like home solar systems," he says.

Over the past 10 years, NRECA International has engaged in electrification projects with the governments of nine African countries: Benin, Ethiopia, Ghana, Kenya, Liberia, Sierra Leone, South Sudan, Tanzania, and Uganda.

"NRECA International has been doing work in Africa for a long time," Waddle says. "But we haven't before seen political and economic resources being dedicated to electrification in multiple countries the way we're seeing today. It's a great opportunity that we will be working hard to capitalize on."

AMBITIOUS PLANS

KENYA

In 2010, Kenya completed a muchheralded rewrite of its constitution, and within the document's 200 pages is an explicit commitment to bring the quality of infrastructure in "marginalized areas" up to the level enjoyed by the rest of the nation. The government has since set an official goal of full access to electricity by 2020. About half of Kenya's 48 million people are currently connected.

"The government of Kenya sees energy as one of the essential services to achieve accelerated rural economic development," Waddle says. "The official access rate right now is 57 percent, so achieving full access in three years will be extremely challenging."





One program that shows promise is Kenya's Last Mile Connectivity Project, which seeks to connect all households located within 600 meters of a transformer. A 2016 U.N. report done as part of the SE4All initiative predicts Last Mile could connect up to a million households per year over the next five years.

Waddle says Last Mile is an excellent start, but reaching Kenya's more rural populations will require a broader strategy.

"These connections are happening in areas that are located very close to the power grid or are already served by Kenya Power [the national utility]," Waddle says. "We still need to make sure we can reach those who live many miles beyond the grid."

As part of a World Bank effort, NRECA International is preparing a national electrification strategy for Kenya that will help identify on-grid and off-grid opportunities for government investment, private sector investment, and public-private partnerships.

"With careful planning, Kenya is well-positioned to achieve full access in the coming years," Waddle says.

LIBERIA

In 2014, Liberia was on the road to recovery from a 14-year civil war when it was hit by a devastating Ebola epidemic. The crises have left the country with a crippled economy and one of the lowest electrification rates on Earth, with less than 3 percent of the population connected to the grid.

Nevertheless, Waddle says, a proven government commitment to building infrastructure means there are many signs of hope in the stricken nation.

Liberia Electricity Corporation, the national electric utility, has made significant strides in building distribution infrastructure in and around the capital Monrovia, he says. The recent completion of several generation plants should, he adds, provide capacity for Monrovia as well as regional capitals and rural villages.

In addition, NRECA International is implementing a USAID/
Power Africa strategy in Liberia called "Beyond the Grid (BTG): Electrifying Liberia's Population Centers."
The plan focuses on extending grid infrastructure and off-grid resources to strategically important towns. To date, two rural communities have inaugurated electric systems powered by solar and biomass, and the BTG program managed by the NRECA International team is working on multiple other projects.

"In Liberia, NRECA International is supporting Power Africa to help power thousands of new customers, rekindle economic development, and promote greater socio-political stability in a country that was destroyed by war and suffered setbacks caused by the Ebola outbreak," Waddle says. "The road to recovery will be long and challenging, but recent progress is promising."

UGANDA

Uganda suffered through decades of dictatorial rule and civil unrest until the mid-1980s, when a period of relative stability began. Since then, government policies aimed at boosting private investment have helped economic growth remain high.

As part of its participation in SE4All, Uganda has set a goal of full electricity access by 2030. Currently about 26 percent of the country's population of 35 million are connected.

Uganda's national electrification plan, designed by NRECA International, divides the country into 13 rural service territories and emphasizes partnerships between the government and several newly formed rural utilities.

"Over the last several years, we've had a very productive partnership with Uganda," Waddle says. "Their willingness to adopt new ways to achieve not just grid expansion but increasing access to rural areas has enabled us to design a national electrification program that includes grid, off-grid, and home solar systems."

In 2014, a team from the Uganda Rural Electrification Agency traveled to Orlando, Fla., for NRECA's Annual Meeting. While there, they met with U.S. electric cooperative leaders and discussed ideas on how to implement their new national electrification plan.

THE CASE FOR AFRICA

While recent progress in Africa is encouraging, Herscowitz says, it is in the global community's interest to continue making the case for a sustained electrification effort there.

"Energy access is an essential component of national security and economic development," he says. "People need electricity for lighting, cooking, heating, health, education, and to tap their full potential in economic opportunity and employment. Time and again, failure by states to meet basic needs of citizens leads to unrest and instability."

Martin Lowery, NRECA executive vice president for member and association relations, says the connection of America's electric cooperatives to rural electrification and NRECA's deep ties with USAID (see "USAID" sidebar) make it well-suited to help in Africa.

"NRECA's partnership with USAID continues to this day and has resulted in a dramatic expansion of rural electrification throughout Latin America, Asia, and now sub-Saharan Africa that has improved the standard of living for millions," he says. "The end result of this important work is not dissimilar to what was accomplished in rural America in the 1930s. This ended rural isolation, increased access to markets, and brought health services, telephony, water access, water quality, and education."

Ron Schwartau, chair of the NRECA International Committee and president of Nobles Cooperative Electric in Worthington, Minn., traveled to southern Sudan in 2008 with a team of volunteer co-op linemen and NRECA International staff. He says the trip, part of a USAID effort to help the country rebuild and stabilize after a lengthy civil war, reinforced for him the global impact of bringing power to developing nations.

"Our work in Africa continues to be important because we are working to change a future need in health care, education, social welfare," Schwartau says. "There is such a disparity of opportunity, and if communities in African countries can change that equation one thing at a time, we can and will benefit from it in the future." RE



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NRECA'S 75TH

2017 ANNUAL MEETING WILL BE A LOOK BACK AND AHEAD

BY VICTORIA A. ROCHA

The NRECA Annual Meeting and 75th anniversary celebration will take place in San Diego this year, where members can experience the rich history of the association and get a glimpse of the cooperative program's future.

The theme for the 75th Annual Meeting, which runs February 23 through March 1 at the San Diego Convention Center, is "Our legacy is the future," a line from the book *The Next Greatest Thing: Fifty Years of Rural*

Electrification in America.

"We will explore significant milestones in NRECA's history with a focus on what made us successful then and how those same traits can set us up for success in an uncertain future," says Tracey Steiner, NRECA senior vice president for education and training.

Based on positive feedback, the meeting will follow the same format that debuted last year in New Orleans: shorter general sessions and more breakouts of varying lengths.



"Several of the breakout sessions have a link to last year's conversations with members," says Kristen Wheeler, NRECA meetings program manager.

SPECIAL EVENT

This year, instead of a traditional Entertainment Night concert, NRECA will host a 75th anniversary block party celebration in San Diego's historic Gaslamp Quarter, across from the convention center. Organizers will rope off two blocks of Fifth Avenue, and participants will have exclusive access to restaurants, retail, and live entertainment. Tickets are included in the registration fee for early bird, regular, and Next Generation Leaders attendees and are \$35 for guests, one-day, and non-member registrants.

"For our 75th anniversary, we wanted to create a fun, communal event that brings NRECA's members together in a unique setting to commemorate how far we've come as a program," Steiner says. "The block party is a new concept for us, but the venue is ideal, and the commitment of our sponsors has been amazing. We're looking forward to an energetic, vibrant, and memorable celebration."

Back at the convention center, the legacy and future themes will be on display through several interactive kiosks with stories about NRECA and co-op history. NRECA will also unveil a new series of posters touting the strength and value of electric co-ops. The new artwork by NRECA Creative Director Kevin Kepple was inspired by the iconic Lester Beall posters commissioned by the Rural Electrification Administration in the 1930s to build support for the program.

"Think about a modern set of electric cooperative posters," wrote NRECA COO Jeffrey Connor in the September 2016 issue of *RE Magazine*. "What aspirations would they depict? What audiences would they address? Answering such questions may be the clearest way to cut through today's politics and noise and set our new imperatives."

ANNUAL MEETING HIGHLIGHTS

RECA CEO Jim Matheson will kick off the opening general session on Monday, February 27, with his first presentation before the full membership since coming to NRECA in July 2016.

Matheson will be preceded by the Youth Leadership Council's parade of states and followed by the day's keynote speaker, presidential historian and best-selling author Michael Beschloss. A contributor to NBC News and *PBS NewsHour*, Beschloss will talk about powerful and effective leadership from business to politics to sports.

During the second general session on February 28, Touchstone Energy® Cooperatives will bring tech

entrepreneur, venture capitalist, and *New York Times* bestselling author Josh Linkner to the stage for a keynote address on creativity, entrepreneurship, and disruptive innovation. The audience will also hear from Sylandi Brown of Georgia, this year's Youth Leadership Council spokesperson.

At the March 1 closing session, outgoing NRECA President Mel Coleman will pass the gavel to his successor, and the association will honor the recipients of its annual awards.

In lieu of a closing keynote speaker, there will be a "thought-provoking discussion on the future of energy," Steiner says.

Now in its second year, NRECA's Next Generation Leaders program will again give emerging cooperative leaders a chance to develop skills through learning opportunities, collaboration, and building professional networks. Registration will be capped at 60 participants to optimize the group's experience. The program is targeted to co-op middle managers with 10 to 20 years of total work experience who have not attended an NRECA annual meeting.

Participants should note that the ACRE® Annual Meeting and Breakfast will be Wednesday, March 1, and the International Lunch will be Tuesday, February 28. The keynote speaker at the International Lunch is Andrew Herscowitz, USAID's Power Africa coordinator. Tickets are on sale for both events at \$20 and \$55, respectively.

As in past years, other national cooperative organizations also will hold their annual meetings in San Diego throughout the week: National Information Solutions Cooperative and National Rural Telecommunications Cooperative on February 26; National Rural Utilities Cooperative Finance Corporation (CFC) on February 27; and Federated Rural Electric Insurance Exchange on February 28.

2017 COMMUNITY SERVICE PROJECT

This year, participants will have two chances to demonstrate their commitment to community—before and during the Annual Meeting. For the ninth year, Touchstone Energy will sponsor a community service project for 100 volunteers to help low-income homeowners. This year's project will be Saturday, February 25, in partnership with Rebuilding Together San Diego.

Can't volunteer on the 25th? NRECA will host another community service project at the convention center during the week. **RE**

Register for the NRECA Annual Meeting on Cooperative.com.

75TH NRECA ANNUAL MEETING SCHEDULE

SUNDAY, FEBRUARY 26

8:00 a.m. - 4:00 p.m. Pre-Meeting Education 8:00 a.m. - 5:00 p.m. TechAdvantage Pre-Conference Workshops 8:30 a.m. - I:00 p.m. NRECA Board of Directors Meetina 8:30 a.m. – 5:00 p.m. Health and Retirement Screenings 9:00 a.m. - 3:30 p.m. NRTC Registration 9:00 a.m. - 6:00 p.m. NRECA Registration **CFC** Registration 10:00 a.m. - 11:30 a.m. SEDC Member Enrichment Meetina 11:30 a.m. - 1:30 p.m. NISC Annual Meeting &

NISC Annual Meeting & Luncheon
3:30 p.m. – 4:30 p.m.
NRTC Annual Meeting
4:00 p.m. – 5:00 p.m.
Proposed Resolutions Forum
5:30 p.m. – 7:30 p.m.

Welcome Reception Sponsored by CoBank

MONDAY, FEBRUARY 27

7:00 a.m. – 8:15 a.m.
Continental Breakfast
Sponsored by CFC, NCSC, &
Federated
7:00 a.m. – 2:00 p.m.
CFC Registration
7:00 a.m. – 5:00 p.m.
Concern for Community
7:00 a.m. – 5:00 p.m.
Federated Members'
Hospitality Suite
7:00 a.m. – 7:00 p.m.
NRECA Registration
7:30 a.m. – 5:00 p.m.
Cooperative Action Network

8:00 a.m. - 4:45 p.m. TechAdvantage Conference 8:30 a.m. - 5:00 p.m. Health and Retirement Screenings 8:30 a.m. - 10:30 a.m. General Session 1 10:45 a.m. - 11:45 a.m. **Breakout Sessions** 11:45 a.m. - 12:45 p.m. Lunch Sponsored by CFC, NCSC, & Federated 1:00 p.m. – 2:00 p.m. **Breakout Sessions** 2:15 p.m. - 2:45 p.m. **Breakout Sessions** 3:00 p.m. – 4:30 p.m. **CFC Annual Meeting** 4:30 p.m. – 7:00 p.m. TechAdvantage Expo Opening Reception Sponsored by Aclara

TUESDAY, FEBRUARY 28

7:00 a.m. - 8:15 a.m.

Continental Breakfast Sponsored by CFC, NCSC, & Federated 7:00 a.m. - 1:30 p.m. Federated Members' Hospitality Suite 7:00 a.m. - 5:00 p.m. **NRECA** Registration 7:00 a.m. - 5:00 p.m. Concern for Community 7:30 a.m. - 5:00 p.m. Cooperative Action Network 8:00 a.m. - 4:30 p.m. TechAdvantage Conference 8:30 a.m. - 11:00 a.m. General Session 2

8:30 a.m. - 5:00 p.m. Health and Retirement Screenings l l:30 a.m. - l:00 p.m. International Lunch Sponsored by CoBank 11:30 a.m. – 1:15 p.m. Lunch Sponsored by CFC, NCSC, & Federated II:30 a.m. - 4:30 p.m. TechAdvantage Expo 1:30 p.m. - 2:30 p.m. **Breakout Sessions** 2:45 p.m. – 3:15 p.m. **Breakout Sessions** 3:45 p.m. - 4:45 p.m. Federated Rural Electric Insurance Exchange Annual Meetina 5:30 p.m. - 8:30 p.m. NRECA's 75th Anniversary Celebration in the Gaslamp

WEDNESDAY, MARCH 1

7:00 a.m. - 8:30 a.m. Annual ACRE Meeting & Breakfast (Doors open at 6:45 a.m.) 7:00 a.m. – 3:00 p.m. NRECA Registration 7:30 a.m. - 10:00 a.m. Cooperative Action Network 9:00 a.m. - 11:00 a.m. General Session 3 8:00 a.m. - 4:30 p.m. TechAdvantage Conference 11:30 a.m. - 3:00 p.m. TechAdvantage Expo 6:00 p.m. - 8:00 p.m. Associate Member & TechAdvantage Conference Reception Sponsored by NRTC, NEST, and SoCore

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CONFERENCE & EXPO

TECHADVANTAGE 2017

CO-OP SOLUTIONS FOR TODAY AND TOMORROW

BY DERRILL HOLLY

The TechAdvantage® Conference and Expo returns to the San Diego Convention Center February 26 through March 1. Organizers say the learning event and trade show, held in conjunction with the 75th NRECA Annual Meeting, will offer insights into how co-ops are meeting members' needs, today and into the future.



"Consumer-members' relationships with their electric cooperatives are changing," says Jim Spiers, NRECA's vice president for business and technology strategies. "TechAdvantage focuses on a rapidly changing future that includes an expanding list of products and services electric co-ops are providing as they work to meet consumer-members' changing needs."

He cites examples like new technologies, empowering consumers to manage their energy use, the growing popularity of small-scale solar and other distributed generation, and broader availability of energy storage and efficiency measures.

"The adoption rate for new technologies is incredibly fast compared to what it has been historically," Spiers says. "Most people now have smartphones, and that technology is just one of the shifts underway that is driving

new expectations. Coming to TechAdvantage gives co-op employees an efficient way to see what's changing and hear from our strategic partners."

With more than 300 vendors at the trade show and dozens of learning labs, the conference offers engineers, technicians, IT professionals, and operations personnel multiple opportunities to learn about emerging technologies and best practices.

"We've got breakout sessions on big questions co-ops are tackling, including optimizing operations using sensors; case studies on drones; addressing aging infrastructure; cyber security; and getting the most out of renewables," says Mary Ackleson, an NRECA senior program manager. "Besides 60 breakout sessions, more than 20 'Technovation' sessions will be held on the exhibition floor."

General session keynote speakers will look at personnel and resource management challenges. University of Texas energy analyst Scott Tinker will share his vision of America's energy future and the need to balance environmental and economic concerns with energy security. Tech-savvy humorist Don McMillan will offer his observations on the effects of information overload on the modern workforce. And Mike Abrashoff, former commander of the guided-missile destroyer USS Benfold, will discuss changing approaches to leadership and empowering empathy.

"TechAdvantage is returning to San Diego, home of the U.S. Navy's Pacific Fleet," says Eric Commodore, NRECA director of meeting and event planning. "Many co-op operations personnel share a proud heritage of military service with the Navy and Marine Corps, including some connection to San Diego Harbor."

The closing reception for TechAdvantage is at the USS Midway Museum. The decommissioned aircraft carrier was the nation's largest warship for 10 years ending in 1955, and during 47 years of service, it was home to more than 225,000 officers, seamen, and Marines.

"TechAdvantage attendees and associate members are invited to tour the vessel and see 29 restored historic aircraft displayed on its decks," Commodore says. "The Midway remains an engineering marvel and one of the largest machines ever built. Spending time on the vessel is an inspiring opportunity." **RE**





SCHEDULE AT A GLANCE

SUNDAY, FEBRUARY 26

7:00 a.m. - 5:00 p.m. Registration Open

Preconference Training Workshops

(8:00 a.m. - 5:00 p.m. unless otherwise noted)

- 2017 RUS Engineering Seminar
- Understanding Co-op Finance & Accounting for the Non Accountant
- MultiSpeak Integrator Training
- Defending Your Co-op: Developing a Cybersecurity and Risk Mitigation Plan
- Developing a Strategic Communications Plan for your Co-op (8:00 a.m. - Noon)
- Rural Broadband Feasibility Analysis (8:00 a.m. – Noon)
- The Dark Web (8:00 a.m. Noon)
- Utitlity Solar Interest Group (9:30 a.m. Noon)
- Supply Chain Flow SEDC Users (1:00 5:00 p.m.)
- Increase Efficiencies in Supply Chain Management - NISC Users (1:00 – 5:00 p.m.)
- How to Buy a Battery: Determine Your Needs and Procure the Right System (1:00 – 5:00 p.m.)

MONDAY, FEBRUARY 27

7:00 a.m. - 5:00 p.m. Registration Open 8:00 a.m. - 9:20 a.m. Opening General Session - Scott Tinker

9:45 a.m. - 10:45 a.m. Breakout Sessions 1

- A Business Case for Voltage Optimization
- Security Event and Incident Management Best Practices
- Value of High Speed Communications to the Grid and the Community
- Procurement and Supply Chain Speed Networking
- Office 365 Implementation Considerations
- Windows 10
- Is Your Billing Software Ready to Manage Multiple Metering Scenarios?
- · On the Eve of Major Interconnection Changes

11:00 a.m. - Noon Breakout Sessions 2

- Selecting the Right Communications Infrastructure for a Large and Diverse Service Territory
- Smart Data Storage
- Managing Contracts: Putting Best Practices into Action

- Help Desk/Service Desk
- One Man IT Shop
- Creating Customer Connections through Tech: KWhs, iPhones, and Lattes

2:00 p.m. - 3:15 p.m. Breakout Sessions 3

- Key Strategic Considerations for Implementing a Distributed Solar Program
- · Maximizing the Value of Solar
- Cyber Security for Critical Infrastructure
- FEMA Basics for the Rural Electric Co-operative

3:30 p.m. - 4:45 p.m. Breakout Sessions 4

- Are Alternative Technologies Poised to Bring Increased Resiliency and Reliability?
- Delivering Greater Value with Solar and Energy Efficiency Financing
- Physical Security Active Shooter Scenario Inventory Management Decision Making Toolkit

4:30 p.m. - 7:00 p.m.

TechAdvantage Expo Grand Opening Reception

TUESDAY, FEBRUARY 28

7:00 a.m. - 5:00 p.m. Registration Open 8:00 a.m. - 9:00 a.m. Breakout Sessions 5

- · Dashboard Session Case Studies
- The Intersection of Aging Infrastructure and Grid Modernization
- Critical Considerations for Developing a Renewable Energy PPA
- Mapping Cooperative Business Processes
- Continuous Process Improvement One Cooperative's Approach
- Implementing CIS Critical Security Controls (CSC)
- · Business Case for Cyber Insurance

9:15 a.m. - 10:15 a.m. Breakout Sessions 6

- Convergence of Physical and Cyber Security
- · Understanding Microgrids
- Environmental Control Requirements and the Impact of the Next Administration
- Network Access Controlled: NAC Solutions for Small to Mid-size Co-ops





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- CSR Technologies & Call Metrics
- Security Event and Incident Management Best Practices
- Minnesota Valley Electric Cooperative Sensor Deployment Case Study

10:30 - 11:30 a.m. Breakout Sessions 7

- Roadmap to a Self-Healing System
- Avian Protection: New and Emerging Tools for Cooperatives
- Using Operational Data for Improved Performance
- Implementing a Cyber Security Program that Matches the Threats
- Procurement Approach for Complex Technology
- IT Best Practices JEOPARDY!

11:30 a.m. - 4:30 p.m.

TechAdvantage Expo Open

Technovation Sessions in the Expo

1:45 p.m. - 2:15 p.m. Techno 1

- Feeder Automation Case Study: Leveraging Cellular Communications to Improve System Reliability
- Network Segmentation Techniques at Different Layers of the OSI Model
- GEARED
- LED Control Technology

2:45 p.m. - 3:15 p.m. Techno 2

- Improve Operational Efficiency and Power Reliability through Small-Scale SCADA Systems
- Honey, I Hacked The SCADA!: Industrial CONTROLLED Systems!
- GEARED
- Oil Spill/Hazardous Material Clean Up

3:45 p.m. - 4:15 p.m. Techno 3

- Developing an Aged Conductor Scoring System
- Internet of Things (IoT) Technologies, Cellular, and Next Generation AMI
- From the Meter to the Member: Managing Solar Communities via Automated Software Solutions
- Strategies for Procuring Solar Energy

5:30 p.m. - 8:00 p.m.

NRECA's 75th Anniversary Celebration

WEDNESDAY, MARCH 1

7:00 a.m. - 5:00 p.m. Registration Open

8:00 a.m. - 9:30 a.m. General Session

Breakfast - Don McMillan

9:45 a.m. - 10:45 am Breakout Sessions 7

- Deploying Electric Batteries for the Benefit of Consumers and the Cooperative
- Driving Efficiency and System Reliability through the Supply Chain - Part 1
- UCSD Microgrid: A System in Harmony
- IT Peer to Peer Part 1

11:00 a.m. - Noon Breakout Sessions 8

- Case Studies of Successful UAS (Unmanned Aircraft Systems) Demonstration
- Driving Efficiency and System Reliability through the Supply Chain - Part 2
- Community Storage As a Valuable Beneficial Electrification Option
- IT Peer to Peer Part 2

11:00 a.m. - 3:00 p.m. TechAdvantage Expo Open

11:00 a.m. - 3:00 p.m. Tour of the UCSD Micro Grid System

Technovation Sessions in the Expo

12:30 p.m. - 1:00 p.m. Techno 4

- · Renewable Energy: Reliability and Compliance
- Modernizing Support Capabilities for C&I and High Demand Members
- Global Sourcing Outlook

1:30 p.m. - 2:00 p.m. Techno 5

- Grid-Edge Volt-Var Control for Enhancing Demand Reduction
- North East Mississippi EPA Enlists Mobile Workforce Technology to Manage Service Orders for Ole Miss
- Procuring and Implementing Community Solar

3:00 p.m. - 4:30 p.m. Closing General Session - Mike Abershoff

6:00 p.m. - 8:00 p.m. TechAdvantage and Associate Member Reception on the USS Midway





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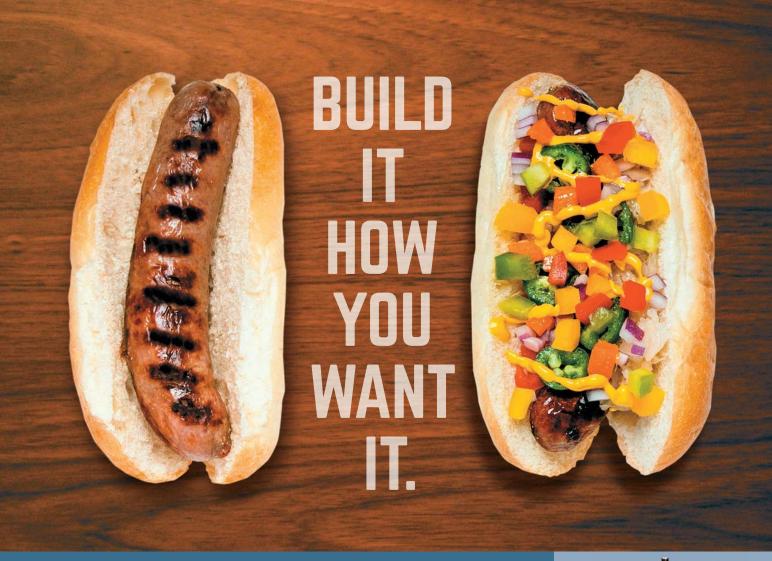


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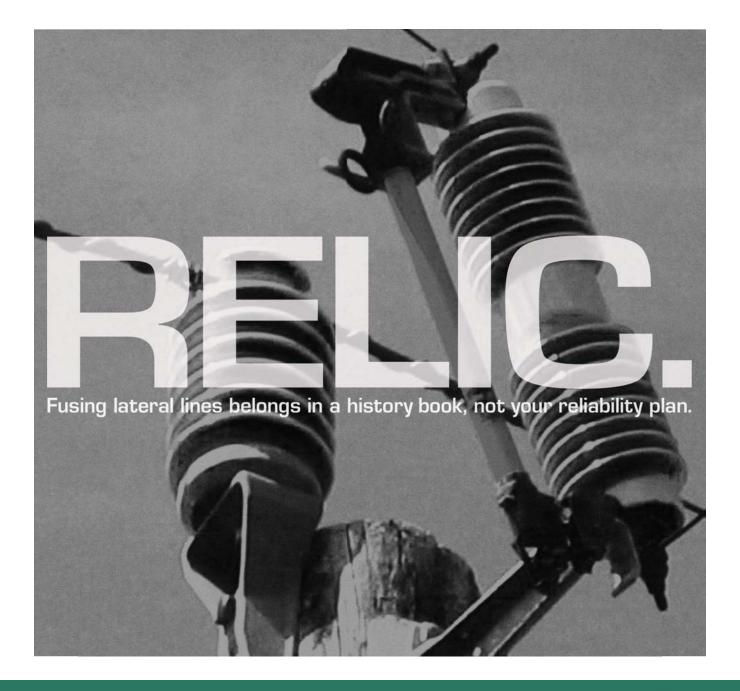
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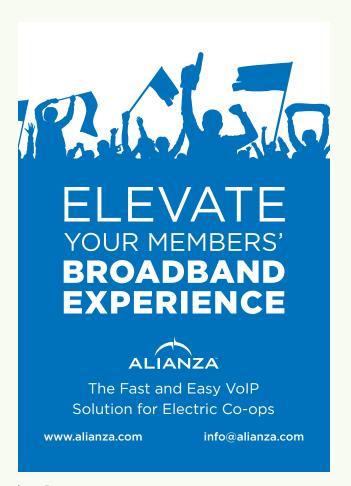
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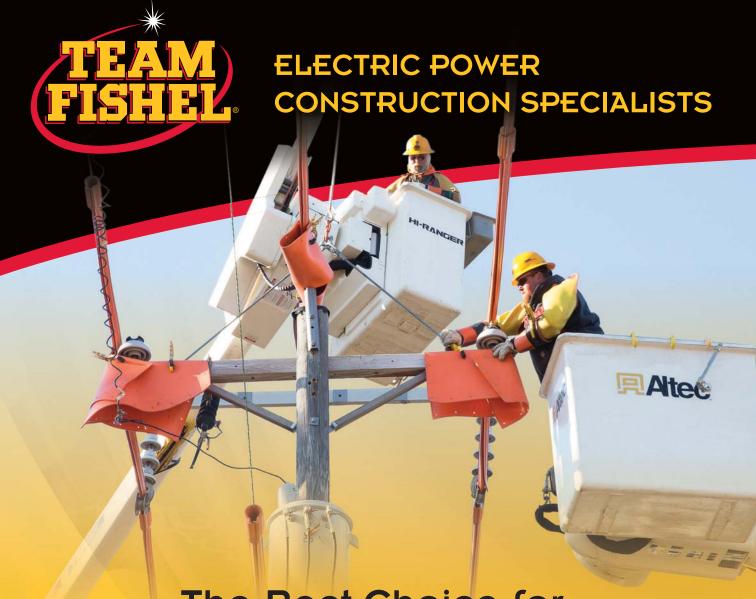
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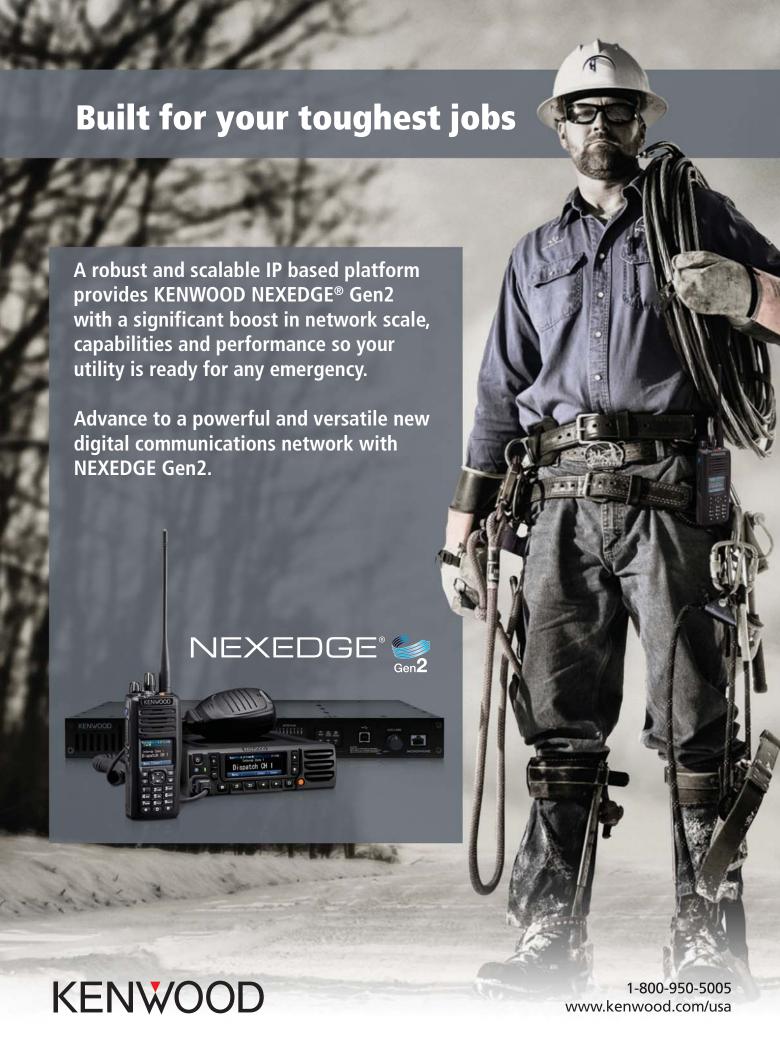
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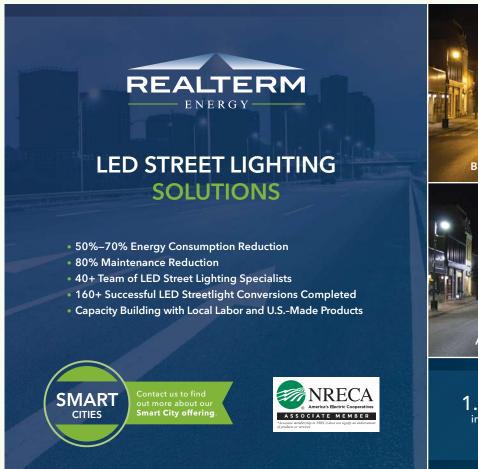
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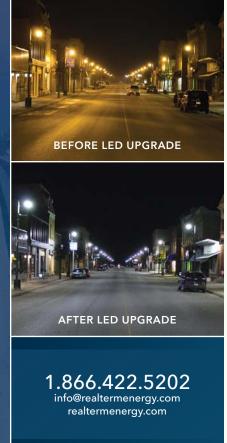
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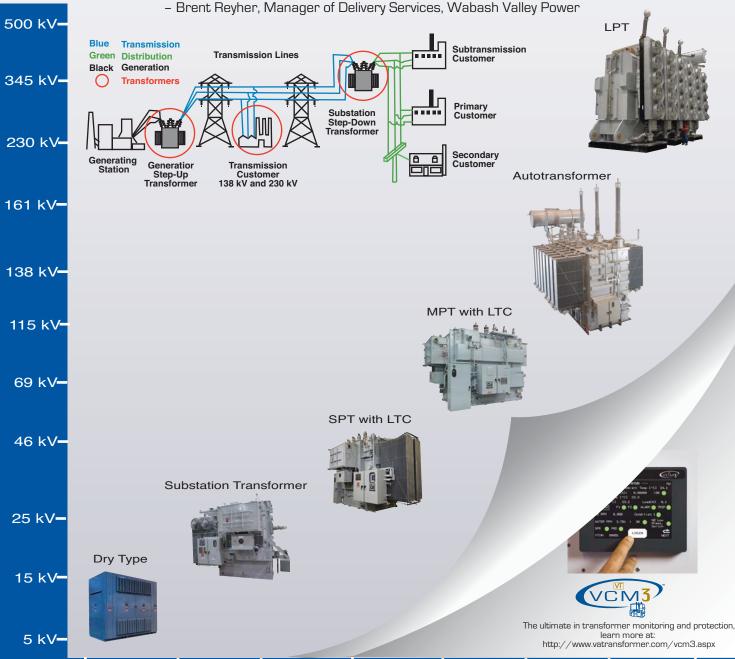
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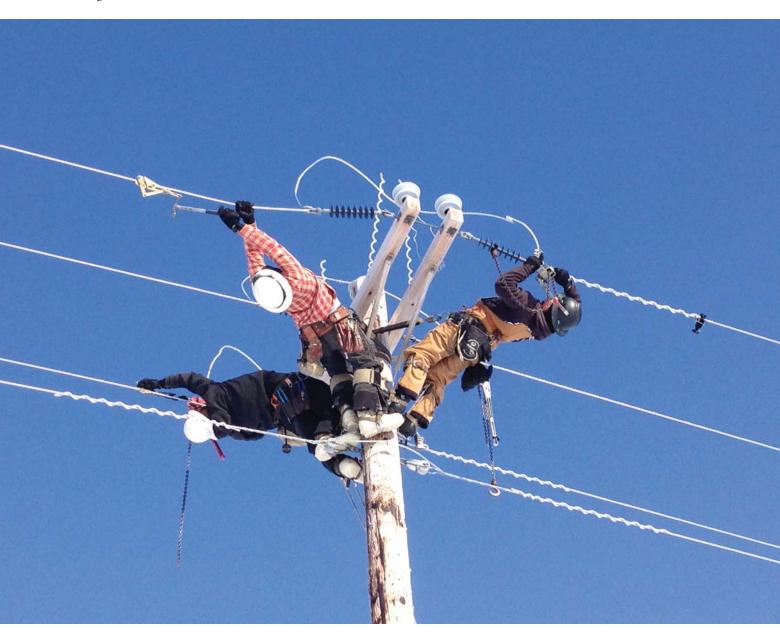


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2016 PHOTO OF THE YEAR

David Johnson's "Alaska Palm Tree" earned the most "Likes" in the December photo contest to take home 2016 Photo of the Year honors.

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The February contest theme is "The Skies of Co-op Country."

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'THE FUTURE IS ELECTRIC'

AS THE EV MARKET GROWS, CO-OPS PREPARE FOR THEIR ROLE AS VEHICLE-FUEL PROVIDER

BY JOHN VANVIG

Brunswick Electric Membership Corporation (BEMC) serves about 91,000 meters from its headquarters in Shallotte on North Carolina's southeastern coast, and the co-op knows precisely how many electric vehicles are recharging on its lines every night.

"Twenty-four," says Monte Herring, BEMC's manager of distributive generation/renewable energy. "We're sure that number will grow."

The numbers are smaller at Wake Electric Membership Corporation in Wake Forest, just outside the Raleigh-Durham metro area of north-central North Carolina. Wake Electric has about 42,000 meters and a special overnight charging rate for electric vehicles (EVs).

"Twenty members are on the rate," says CEO/General Manager Jim Mangum. "We think we have more EVs out there, but we haven't connected with them."

EV numbers may be low now, but interest is high and rising among consumers, utilities, and automakers. And that means co-ops should be getting ready for a maturing technology that could boost home electricity use by 30 percent, improve distribution systems' load factors, offer some backup power and energy storage potential, and even

yield economic development opportunities.

"Not being educated and prepared is the number one pitfall," says Kristi Brodd, communications manager for Advanced Energy, a North Carolina non-profit that was commissioned by Raleigh-based G&T North Carolina Electric Membership Corporation to produce an EV strategy report last year.

"With close to 600,000 electric vehicles in the United States, co-ops are now the new vehicle-fuel provider for many drivers," Brodd continues. "They should see this as an opportunity to provide leadership and guidance to their members."

'RANGE ANXIETY'

That's what's happening at Randolph Electric Membership Corporation in Asheboro, N.C. The co-op says 236 EVs are registered with the DMV in the five counties it serves in the central part of the state.

"Being a very rural co-op, the majority of our membership will be late adopters of electric transportation due

Piedmont Electric
Membership Corporation
That repairs the state of the

to range anxiety," says CEO Dale Lambert, referring to the fear of running out of charge before reaching a destination. "This gives us great opportunities to grow as battery technology continues to improve and increases the range capability between charges. We also have the opportunity to influence behavior with our 'Plug N2 Savings' time-of-use rate,

Photo courtesy Advanced

MEET A MAG MEMBER

TERRY WILSON



A little more than a year after joining the Transmission & Distribution Strategies Member Advisory Group (TDS MAG), Terry Wilson has learned that he gets as much advice as he gives.

The director of transmission & distribution

operations at Andalusia, Ala.-based PowerSouth Energy Cooperative (G&T), Wilson says serving on an NRECA Business & Technology Strategies advisory panel gives him a valuable sounding board.

"Other than the obvious benefits of learning about new and advancing technologies, the primary benefit for me has been the development of relationships with the members of the MAG," he says. "We've all gained relationships that allow us to call on each other for advice and input on a variety of topics."

That's not to downplay his own contributions as a G&T representative on the panel. He brings 30 years of utility experience to the MAG table, 24 years of it with PowerSouth Energy.

"My role is to bring a perspective from the G&T cooperative viewpoint, including substation and transmission areas," Wilson says. "I'm also able to provide perspective from experience with serving 20 member systems in Alabama and the Florida Panhandle."

Finally, he appreciates the opportunity MAG membership gives him to see new tech applications at work.

"We've been able to visit several interesting transmission and distribution field sites as well as manufacturing facilities," Wilson says. "Those visits always help to give us new ideas and additional perspectives into our industry." which encourages using electricity during off-peak hours."

However, even more than range anxiety, the high purchase price has been the steepest hill for EVs to climb. But prices are dropping while battery range is improving, with both changes due in part to regulatory requirements that gave electric vehicles a market toehold and turned a lot of intrigued drivers into EV converts, Brodd says.

A 2015 Advanced Energy survey showed that consumers have found a lot to like about electric vehicles. "Number one was cost savings," she says. Fueling an EV costs almost two-thirds less for the typical vehicle driven 12,000 miles a year, the report estimates, and maintenance costs are considerably lower too.

Consumers ranked EV performance second and environmental benefits third, Brodd says. "And the fourth was being energy independent. You're supporting a fuel that is domestically created."

At Wake Electric, Mangum has a hunch that, at least for the 20 members he has on the off-peak EV rate, there's another reason altogether to make the switch.

"I think with this particular group, it isn't any of those things," he says. "They're early adopters. We get a lot of technical folks, and if you're an engineer/geek-type person, this stuff is just really appealing to you. It's just that, 'Hey, this is really cool stuff, and we want to do it."

KEEPING THE BUZZ GOING

Whatever it is that rings a driver's bell, the growing interest in EVs among car buyers has triggered a corresponding interest from automakers. As Brodd points out in her co-op presentations, Ford is investing \$4.5 billion in EVs with a goal of adding 13 new all-electric and hybrid vehicles by 2020, while Honda has predicted that two-thirds of its vehicles will be electric by then. BMW plans to make hybrid versions of every one of its models, and Audi has said it expects EVs to account for 25 percent of its U.S. car sales by 2025. General Motors "believes the future is electric," Brodd says, and is investing billions "to support the development and manufacturing of electric vehicles."

As a result, EVs constitute a power-use market that requires almost no marketing effort from the utilities that stand to benefit from them.

"With battery prices dropping over 60 percent since 2010," says Lambert of Randolph Electric, "EVs will be on a level playing field with gas-powered vehicles from a pricing standpoint. With the continuing improvement of battery technology, lighter and longer-range batteries will help reduce the range anxiety members may feel while the charging infrastructure is being developed. There are also



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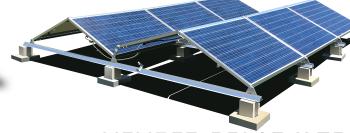
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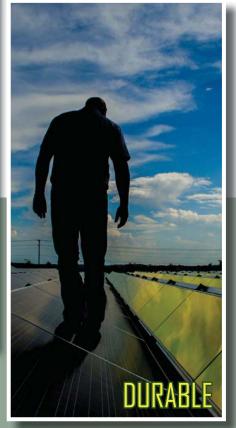
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opportunities to increase member satisfaction with electric transportation, including having a trusted energy advisor to answer questions and having stable transportation fuel

costs that do not fluctuate like those for gas-powered vehicles."

Still, it doesn't hurt to keep the buzz going, BEMC's Herring says. He and Heather Holbrook, the co-op's

marketing communications supervisor, take every chance they get to keep members thinking about EVs.

"We keep our members informed with press releases regarding the opening of new charging stations, articles in our monthly newsletter, and social media posts," Herring says. "We also had an EV informational workshop last June where the public was invited to learn more about EVs and how the co-op is incorporating this new technology. We also educate local home builders about incorporating charging stations into new construction."

Randolph Electric has been following a similar path.

"We have had staff meetings and a board retreat with Advanced Energy to keep track of the current EV market," Lambert says. "We are holding quarterly 'REConnect' member meetings, with one of the main topics being electric vehicles. We are including EV information in our member magazine



and have included answers to basic EV questions on our website."

KWH AT THE RIGHT TIME

Herring and Lambert agree with Advanced Energy's prediction that a home with an electric vehicle will probably increase energy sales to that home by about 30 percent. After a quick back-of-the-envelope calculation of his own, based on his experience with the hybrid EV he drives to work, Mangum makes it more like 22 percent.

But all three say the right mix of

rate incentives and consumer education can, and should, steer those additional sales into the off-peak, overnight hours.

"It's not just about selling more kilowatt-hours," Lambert says. "It is about selling more kilowatt-hours at the right time, so all members benefit from a better load curve. The great thing about charging EVs is that you can charge them during off-peak times with little to no inconvenience to the member."

Things get a little trickier with public charging stations at places like shopping centers, offices, and schools. These stations, often installed to help ease the old range anxiety problem, can add daytime load, especially when the chargers are the faster, highercapacity models.

"Due to their higher demand, the Level 2 and 3 chargers [higher-voltage rapid chargers] could give problems if load is not properly managed as the EV market grows," Lambert says. "If properly managed, the additional flexibility in shortened charging times will allow better utilization of electric vehicles. As long as there has been communication between the member and the cooperative, we should be able to avoid issues with overloaded transformers and undersized secondary devices."

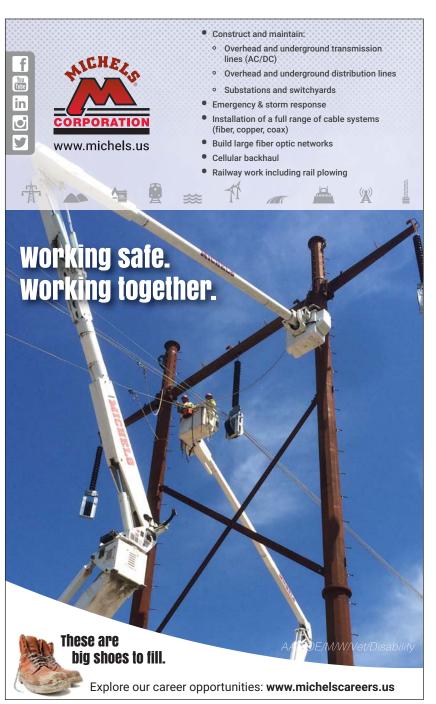


Those high-speed, high-visibility public charging stations offer an advantage to trade against the potential problems, Lambert adds. Not only do local businesses have a shot at keeping customers in the store or at the cafe table a little longer while their cars charge up, but the stations also show that EV owners needn't worry about running out of juice on the road.

"Having visible public charging stations where our members shop and eat will help ease range anxiety and increase EV adoption," he says. "We're looking at potential sites for public charging, such as workplace and destination charging."

At BEMC, visibility and accessibility is key.

"Our service area covers 1,500 square miles, including beach towns, retirement communities, and agricultural heartland," says CEO/General Manager Don Hughes. "We have six charging stations in popular retail and recreation



locations, with more to come. We make it easy for members to use this new technology, and our business community benefits. It's a win-win."

LIKE AN ELECTRIC STOVE

All three co-ops are taking another Advanced Energy recommendation to heart: putting staffers in co-op EVs as they drive around the service territory. Randolph Electric plans to add an EV to its fleet early this year for one of its energy advisors.

"This will prompt questions about and promote electric transportation," Lambert says. "And it will allow us to share our experience with our members and other folks in the communities we serve."

Herring drives an electric vehicle, and Mangum just traded in his 2013 EV for a 2017 model.

"There's no question that the second-generation [Chevrolet] Volt is better in every way," Mangum says. "Everything about it is better. I think that's what you're going to see with electric vehicles. They're just going to appeal to a broader and broader segment of our members."

In many ways, he says, the emergence of EVs reminds him of an earlier time in the rural electric program.

"It's kind of like an electric stove," he says. "When I came to work at Wake Electric—and that's been a long time ago—we actually had a demonstration kitchen here at the co-op. Of course we had ulterior motives. We were going to sell more electricity under the banner of, 'This is really cool stuff; you ought to take a look at it. It can really improve your life.'

"I think electric vehicles are the same thing—the parallels are exactly the same." **RE**

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PROJECT PROFILES CO-OPS DEPLOYING NEW TECHNOLOGIES

BY TODD H. CUNNINGHAM



COMMUNITY **SOLAR SET TO** SHINE IN VERMONT

Termont Electric Cooperative in Johnson, Vt., has announced the completion of its 1.28-MW community solar array, reporting that sponsorships have been completed or are pending for about half of its 3,996 panels. The project will produce around 1.57 million kWh a year.

Completion of the Alburgh facility was marked by a Community Appreciation Event, at which VEC CEO Christine Hallquist characterized the project as "a win-win-win all around." She noted that the co-op had ensured a fair price for its development and operation, providing direct value to co-op members.

The cost of a 10-year sponsorship of a single panel is \$234.55, with a monthly bill credit of \$2.72, and 20-year sponsorships are available for \$412.54, with a monthly bill credit of \$3.12. A financing option is available.

The co-op's project partners include SoCore Energy (socore energy.com), which builds groundmounted, utility-scale solar with a particular focus on community solar, and Encore Renewable Energy (encorerenewableenergy.com), which also specializes in community solar.

Contact: Vermont Electric Cooperative, 802-635-2331; SoCore Energy, Eric Luesebrink, 877-861-3023; Encore Renewable Energy, Chad Farrell, 802-861-3023.

ALASKA CO-OP **BRINGS HYDRO** PROJECT ON-LINE

opper Valley Electric Association has begun generating power at its Allison Creek hydroelectric project, moving the co-op "a step closer" to its vision of reducing or eliminating

dependence on liquid fossil fuel for power generation.

Following a commissioning ceremony and powerhouse dedication, board President Paul Kildal flipped the switch to begin operation of the 6.5-MW project, which will displace 725,000 gallons of diesel fuel each year.

The Valdez, Alaska-based facility will generate 15 million kWh of power annually, increasing the co-op's renewable energy portfolio to 69 percent of total generation.

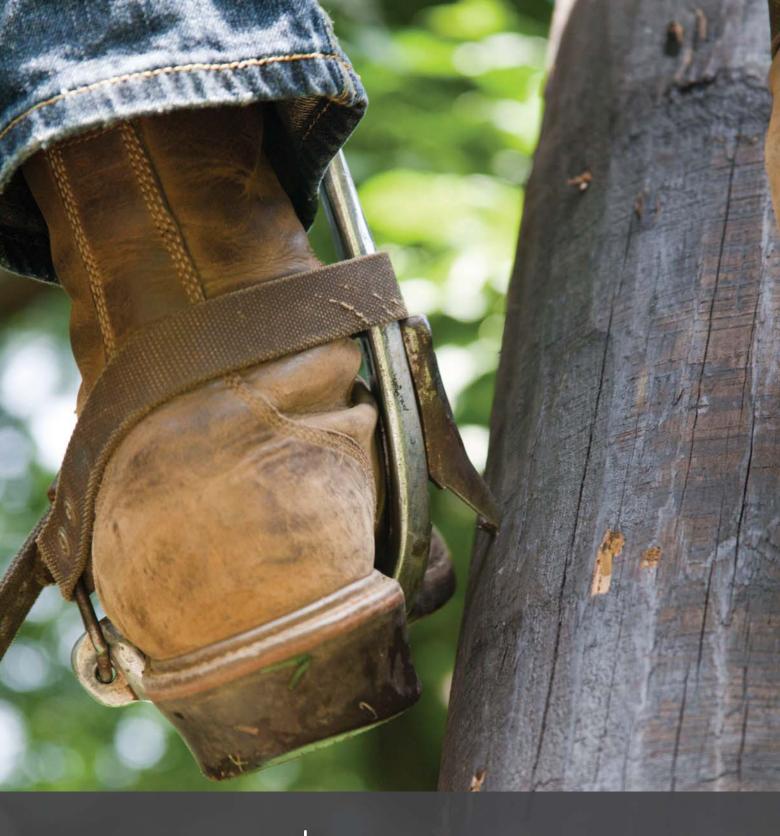
Allison Creek will supplement hydropower from a 30-year-old dam, allowing Copper Valley Electric to operate on renewable power from May through October, although freezing temperatures will require the use of diesel generators.

Contact: Copper Valley Electric Association, Sharon Crisp, 907-822-5506.





Copper Valley Electric Association's Allison Creek hydro plant



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SCADA UPGRADE FOR DELAWARE ELECTRIC

As Delaware Electric Cooperative (DEC) in Greenwood, Del., has added more and more devices to its SCADA system, the amount of additional data coming in called for a system upgrade.

Nathan Schreppler, DEC's manager of systems control, says the coop's new platform "gives us access to data coming from a lot of devices in the field."

"The main day-to-day advantage is the ease with which you can access data, particularly from line devices and substations, and filter it down to what we care about," he notes.

The tool, Open Systems International's (osii.com) Multi-plat-form Open Network ARCHitecture (Monarch), lets DEC monitor and control all 23 of its distribution substations, with 87 feeders in all, as well as radial transmission substations.

Contact: Delaware Electric Cooperative, Nathan Schreppler, 302-559-0918; Open Systems International, Jared Kuklok, 763-551-0559.

ILLINOIS G&T JOINS 10 MEMBER CO-OPS IN 2 SOLAR FARMS

Prairie Power, the Springfield, Ill.-based G&T, and its 10 distribution co-ops have completed construction of two 500-kW solar farms located in the service areas of Shelby Electric Cooperative, Shelbyville, and Spoon River Electric Cooperative, Canton.

The five-acre facilities, engineered and built by Azimuth Energy (azimuth.energy), add to Prairie Power's renewable energy portfolio, which already had 20 MW of wind power.

Dan Breden, the G&T's former interim president/CEO, says Prairie Power's members benefitted from a substantial decline in the cost of large-scale solar projects when the solar farms were constructed.

Consumer-members can benefit directly from the solar arrays' output "without the risks, hassles, and costs of having solar panels on their roofs," he says.

Contact: Prairie Power, 217-245-6161; Azimuth Energy, 314-266-6750.



Prairie Power's Spoon River solar farm

SEMINOLE 'COOPERATIVE SOLAR' ARRAY

Seminole Electric Cooperative, headquartered in Tampa, Fla., has unveiled its first large-scale solar facility: a 2.2-MW array that W.F. "Bill" Hart, president of the G&T's board of directors, says will further its mission of providing members with safe, affordable, and reliable electricity.



Photo courtesy Seminole Electric

Seminole Electric's ribbon-cutting ceremony for Cooperative Solar

The solar facility, which includes more than 8,000 photovoltaic panels, is located on the grounds of Seminole's combined-cycle and simple-cycle natural-gas-fired Midulla Generating Station. The array uses single-axis tracking technology, which allows the panels to follow the movement of the sun to produce about 20 percent more output than fixed solar arrays, says Glenn Spurlock, Seminole's manager of

The project was engineered and constructed by Atlanta-based Radiance Solar LLC (radiancesolar.com) in conjunction with Seminole, which will operate the facility in a "leaseback" arrangement with Farm Credit Leasing, a subsidiary of CoBank.

regulatory affairs, who led the project

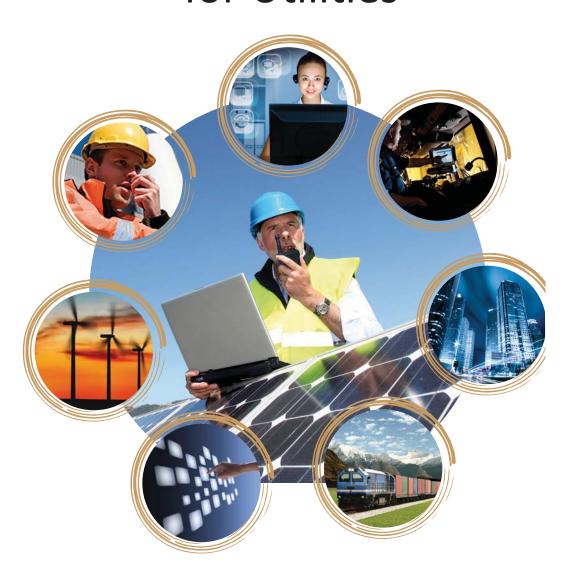
in its development stages.

Speaking at the recent ribbon-cutting ceremony, Seminole CEO and General Manager Lisa Johnson highlighted the project, dubbed Cooperative Solar, as "one more way in which Seminole can secure our members' future while upholding cooperative values."

Contact: Seminole Electric Cooperative, Steven Rybicki, 813-422-9150; Radiance Solar, 404-885-9898. RE



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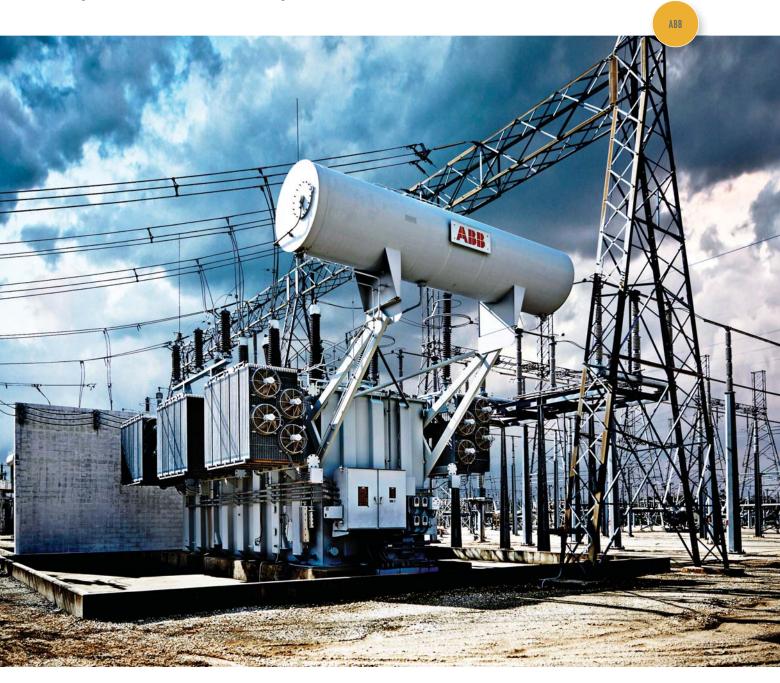


BULLET-RESISTANT TRANSFORMER

ABB's new *AssetShield* line provides hardened and bullet-resistant transformers to meet rising concern for the physical security of critical grid assets. AssetShield is part of ABB's Transformer Resilience initiative, which includes assessment, hardening, monitoring, rapid repair, and rapid replacement. The UL-752 standard compliant transformers

feature AssetShield tanks, dry bushings, impact sensors, and automated cooling valves. Based on standard designs, there is no visual difference with large power transformers.

Contact: ABB Inc., Raleigh, N.C., 919-807-5743; bill. rose@us.abb.com; abb.com.



LIGHT FOR LARGE-SCALE JOBS

The Bayco Products Inc. SL-1530 Work Light provides 10,000 lumens, enough for large work sites. The two 50-W LED lights can swivel in multiple directions, and a multi-fin heat sink design keeps each fixture cool to the touch. The included tripod stand extends lights up to 8 ft., and the base unit can be removed from the tripod stand for low-angle illumination.

Contact: Bayco Products Inc., Wylie, Texas; 800-233-2155; info@baycoproducts.com; baycoproducts.com.





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MEMBER SECURITY SYSTEM

For electric cooperatives that want to provide their members with a do-it-yourself security service, Wright-Hennepin International Response Center, a subsidiary of Wright-Hennepin Cooperative Electric Association, has a "business*in-a-box" security system* with eCommece website, logistics, fulfillment, 24-hour alarm monitoring, and tech support. Built on the DragonFly Security System, it combines wireless battery-powered cameras with smartphone review and

dispatches emergency response when needed. When activity is detected, the DragonFly Security System captures video and gives you the option to send it to a monitoring center for police dispatch. A smartphone app provides photos and videos on demand, arm and disarm control, and video alerts so you decide whether to dispatch or to ignore.

Contact: Wright-Hennepin International Response Center, 612-868-0010; rstevens@whe.org; whirc.com/dragonfly.

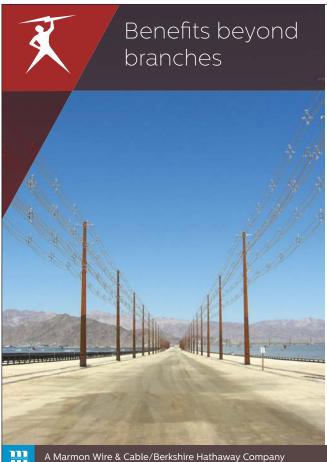


ALL-IN-ONE GROUNDING CONNECTOR

BURNDY recently released a new all-in-one connector. The *HandyBug* makes it possible to use the same connector for various types of terminations and bonding and does not require special tools for installation. It is UL listed and CSA certified and is rated for direct burial. Two sizes are available and accommodate #10 AWG Solid to #2 AWG Solid or #2 AWG Stranded to 1/0 AWG Stranded, and

both sizes feature a two-hole tongue. It can function as a split bolt, make a splice connection, terminate one or two wires to a bus bar or other flat surface, make wire connections to a pipe, and terminate wire at electrical motor input points.

Contact: BURNDY, Manchester, N.H., 800-346-4175; BURNDY.com.



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POWER DISTRIBUTION BLOCKS

ILSCO has introduced its next generation of touch-safe power distribution blocks suitable for use with copper conductor. The step-shape design of the copper alloy block allows for installations in confined spaces. A transparent cover provides touch-safe protection and aids visual inspection. The cover design incorporates dovetail tabs for nesting connectors together to create multiple configurations. The connectors can be DIN-rail or panel-mounted.

Contact: ILSCO, Cincinnati, Ohio, 800-776-9775, 513-533-6200; chennessy@ilsco.com; ilsco.com.

COMBINATION VOLTAGE DETECTOR

HD Electric Company's new FireFly Fuse Tool Voltage Detector, model FTVD-15, combines a fuse tool, voltage detector, and flashlight for one tool that saves time and adds an extra level of safety for distribution work. The new combination tool features a single-range voltage detector with flashing LEDs and an audible alarm. At night, the LED spotlight eliminates the need for secondary lighting. Compact and lightweight, the unit weighs just 1 lb.

Contact: HD Electric Company, Waukegan, Ill.; 847-473-4980; hdelectriccompany.com.



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EXECUTIVE SEARCH



SUBSTATION BATTERY MONITOR

Substation backup battery maintenance is a critical component of ensuring reliability. Battery banks are needed for substation SCADA, lights, computers, pumps, and control relays. To comply with North American Electric Reliability Corporation PRC-005-2 guidelines, **Eagle Eye Power Solutions** has created the *ELM-Series Battery Electrolyte Level Monitor*, a dual sensor system that monitors the electrolyte level and temperature of individual flooded batteries. The ELM-Series uses low-cost, easy-to-install sensors that will send an alarm on a low electrolyte level or a higher-than-normal temperature. The electrolyte

level monitor is also designed to monitor any flooded battery system regardless of voltage and amp-hour.

Contact: Eagle Eye Power Solutions, Milwaukee, Wis., 877-805-3377; info@eepowersolutions.com; eepowersolutions.com.



NERC COMPLIANCE-TESTING AUTOMATION

North American Electric Reliability Corporation (NERC) CIP requirements for laptops go into effect in April, and Doble Engineering Company's Field Force Automation program can help develop a compliance-testing program to meet the new regulations and improve efficiency. Security requirements are met by standardizing diagnostic testing and data collection programs through a combination of rugged controllers, testing software, custom engineering, and data management processes. The controllers are "locked-down" devices to ensure they are only able to execute necessary, work-related tasks and to limit communication capabilities for security purposes. The controllers come preloaded with the appropriate testing software and a company's frequently used forms.

Contact: Doble Engineering Company, Watertown, Mass., 617-926-4900; corpcomm@doble.com; doble.com.



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Sherman + Reilly's new *T-1608 Bullwheel Tensioner* can deliver a maximum tensioning capacity of 8,000 lbs. and can provide low-force tensions for lighter weight conductors and fiber-optic cable. It can also maintain synchronized tensioning with up to three other Sherman + Reilly tensioners. The T-1608 has digital control of machine functions as well as real-time display of line

tension, speed, and distance. Data logging of tension activity can be stored on a flash drive. The Safe-Zone cab's polycarbonate window provides impact protection. The cab also reduces the risk of touch potential in energized environments.

Contact: Sherman + Reilly Inc., Chattanooga, Tenn., 423-756-5300; marketing@sherman-reilly.com.



SUBSTATION THERMAL MONITORING

The *TCAM2500 thermal monitoring system* from **Systems With Intelligence** can provide continuous thermal substation monitoring to anticipate, detect, and respond rapidly to problems, such as transformer fluid leaks or internal insulation breakdown. The device includes a substation-hardened video server that digitally records from multiple cameras; a suite of video analytics algorithms

for "smart" detection of anomalies; software tools for video monitoring and analysis; flexible networking capabilities; and automated alarm and event notification.

Contact: Systems With Intelligence Inc., 289-562-0126; info@systemswithintelligence.com; systemswithintelligence.com. RE



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Send news items to remag@nreca.coop or johnlvanvig@yahoo.com.

NATIONAL

STILL FLYING HIGH

Cheri White remains the nation's top female balloonist. White, general manager of the Touchstone Energy® Balloon Team and the balloon's chief pilot, claimed the Balloon Federation of America U.S. Women's National Championship in 1999. She's held the title ever since—because the competition hadn't been repeated. This past fall, though, she and 14 competitors met to face off in 11 tasks, from navigation to gauging weather conditions to balloon control. White led the field again. "Ballooning has been a part of my life since I started flying at age 13," White told NRECA News.

Rich Larochelle, a rural electric stalwart who served co-ops from posts in the federal government, NRECA, and the National Rural Utilities Cooperative Finance Corporation (CFC, service), Dulles, Va., will be inducted into the national Cooperative Hall of Fame this spring. Larochelle began his co-op career at the federal Rural Electrification Administration, the Rural Utilities Service's predecessor agency, and moved to NRECA in 1984 as an economic and policy analyst. He soon shifted to the association's



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Government Relations Department, where he served for a decade as chief lobbyist. He moved again in 1996, this time to CFC, where he served as director of corporate relations and later as senior vice president of corporate relations. Since his retirement, Larochelle has continued his co-op development work, helping to found a food co-op in Fredericksburg, Va., serving as an adjunct professor for the University of Mary Washington's new cooperative business course, and sitting on the board of the Cooperative Development Foundation, which administers the Cooperative Hall of Fame. "Induction into the Cooperative Hall of Fame is reserved for those who have made genuinely heroic contributions to the cooperative community," said Gaspar Kovach Jr., who chairs the foundation's board. Three other nationally known co-op leaders will join Larochelle at the induction ceremony, scheduled for May 3 in Washington, D.C.

REGION 1 PERFECT TEAM

The journeyman lineman team from Southside Electric Cooperative, Crewe, Va., achieved the co-op's first perfect overall score at the recent International Lineman's

Rodeo & Expo in Kansas. **Brad Ashwell**, **Greg Ayers**, and **Ashley Tuck** made up the perfect-scoring team to place 26th out of 206 competing squads. **Trevor Duers**, an apprentice lineman at Southside Electric, placed 10th out of 284 competitors in the hurt-man rescue.

Richard Johnstone Jr., executive vice president at the Virginia, Maryland & Delaware Association of Electric Cooperatives (statewide), Glen Allen, Va., has earned the CEO Award of Excellence from the Virginia Society of Association Executives. It's the highest honor the association bestows. Johnstone has been active in the group throughout his career and served as its president from 2014 to 2015.



RIchard Johnstone Jr.

Four new staffers are settling into their jobs at Northern Virginia Electric Cooperative, Manassas, Va. **Jaeneen Johnson** and **Jamie Murray** are the co-op's new customer service representatives; **Leslie Khamsivone** joined the staff as a graphic designer; and **Troy Nelson** signed on as a line technician.







Mark Morrison, director of accounting & finance at Somerset Rural Electric Cooperative, Somerset, Pa., has completed NRECA's **Robert I. Kabat** Management Internship Program. Morrison, who has worked at the co-op for 15 years, is the only Somerset Rural Electric employee to complete the demanding six-week program.

More than four decades of service to REA Energy Cooperative, Indiana, Pa., drew to a close with the recent retirement of **Gary Grindle** as the co-op's president & CEO. Board Chairman **Herm Blakley** thanked Grindle for his 43 years of service and introduced his successor, **Chad Carrick**, to the membership at the co-op's recent annual meeting. **Carrick** has worked in numerous positions at the co-op since he joined the staff in 2001. "We are confident Chad is the right choice to lead the cooperative in the future," Blakley said. Also at REA Energy, members re-elected **Michael Bertolino** and **James Harteis** to their board.

Employees at Central Electric Cooperative, Parker, Pa., congratulated **Bill Betros** on his recent promotion to assistant operations manager. Betros joined the co-op as a member of the brush crew in 1989 and moved onto the line crews in 1993. Also at the co-op, board member **Jody Weaver** has earned his Board Leadership Certificate, the second level in NRECA's rigorous director training and certification program.

REGION 2

A BRIDE'S LESSON

The hurricane that swept along the southeastern U.S. coast caused plenty of damage. But worse for one young co-op lineman and his bride was the weeklong delay it caused for the wedding they'd been planning for more than a year.

Jason Davis, who works for Palmetto Electric Cooperative, Hardeeville, S.C., and Caitlyn Sloss were to be married on the same day the storm hit the co-op's

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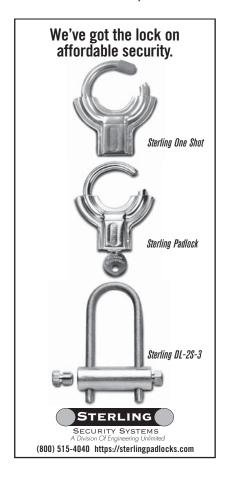


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territory, leaving 60,000 outages in its wake. Davis said he realized the wedding plans were in trouble when he checked in with his boss, who said he could take a couple of hours for the ceremony—but then the co-op would need him back on the job. Then, Davis recalled, he had to break the news to Sloss. "I told her, 'You have to understand. They're going to need me this weekend," Davis told NRECA News. The groom headed off for a string of 16-hour days until power was restored, and the couple were married the following week. And another young wife had learned what it's like to be married to a lineman. "I'm prepared," Sloss, now Caitlyn Davis, said. "I figure if I can make it through canceling the wedding at the last minute, I can make it through other difficult situations."

The combined efforts of staffers, members, and an industrial consumer at Broad River Electric Cooperative, Gaffney, S.C., provided 2,500 backpacks stuffed with school supplies for local students recently. Funds



from the co-op's Operation Round Up program covered the cost of the bags, and the nearby Dollar General Distribution Center contributed the notebooks inside. "There is a need for these backpacks and supplies throughout our area," said **Barbara Whitney**, a retired school administrator who chairs the Broad River Electric Charities Board. "We wanted to help our children ... not just with supplies but with the knowledge that their community supports them." Broad River Electric employees gathered with members of the charities board, friends, and family in the co-op's auditorium to stuff the 2,500 backpacks, and co-op representatives delivered the bags to dozens of schools and community centers. "We exist to serve our members and empower our communities," said **Josh Crotzer**, Broad River Electric's manager of community development. "We know one of the best ways to do that is to invest in our children and their education." Eight veteran staffers at Jackson Electric Membership Corporation, Jefferson,





QUESTIONS

Saidi and Caidi numbers TOO HIGH?

Rapid Loop Restoration an Enigma?

Radial Repair/Restoration Hit and Miss?



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Ga., have moved into vice president positions as the co-op completes a restructuring program. Four of the new vice presidents will report to CFO **Greg Keith: Dwayne Ansley**, vice president of operations support services; **Brittany Caison**, vice president of strategic planning & analytics; **Keith Johnson**, vice president of human resources & employee development; and **Amy Rouse**, vice president of finance, accounting & risk management. The other four will report to COO **Roy Stowe: Lee Chapman**, vice president of marketing, member relations & governmental affairs; **Joe Dorough**, vice president of engineering & operations; **Bonnie Jones**, vice president of communication; and **Jeff Keen**, vice president of information technology. "The operations and support teams bring more than 220 years of experience in the electric cooperative business to the task of achieving our mission and vision," said **Chip Jakins**, the co-op's president/CEO. "By working as a team, they'll bring better coordination and efficiency to our work, as well as stimulate innovation in how we operate, and build on this cooperative's history of providing high-quality service to our members."

Oglethorpe Power Corporation (G&T), Tucker, Ga., announced three promotions and a new senior-level hire recently. **Annalisa Bloodworth**, formerly deputy general counsel, was named senior vice president & general counsel to succeed **Chuck Whitney**, who retired. **Lori Holt** advanced to senior vice president, fuels & co-owned assets, from her previous post of vice president, fuels & energy. **Toni Presnell**, Oglethorpe Power's new vice president, environmental affairs, takes over from **Doug Fulle**, who retired. And **Heather Teilhet** joined the G&T's staff as vice president, governmental affairs, working closely with **W. Clay Robbins**, who plans to retire this spring as senior vice president, governmental affairs. Teilhet comes to the G&T from Georgia Electric Membership Corporation (statewide), Tucker, where she was vice president, government affairs. Before joining the statewide, she served on the staffs of former Govs. **Sonny Perdue** and **Roy Barnes**. "We congratulate this outstanding group as they take on new responsibilities,"





said **Mike Smith**, Oglethorpe Power president & CEO, "even as we say goodbye to several of our very talented officers as they retire."

Two newcomers are learning the ropes at Florida Keys Electric Cooperative Association, Tavernier, Fla. Lance **Good** signed on with the co-op's tree crew, bringing five years of commercial electrician experience. Walt Stephens, the new job training & safety manager, has 25 years of utility experience—21 of them in safety-most recently with Clark Energy Cooperative, Winchester, Ky. As they launched their Florida Keys Electric careers, six other co-op employees rounded service milestones: Don Barton, Lowell Locke, Lucy **Miranda**, and **Joe Sheriff**, 10 years; and Chris Wagner and Kevin **Williams**, five years. Also at the co-op, seven employees and a board member were on hand when the Greater Marathon Chamber of Commerce recently recognized Florida Keys Electric with its Community Contribution Award in the large-business category. Staffers Darrell Birkhimer, Marie Braun, Maria Jones, Yami Moreira, T.J. Patterson, Sherri Thompson, and Travis White, along with board member Mike Puto, accepted the award for the co-op. Patterson, the co-op's member service representative, was also elected to chair the Marathon Chamber.

REGION 3 'A TRUE FRIEND'

The Kentucky Association of Electric Cooperatives (statewide), Louisville, has presented its prestigious Distinguished Rural Kentuckian Award to recently retired U.S. Rep. Ed Whitfield. "Ed Whitfield is a true friend of Kentucky and of Kentucky's electric cooperatives," said Chris Perry, the statewide's president & CEO. "His understanding of and prioritizing the needs of rural Americans, regardless of party politics, are an example for all elected leaders." Other Kentucky co-op leaders echoed the sentiment. Whitfield, who served in Congress from 1995 until his retirement in September 2016, "understands the industry" and

the impact environmental regulation "has not only on the industry but on all the individuals in the state," said **Bob Berry**, president & CEO of Big Rivers Electric Corporation (G&T), Henderson, which supplies power to member co-ops serving much of Whitfield's First Congressional District. **Greg Grissom**, president & CEO at Pennyrile Rural Electric Cooperative Corporation, headquartered in Whitfield's home town of Hopkinsville, added, "Ed Whitfield has meant stability for Pennyrile Electric. He's meant stability for the cooperative program. And he's always been a strong ally for the cooperative program in Kentucky." NRECA CEO **Jim Matheson**, himself a former member of the U.S. House, agreed. "He became a great advocate for the electric co-op community because he understood the importance of the electric co-ops to his own constituents," Matheson said. "It's a great example of how our grassroots network works across the country." Two new Director Gold certificates went up in the boardroom recently

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at Pickwick Electric Cooperative, Selmer, Tenn. **John Roberts** and **Shawn Smith** have achieved the highest certification level through NRECA's rigorous director training and certification program.

Donaven Cook and **Leslie Jones** have joined the staff at Holston Electric Cooperative, Rogersville, Tenn. Cook signed on with the co-op's engineering department after completing his internship there, while Jones took an accounting clerk post. She brings 16 years of accounting experience to the job.

Three new vice presidents are settling into their jobs at Volunteer Electric Cooperative, Decatur, Tenn. Melvin Holmes was named to take over as vice president of operations services following the recent retirement of Clyde Jolley. David Murphy, the new vice president of marketing & economic development, succeeds Patty Hurley. And Matthew Teague is the co-op's new vice president of systems planning & engineering.

Aubrey Cagle, operations engineer at Cumberland Electric Membership Corporation, Clarksville, Tenn., has earned her power distribution engineer certificate from the Tennessee Valley Public Power Association (service), Chattanooga. Earning the certificate "is an outstanding achievement by any standard," said John Cooke, the association's training director, adding that the co-op will "benefit quickly and significantly as a result of the work Aubrey did to earn this recognition." Cumberland Electric

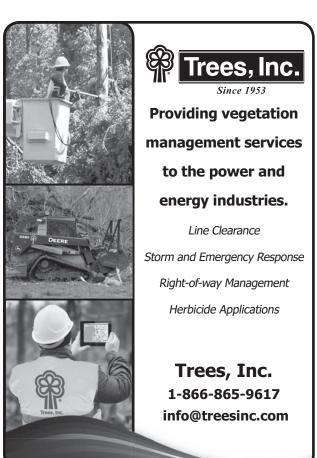
General Manager **Jim Coode** also offered his congratulations. "Aubrey represents the very best of our cooperative. She plays a vital role in helping us serve our members to the best of our ability every day."

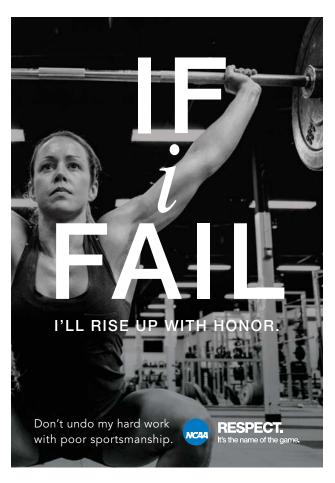
REGION 4 DENEWETH MOURNED

Co-op leaders across Michigan mourned the recent passing of **Rick Deneweth**, a member of the board at Cherryland Electric Cooperative, Grawn, Mich., and the co-op's representative to the boards of both Wolverine Power Cooperative (G&T), Cadillac, Mich., and the Michigan Electric Cooperative Association (statewide), Lansing. "Rick was known for his keen intellect and his commitment to the electric cooperative mission," said **Craig Borr**, the statewide's CEO. "He will be missed deeply by us all." Deneweth was 59.

Wolverine Power Cooperative (G&T), Cadillac, Mich., announced three promotions recently. **Zach Anderson**, who started with the G&T in 2011 as an associate power coordinator, is now vice president of power supply. **Dawn Coon**, a 13-year employee, was named executive director of administration. And **Katie Deller**, who joined the staff in 2015, was promoted to administrative supervisor.

Tom Ulatowski has joined the Michigan Electric Cooperative Association (statewide), Lansing, as a safety & loss control instructor. A 17-year utility industry veteran,





Ulatowski comes to the statewide from Cherryland Electric Cooperative, Grawn, Mich., where he was a lineman. "The goal is for all of our safety program participants to return home safe to their families each night," said Joe McElroy, safety director at the statewide. "The skills, background, and industry knowledge that Tom brings with him will play a key role in helping us deliver upon that goal."

Employees, directors, and consumers at South Central Indiana Rural Electric Membership Corporation, Martinsville, Ind., mourned



Albert Taylor

the recent passing of Albert Taylor, a member of the co-op's board since 1989. "We will miss Al's quiet but caring demeanor and his dedi-

cation to the members," said Greg McKelfresh, president & CEO.

The power delivery & engineering department at Ohio's Electric Cooper-



Tom Schmidt Ryan Strom

atives (statewide/G&T), Columbus, has promoted two staffers. Tom Schmidt moved up to senior engineer for power delivery, taking a lead slot on major transmission projects and serving as the main point of contact with Ohio's investor-owned utilities. Ryan Strom

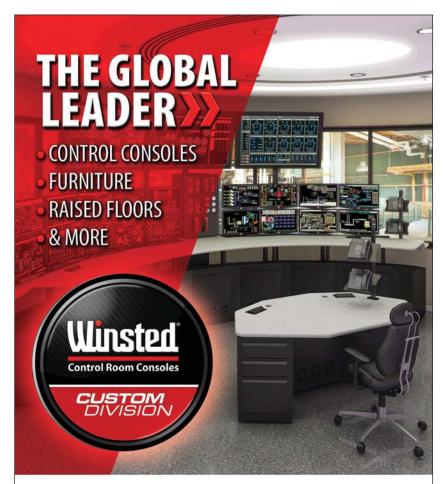
was named

manager of power delivery, regulatory services & North American Electric Reliability Corporation compliance.

He'll be in charge of reviewing and analyzing annual transmission and wholesale power rates.

Five trustees at Consolidated Electric Cooperative, Mt. Gilead, Ohio, have achieved Director Gold status under NRECA's director training and certification program. Earning the distinction were Larry Roof, who chairs the board; Donald McCracken, vice chairman; Richard Miller, board secretary; and Phillip Edwards and H. Richard Gearhiser.

The Rural Electricity Resource Council (service), Wilmington, Ohio, has closed down. Slipping dues revenue from cost-conscious member utilities prompted the council's board to weigh its options, but President/Executive Manager **Richard Hiatt**'s recent decision to slow down a bit forced the board's decision. "I'm calling it semi-retirement because I hope to continue helping rural power suppliers, but at a slower pace," he said. The council's strapped



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finances made it tough to find a replacement, according to **Rick Gerdeman**, the general manager/CEO of Midwest Electric, St. Marys, Ohio, who chaired the council board. "We didn't want to ask for membership renewals and be unable to give members their full year of services," he said.

REGION 5 HOBBIE'S MOVE

Eric Hobbie has been named president/CEO at Prairie Power (G&T), Springfield, Ill. Formerly the general manager at Menard Electric Cooperative, Petersburg, Ill., one of Prairie Power's member systems, Hobbie also spent 22 years at Springfield's municipal utility. "Eric's background and leadership skills will serve the organization and its members well," said **Jim Thompson**, who chairs the G&T's board. Hobbie takes over from **Dan Breden**, a 40-year Prairie Power employee who retires this month as the G&T's interim president/CEO. Thompson said Breden "led our organization flawlessly. He is a great leader and will be missed."

Six board members at Adams-Columbia Electric Cooperative (ACEC), Friendship, Wis., have earned their Director Gold certificates, the highest level in NRECA's director training and certification program. Gene Alexander, Lawrence Becker, Marj Colby, Patrick Connolly, Cheri

Gibeaut, and **Kendal Nichols** "have added this certification as part of an ongoing commitment to advancing their knowledge and leadership skills for the benefit of all ACEC members and employees," the co-op reported.

Central Iowa Power Cooperative (CIPCO, G&T), Cedar Rapids, Iowa, energized the first of a planned five-array, 5.5-MW utility-scale solar project recently. The 3,708-panel array is located in territory served by East-Central Iowa Rural Electric Cooperative, Urbana. "CIPCO is committed to providing a diversified generation pool to our members, which assists with providing safe, reliable, and cost-effective electricity," said **Dennis Murdock**, the G&T's executive vice president/CEO. "Incorporating utility-scale solar into the mix makes sense, particularly as we continually strive to reduce emissions."

When NRECA circulated a plea for a mechanic to help repair trucks at an electric co-op in Haiti, **Gabe Roetman** of North West Rural Electric Cooperative, Orange City, Iowa, answered the call. And then others stepped up to help Roetman get ready, according to an account in *Electri-gram*, the internal newsletter published for members of the Iowa Association of Electric Cooperatives (statewide), Des Moines. "We received a picture of the tools that were available down there, and all they had was a few open-end wrenches," the statewide reported. "We knew in order to make any real progress, we had to





send him down with some tools and parts to make the necessary repairs." **John Dvorak**, the statewide's safety director, took Roetman to a tool store, where manager Sam Dorsey pitched in. "She provided \$500 worth of tools for \$100," *Electri-gram* said. Dvorak gave Roetman the suitcase he had used for previous international work, along with some military Meals Ready to Eat, some Green Power T-shirts, a solar phone charger, and \$100. "Gabe took three bags of tools and equipment with him to Haiti," the newsletter said.

Scott Meinecke has joined the staff at the Iowa Association of Electric Cooperatives (statewide), Des



Scott Meinecke

Moines, as a job training & safety instructor based in the northwestern part of the state. Meinecke comes to the statewide from

Northwest Iowa Community College in Sheldon, where he'd been a power line instructor since 1989. Before that, he was a substation foreman at Iowa Lakes Electric Cooperative, Estherville, Iowa. "He brings a wealth of experience, knowledge, and skills to the table, and he is excited to be a member of the statewide team," the association said in announcing the hire.

Board members at Corn Belt Power Cooperative (G&T), Humboldt, Iowa, recently welcomed Brad Honold into their ranks as the newest representative of the North Iowa Municipal Electric Cooperative Association. Honold, manager of Coon Rapids Municipal Utilities, succeeds Ron Deiber, who retired from the G&T's board last summer. "Coon Rapids Municipal and Corn Belt are both member-owned and memberdriven," Honold said. "From the larger picture, we are working together to help make decisions that benefit our memberships."

REGION 6 'STILL MAD'

longtime member of Dakota Valley Electric Cooperative, Edgeley, N.D., $oldsymbol{\Lambda}$ has a long memory for investor-owned utility slights, according to his statewide-manager son. John Wheelihan, 99, still attends the co-op's annual meetings after 66 years on its lines—in part because he remembers what happened when he asked the local investor-owned utility for service back in 1950. His son Dave Wheelihan, who worked at the North Dakota Association of Rural Electric Cooperatives (statewide), Mandan, before taking the CEO job at the Montana Electric Cooperatives' Association (statewide), Great Falls, recalled the story for NRECA News. "They wanted \$4,000 to run the line," Dave

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Wheelihan explained. "He said, 'No, I'll wait for the REA." That was in 1950. He's still mad about that."

The Backyard Garden project at Basin Electric Power Cooperative (G&T), Bismarck, N.D., produced a hefty surplus last year, resulting in equally hefty donations of fresh vegetables to food pantries in the area. Nearly 300 pounds of produce went to the Salvation Army's food bank, according to Tracie Bettenhausen, the Basin Electric senior staff writer/editor who oversees volunteer gardeners and coordinates their donations. That came after earlier harvests went elsewhere, she told NRECA News. "Early in the summer, we have lots of radishes, and I know the older population loves fresh garden radishes like they used to grow on their own. So I make sure those harvests go to the Burleigh County Senior Center. When we have large harvests of corn and potatoes later in the summer, I usually direct the veggies to the Bismarck Emergency Food Pantry." The late-season delivery to the Salvation Army was much appreciated, said LeAnn Knoll, food pantry manager. "As soon as they bring it in, we weigh it, and then it's gone," Knoll said. "It's beautiful, and it's free. The need is huge. Basin is one of our bigger donors, and we do thank them."

Whetstone Valley Electric Cooperative, Milbank, S.D., has promoted **Jon Christensen** to operations manager. Christensen has worked at the co-op for nine years, first as

a lineman and later as a mapping and staking technician.

Great River Energy (G&T), Maple Grove, Minn., played host to a group of visiting German energy professionals recently as part of the Climate-Smart Municipalities Exchange. **Glenn Hauck**, **Derek Johnson**, **Janeen**



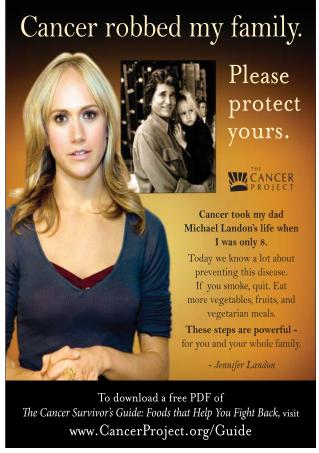
Laureen Ross McCalib



Sandra Broekema

Wolfsteller, Tim Steinbeck, and Kyle Leier showed off operations at Great River Energy's Elk River Station and its Resource Processing Plant. State Sen. Mary Kiffmeyer joined the Germans on the Great River tour. "This was a great opportunity to showcase how we effectively manage municipal waste and recover recyclable materials before converting it into fuel for our power plant," Steinbeck said. The G&T also announced two promotions recently. Laureen Ross McCalib, formerly manager of resource planning, moved up to director of resource planning. And Sandra Broekema advanced from manager of business development to director of corporate & business development.





REGION 7

DOGGETT SIGNS ON

R on Doggett has joined the staff at Southwest Public Power District, Palisade, Neb., as the



Ron Doggett

system's new operations manager.
Doggett comes to the district from Gering, Neb., where he served for 12 years as the city's utility superinten-

dent. He settled quickly into his new community, signing on promptly with the volunteer fire department. Also at the power district, **Blaine Stinson** was elected to the board following the recent retirement of longtime President **Robert Romine**.

Employees, board members, and consumers at Ninnescah Rural Electric Cooperative Association, Pratt, Kan., mourned the recent passing of **John Tilley**, the co-op's manager of operations. Tilley joined the co-op's staff as a lineman in 1982 and moved into the operations post 10 years ago.

Arlan Mitchell has retired as general manager at Doniphan Electric Cooperative Association, Troy, Kan. Mitchell served in the top staff post for more than 18 years, but his involvement at the co-op began more than a decade earlier when he was elected to its board. Also at Doniphan Electric, staff and board members were saddened by the recent death of James Ruddy, a retired board member.

Officers and executive committee members have been elected at Kansas Electric Power Cooperative (G&T), Topeka. The G&T's trustees elected **Kevin Compton**, board vice president at Brown-Atchison Electric Cooperative Association, Horton, as president; **Robert "Dale" Short**, general manager/CEO at Butler Rural Electric Cooperative, El Dorado, as vice president; **Doug Jackson**, general manager at Rolling Hills Electric Cooperative,

Mankato, as secretary; and **Dean Allison**, a board member at DS&O Electric Cooperative, Solomon, as treasurer. Joining them on the G&T board's executive committee are **Steve Foss**, CEO at the newly merged FreeState Electric Cooperative, McLouth and Topeka; **Kirk Thompson**, general manager at CMS Electric Cooperative, Meade; and **Scott Whittington**, general manager/CEO at Lyon-Coffey Electric Cooperative, Burlington.

REGION 8

HELP IN TIME

A two-man line crew from Verdigris Valley Electric Cooperative, Collinsville, Okla., was a little late getting on the road recently—but they were just in



time to help save two people severely injured in a highway accident. "There were two cars in the road that had a wreck, and there was smoke coming out of one of them," Roger Salisbury, lead maintenance lineman, told NRECA News. "We pulled up, and a guy that was already there ran up to our truck and asked if we had a fire extinguisher." It was a co-op truck, so it had two. Salisbury grabbed one, and his crewmate Ricky Rimpley took the other. Rimpley worked to snuff one vehicle's engine fire while Salisbury checked on the driver. "At first I thought she was dead, but I put my hand on her and could tell she was alive but unconscious," he said. They also disconnected a shorting heater fan in the other vehicle while waiting for first responders. "They said it was six minutes," Rimpley said. "But it felt like a lot longer." Both accident victims were rushed to a hospital with serious injuries, and they're expected to recover. Salisbury and Rimpley both received letters of recognition from U.S. Rep. Markwayne Mullin.

Pointe Coupee Electric Membership Corporation, New Roads, La., recently recognized 10 employees who rounded major service milestones. The honorees were Marilyn Wire, 35 years; Rhonda Fortie, 30 years; Deron McLin, 25 years; Wright "B.J." LaCour and Josh Sanders, 15 years; Marie Givens, Pamela David, and James Jewell, 10 years; and Chad Nichols and Thad "T.J." Trevillion, five years. "The employees' experience, knowledge, and

dedication are proof of their commitment to providing the best possible service to our members and improving the quality of life in our area," said Jimmy Ewing Jr., the co-op's board president. "We take pride in our employees and what they bring to the co-op."

Staffers at Alfalfa Electric Cooperative, Cherokee, Okla., welcomed two newcomers and congratulated two co-workers on their new posts recently. Robyn Turney, a retired high school teacher, joined the staff as communications specialist, while Brandon Wright came aboard as director of engineering/purchasing agent. Clint Ream came in from the outside crews to take the staking technician post, and Kevin Lingemann moved up to assistant director of engineering after 22 years on the staff.

REGION 9 PROVEN LEADER

The board of trustees at Benton ■ Rural Electric Association, Prosser, Wash., has made it permanent: After nearly a year as interim general manager, Michael Bradshaw has been named the co-op's general manager/executive vice president. Bradshaw has worked at the co-op for Michael Bradshaw





27 years, serving as manager of finance and special services manager before stepping in as interim general manager last February, and he has 35 years of experience at consumerowned electric utilities. "We couldn't be happier with the job that Mike Bradshaw has done as the interim general manager and are fortunate to have his leadership and experience as our new general manager," said **Michael Freepons**, board president.

Dennis Esaki has resigned from the board of directors at Kaua'i Island Utility Cooperative (KIUC), Lihue, Hawaii, for personal and professional reasons after several stints on the co-op's board since its founding in 2002. During his tenure, he also served as the state's representative on the NRECA board, where he chaired the Marketing, Communication & Business Development Committee. "KIUC has come a long way, from zero equity to about \$100 million in equity, and returning \$25 million to the members thanks to the vision and hard work of the founders, the partners/associates, staff, and directors," he said in his letter of resignation. "I believe that I have gained a lot more than I have given, including the friends that I have made throughout the nation." Board members named incumbent director **David Iha** to succeed Esaki. "Moving an incumbent director into the unfinished term means we let the members decide on filling the vacancy as soon as possible," said Jan TenBruggencate, board chair.

Sonja Bogart has been named COO at Umatilla Electric Cooperative (UEC), Hermiston, Ore. She comes to the post with two decades of co-op experience, most of it at Wright-Hennepin Cooperative Electric Association, Rockford, Minn., where she has been vice president of customer service, sales & marketing since 2002. "She has proven herself, rising to a high level in a well-respected cooperative," said Robert Echenrode, general manager & CEO at Umatilla Electric. "Along with her broad experience, she brings knowledge and appreciation of our area with her hometown roots." Bogart said she was happy with her move. "UEC is going through an exciting time with growth and opportunity, and I'm glad to be here."

Ruralite Services (service), Hillsboro, Ore., has named **Ted Case**, executive director at the Oregon Rural Electric Cooperative Association (statewide), Wilsonville, as its Communicator of the Year. Editors of *Ruralite*, published by the service organization for co-op consumers in seven Western states, cited Case's columns and features in choosing him for the honor. "Every month, I look forward to seeing who and what Ted is going to share with his readers," said **Jennifer Brown**, assistant editor. "His enthusiasm for writing is both obvious and contagious. He is committed to keeping his members informed and entertained."

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REGION 10 VILSACK'S VISIT

Then-U.S. Secretary of Agriculture **▲ Tom Vilsack** showed up in person to announce a \$68 million energy and conservation loan to Pedernales Electric Cooperative, Johnson City, Texas. The money will provide low-interest financing that co-op members can tap for efficiency and renewable-energy investments. Vilsack joined John Hewa, CEO/general manager at Pedernales Electric, and NRECA CEO Jim Matheson in a roundtable discussion of the Rural Utilities Service loan program and how renewable energy and utility technology can strengthen small rural businesses. "The historic public-private partnership between the Rural Utilities Service and electric co-ops that led to an electric grid

spanning the continent has evolved, enabling rural communities to leverage the benefits of advanced technology," Hewa said. "Even as the technology for delivering safe, affordable, and reliable electric service is revolutionized with automation and advanced communications technologies, the end-goal remains the same: strengthening economic prosperity in rural America." Matheson agreed: "The Pedernales Electric loan program illustrates how the cooperatives' consumer-centric business model can promote innovation and strengthen communities."

The human resources staff at Arizona G&T Cooperatives, Benson, were proud to make the finals in a recent awards event for the Greater Tucson Society for Human Resources Management. "Being a finalist really reflects well on us as an organization,"

said **Emery Silvester**, director of administrative services. "I think we're known by the quality of our programs and the quality of our employees. We're impressed by other HR departments and professionals we meet, but they're also impressed by the things we're doing as an organization."

Two newcomers recently settled into their jobs at Central Valley Electric Cooperative, Artesia, N.M. **Justin Jenkins** signed on as an apprentice lineman, and **Christian Robles** is the new operations engineering technician.

Trustees at Lea County Electric Cooperative, Lovington, N.M., have appointed **Travis Glenn** to join them at the board table. Glenn succeeds **John Ingle**, who retired from the board recently after three decades of service. **RE**

FLASHBACKS FROM PAGE 9

After J. Peter Grace, of the infamous Grace Commission, recommended privatizing REA and then wrote to the *NEWS Letter*, Brown retorted: "August is when psychiatrists close down for a month, leaving their clients on their own, therefore I shouldn't be surprised by irrational appeals..."

On August 30, 1985, the subject was co-op loyalty: "Rural people have learned to be wary of itinerant roofers, termite exterminators, and snake oil salesmen. The promises of power companies whose ownership control is several states removed are just as suspect. If it is a good deal for the power company to take over the co-op, why is it not a good deal for the members to keep it?"

Public greed never failed to get under Brown's skin. "The failure of government to put reasonable restraints on money manipulators made magazine cover boys of the truly greedy, who came to take billions from the economy and cost a lot of people their businesses and jobs," he wrote on January 31, 1992.

In his baseball column on June 4, 1982, he said he had noticed that

people who wrote bad poetry and liked baseball also liked the REA. Then he told the story of the unknown pitcher who drifted into Elkin, N.C., in overalls one Sunday afternoon a long time ago, pitched 13 scoreless innings against the visiting HiToms, "getting stronger as he went, and [then] when the fog threatened to end the game along about midnight, [he] went to the plate and effortlessly won his own game with a home run."

J.C. and other people in the stands that night took up a collection for the phenom, turned it over to him, and then "watched him amble off into the fog toward the river," never to be seen or heard from again.

J.C. always kept the co-op consumer in mind. "Whatever we do is useful only if it serves the welfare of the families at the end of the line," he reminded his readers on August 14, 1987. Co-ops were "their main hope for an improvement in a dismal economy. Who else is strong enough and has a broad interest in rural America to do anything for them?"

He got into the business at a time when animosity between co-ops and

investor-owned utilities was red hot, and his rhetoric on the subject stayed that way throughout his career. He devoted his column on December 17, 1976, to power company executives: "I recall being seated in a church pew beside one, who cordially introduced himself. As soon as I identified myself, he reddened and sped off to another pew with his somewhat startled wife."

J.C.'s last "Conversation Piece" was published on June 18, 1993. He recalled a late 1950s visit to a rural North Carolina home on the day after it had been electrified. He noticed the new radio, electric stove, refrigerator, freezer, and washing machine.

But it wasn't until the woman of the house opened a cabinet and took down an electric iron that he really understood the significance of the occasion. She looked at it like it was "a fragile jewel, and asked me to show her how to use it.

"Never in her life had she used an electric iron. That more than the washer or the freezer or the radio was what electricity meant to her. REA? REA was not a federal agency. It was an electric iron." **RE**



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