

CTCE At-A-Glance

Cooperative Technologies Conference & Expo

Tuesday, 13		
9:00 AM - 7:00 PM	Exhibitor Setup Optional setup for exhibitors	Kensington Ballroom
9:00 AM - 11:00 AM	Registration Early Check-in is open	Hampton Foyer
11:30 AM - 4:40 PM	Fishing Excursion Inshore fishing excursion	Cricket Cove Marina
12:00 PM - 1:00 PM	Lunch on your own Box lunches provided for golf participants at the course.	
12:30 PM - 5:00 PM	Golf Outing Captain's Choice format. Check-in begins at 11:30 AM. Shotgun start 12:30 PM. Shuttle provided from Kingston Plantation.	Arcadian Shores
Wednesday, 14		PDH: 6
7:00 AM - 8:00 AM	Women Lighting the Way Networking Breakfast Susan Flythe, Executive Vice President & General Manager, Cape Hatteras Electric Cooperative	Nightwatch Room
7:30 AM - 10:15 AM	Exhibitor Setup Setup for exhibitors	Kensington Ballroom
7:30 AM - 8:30 AM	Registration Registration Check-in is open	Hampton Foyer
8:30 AM - 9:00 AM	Conference Kick-off Opening Remarks	Windsor Ballroom
9:15 AM - 10:15 AM	A Brighter Energy Future Driven by service and inspired by innovation, North Carolina's Electric Cooperatives are building a brighter energy future for 2.5 million North Carolinians. Working together, this group of 26 electric cooperatives is developing and delivering new energy solutions that put cooperative consumers and the vitality of our state first. The roots of these forward-focused energy solutions grow from three values North Carolina's Electric Cooperatives believe in: 1) Creating a low-carbon emissions environment through sustainability and continued investment in low- and zero-emissions resources, 2) Integrating technology to make distribution grids more resilient, robust and flexible for an energy future that includes consumers' participation through demand response programs and new energy resources distributed across the grid, and 3) Improving efficiency of the overall energy sector by electrifying processes formerly powered by fossil fuels. Electric vehicles are a primary example of this conversion. Joe Brannan, Executive Vice President and Chief Executive Officer, North Carolina Electric Cooperatives	Windsor Ballroom
10:15 AM - 10:30 AM	Break Refreshments and transition to next session	
10:15 AM - 4:15 PM	Exhibitor Hall Opens Spend time meeting exhibitors. Buffett lunch provided.	Kensington Ballroom
10:30 AM - 11:30 AM	Breakout 1 High speed distribution voltage regulation to support renewables This presentation introduces voltage regulation of distribution feeders using power-electronics based apparatus to regulate the voltage in cycles with unlimited operations and no maintenance. Applications include eliminating flicker and sags/swells caused by renewables or large industrial loads.	Windsor Ballroom
Robert McFetridge, Regional Sales Manager – Eastern US, AMSC		

12:45 PM - 1:45 PM

Breakout 2

- **Is your disaster recovery site ready for a real disaster?**

Windsor Ballroom

Can your disaster recovery architecture handle the demands of your business continuity plan? The need to exercise your DR/BC plan isn't limited to fires, floods, tornadoes, or hurricanes. What about cyber incidents, upgrade failures, and data corruption? Join us for a discussion on how you can create a DR/BC plan that utilizes the tools, technologies, and lessons learned from design to implementation.

Jeffrey McGuff, Sales Engineer, Data Network Solutions

1:45 PM - 2:00 PM

Break

Refreshments and transition to next session

2:00 PM - 3:00 PM

Breakout 3

- **Rural Electric Cyber Advancement Program (RECAP)**

Windsor Ballroom

Most of us are familiar with RESAP and the benefits it provides in the realm of cooperative safety. The SC Cybersecurity Taskforce, with assistance from the NRECA RC3 program, has been working to create a similar program (RECAP) to address the ongoing cybersecurity issues facing our industry today. This session will explain what led to the RECAP initiative, some high-level observations from early assessments, and future plans for the program.

Peggy Dantzer, Vice President Loss Control and Training, The Electric Cooperatives of SC

Steve Davidson, VP of Information Technology, Fairfield Electric Cooperative

3:00 PM - 3:15 PM

Break

Refreshments and transition to next session

3:15 PM - 4:15 PM

Breakout 4

- **Thermal Cameras Concepts and Applications**

Windsor Ballroom

The presentations will explain thermal cameras and their application in surveillance and predictive maintenance roles. The presenters will discuss how to combine thermal imagers with traditional visible cameras for Bi-Spectrum application. Describe how thermal imaging platforms can enhance Fire detection and temperature measurement to safeguard substations and reduce the risk of critical equipment failure. Platforms can incorporate SCADA integration and send alarms to connected devices such as tablets and smart-phones. Alarms can be sent with video clips of what led up to an event or a trend that is forming to create an intelligent live monitoring scheme replacing the limited value of annual audits. With these new alarming techniques equipment can be removed from service prior to damage from thermal issues, which will prevent costly unscheduled downtime due to unforeseen problems. With thermal imaging technology utilities can monitor trends in asset health as a means of improving reliability and reducing the total cost of repairs.

Deborah McLeod, Co-Founder and President, Embedded Logix (Smart-LX®)

Antonio Middleton, Application's Engineer, Hikvision

4:15 PM - 4:30 PM

Break

Refreshments and transition to next session

4:30 PM - 5:30 PM

RC3 and Beyond RC#

Windsor Ballroom

Cybersecurity table top exercises are a vital role in the cybersecurity preparedness of a coop. They bring together employees from various departments in the organization to test and validate the organizations processes and capabilities. These exercises identify existing capability gaps and areas for improvement — before a cyber incident occurs. NRECA’s RC3 Program is assisting small and mid-sized electric distribution co-ops in their cybersecurity preparedness. The project created cybersecurity scenarios and a DIY tabletop toolkit for these exercises. A variety of scenarios were tested by a group of co-ops. The resulting portfolio of tabletop exercises will be released to the co-op community this spring. During this session your will hear from two of the co-ops who worked to help develop these scenarios. They will share lessons learned and the benefits of conducting these exercises.

Robin Harrell, Manager, Technical Services, Roanoke Electric Cooperative

Adaora Ifebigh, R&D Engagement Senior Project Manager, NRECA

Jon Watkins, Manager of Information Services, Pioneer Electric Cooperative

5:30 PM - 7:00 PM

Welcome Reception (light hors d’oeuvres)

Kensington Ballroom

Reception - Light Hors d’oeuvres

Thursday, 15

PDH: 7

8:00 AM - 9:00 AM

Distribution Operator

Windsor Ballroom

Growing edge-of-grid activities, including high levels of distributed energy resources, will continue to impact the electric grid and your distribution systems. To help mitigate these impacts, NCEMC, in coordination with eight NC cooperatives, have developed a working group to further explore and refine the distribution operator (DO) environment. The working group has defined the DO functions, communication protocols, procedures, tools, and provided a starting point for a DO implementation plan. This session will include several members from the working group sharing how they see the project impacting their co-op.

Don Bowman, Manager of Engineering, Wake EMC

Dennis Mabe, VP Engineering & Operations, Randolph EMC

Lee Ragsdale, Senior Vice President, Grid Infrastructure and Compliance, North Carolina Electric Cooperatives

9:00 AM - 9:15 AM

Break

Refreshments and transition to next session

9:15 AM - 10:15 AM

Breakout 5

Incorporating Pole Loading Software into a Co-op's Day to Day Operations

Oxford

Electric Cooperatives are under constant pressure to improve internal processes and increase productivity and efficiency, all the while keeping costs down and adhering to regulation changes. Randolph EMC faced a similar challenge, as they wanted to empower their stakers with the ability to make design decisions more efficiently and observe the NESC guidelines, all without continuing to over-build their overhead distribution power system. During the presentation, Randolph Electric will review the common challenges they faced, the decisions that drove them to implement a pole loading software into their operations, and the return on investment they are seeing with the time and costs benefits. Additionally, Randolph Electric will describe their "start small" implementation process when incorporating an application like SPIDAlcalc into their technology mix.

Jacob Barlow, Sr. Project Engineer, Randolph EMC

Tom Brandewie, Director, Business Services, SPIDA Software

- **Get the most out of your Microsoft Cloud**

Winchester

The Cloud is a great environment to run workloads and applications. There is no up front costs, you pay for only what you use and you get the most up to date applications and services. This sounds like the best of both worlds. It is when you have the tools and automation in place to optimize your cloud environment. We will show you how you can use everything that you are paying for in the cloud, right size the cloud workloads and reduce the monthly costs. We will also show you the tools that will help you maximize your investments in Office 365 and give you the work flows and automation that can lower the cost of management and only pay for the licenses that you are using.

Charles Ahern, Senior Consultant, Cambridge Computer Services

- **What Does Your Data Know That You Don't Know**

Somerset

"Big Data" may soon need to be retitled "Mega Data", as cooperatives generate an increasing amount of data from sources spread across their entire systems. Now that these large stores of data exist, what pertinent information resides within their confines that can help electric cooperatives be more efficient, reliable and adaptive? Laurens Electric Cooperative, New Horizon Electric Cooperative and Meridian IT have been working together to provide a Proof of Concept to answer some of these questions. This session will provide a peek into what data analytics has revealed to date, as well as present some possibilities that predictive analytics can provide going forward.

Bobby Smith, Director of IT, Laurens Electric Cooperative

9:15 AM - 2:30 PM

Exhibitor Hall Opens

Kensington Ballroom

Spend time meeting exhibitors. Box lunch provided.

10:15 AM - 10:30 AM

Break

Refreshments and transition to next session

10:30 AM - 11:30 AM

Breakout 6

- **Distribution Automation Without Starting From Scratch**

Oxford

Distribution Automation is really the next big – technical, complex, expensive – component of the modernized grid to improve reliability of the services we provide our members. This session focuses on two case studies of how utilities are achieving Distribution Automation without mass change outs of legacy equipment, and without the deployment of advanced telecommunications. This presentation will include lessons learned from Distribution Automation deployments at Surry-Yadkin EMC and Kansas City Board of Public Utilities.

Josh Black, President/CEO, Principal Engineer, Electrical Consulting Engineers

Kurtis Bleak, Distribution Studies Engineer, POWER Engineers Inc

- **Building an Information Security Program**

Somerset

How can you develop, implement, and monitor your co-op's Information Security Program? Whether you are just beginning, had a formal ISP in place for years, or just have questions about whether your program satisfactorily addresses pesky compliance requirements (e.g. PCI), join this session to build a program from scratch. Discuss common missteps, errors, and effective strategies in the field of information security. Areas covered will include security tasks and activities that every organization should be performing routinely, compliance gotchas, the basics of monitoring, and tools (opensource and commercial), and processes that can help your organization improve their security posture.

Slade Griffin, Director of Security Assessments, Contextual Security Solutions

Kevin Thomas, Co-Founder, Contextual Security

- **Broadband: Is It Right For You?**

Winchester

The idea of a Broadband project can be overwhelming for most Cooperatives. The unknown of what service providers are in their area, what speeds they offer, and many other questions can stall discussions and make decisions almost impossible. In this session you will learn what a broadband feasibility study includes and how to get started.

Rudy Tober, CMO, NRTC

12:15 PM - 1:15 PM **Breakout 7**

• **Considerations for Accepting Large-Scale Distributed Energy**

Oxford

• **Resources on Distribution Systems**

The risks of adding significant levels of distributed generation are systemic and potentially threaten the power quality and operation of modern distribution systems. To address these risks, stakeholders must consider pre-emptive measures in terms of engineering decisions as well as technical policies. Legacy policies of maintenance and operation at the time of initial integration of Distributed Energy Resources may not be applicable as grid modernization occurs.

Neil Shepard, Engineer III, Pike Engineering

• **Future-Proofing the Data Center with a Hyper-Converged**

Winchester

• **Infrastructure**

Is the administrative overhead of a traditional 3-tier architecture getting to be overwhelming? Do you want a cloud-like, single-pane-of-glass, non-disruptive upgrade experience without actually going to the cloud? Come find out how a hyper-converged infrastructure can simplify administration, provide seamless integration, and improve overall performance.

Dan Drude, VP of Sales, Premier Technology Advisors

• **Trying to Reason with Hurricane Season**

Somerset

The words from Jimmy Buffet's "Trying to Reason with Hurricane Season" pretty much summed up 2018 for a lot of Co-ops in North Carolina and South Carolina. Record rains and relentless winds torn thru many service territories leaving a path of devastation. However, it is in the darkest of these moments that Cooperatives shine. This session will focus on the technologies that helped Cooperatives restore power during the storms of 2018. Central EMC, Brunswick EMC, and Tideland EMC will share thier stories of how technology played a role in power restoration.

TW Allen, Director of Substations and metering, Tideland EMC

Angela Hare, Vice President of IT and CS, Central EMC

Dana Mauldin, Manager of Safety, Brunswick EMC

1:15 PM - 1:30 PM **Break**

Refreshments and transition to next session

1:30 PM - 2:30 PM **Breakout 8**

• **Innovative, Outage Reducing Grounding Solutions**

Oxford

This presentation highlights the use of grounding products and materials specifically designed to improve overall system performance while simultaneously improving labor costs associated with traditional grounding techniques. Utilities are constantly faced with high resistivity terrain or urban environments with very little room to work - inevitably leading to high ground impedances and poor customer satisfaction during storm events. SAE's products provide the utility with a simple installation solution - a solution that provides a low impedance, low resistance path for surge energy to travel to ground. SAE completed a field trial with Blue Ridge Energy for a customer experiencing electrical problems in rocky, mountainous terrain. The products used were able to reduce ground resistance readings by over 60% and eliminated the customer's problems.

Kris Cox, Utility Technical Specialist, SAE Inc.

- **Building the Case for Enterprise Detection & Response**

Somerset

Cyber criminals are employing increasingly sophisticated tactics to infiltrate and surveil US utility organizations and attack US commerce. This session will describe how security program planning must evolve to keep pace with current threats and offer insights into how organizations should prioritize investments to develop a well-rounded security program. The presentation will include a short threat briefing and highlight specific learnings from recent security breaches. This session will be particularly helpful to security and technology leaders looking to make sense of confusing marketing buzzwords and develop a framework for prioritizing information security investments in their operations.

Stephen Rossen, Regional Security Services Director, Secureworks, Inc.

- **Wireless alternatives to RF mesh, PLC, and cellular**

Winchester

Low Power Wide Area Networks or LP-WAN wireless technologies such as LoRA, Sigfox, RPMA and NB-IOT have received considerable press coverage over the last 5 years but actual deployments have lagged. LP-WAN is being used to cost effectively provide complete wireless coverage on private networks to even the most rural EMCs. Hear actual use cases for AMI, DR, Smart Lighting, and even underground fault detection.

John Steinberger, VP of Sales, Trilliant

2:30 PM - 2:45 PM

Break

Refreshments and transition to next session

2:30 PM - 4:00 PM

Exhibitor Break Down

Exhibitors may break down their booths at this time

Kensington Ballroom

2:45 PM - 3:45 PM

Breakout 9

- **Pole Restoration- An Alternative To Pole Replacement**

Winchester

Pole restoration using trusses has been utilized by electrical utilities for over 50 years. The use of trusses offers a utility the opportunity to extend the life of a pole that is considered a reject by NESC standards. Utilizing trusses can save a significant amount of money, and reduce a backlog of reject poles quickly. Restoration can also be considered a capital expenditure since it is extending the life of an asset.

Patrick Kraft, Director, Business Development, Osmose Utilities Services, Inc.

- **Multifactor Authentication**

Oxford

Why do you need Multifactor Authentication and how should you go about implementing it? Join this session to hear different Co-op perspectives on MFA and learn how it was implemented.

Danny Phillips, Server Administrator, Brunswick EMC

Joe Warling, Director of Information Technology, Randolph EMC

Mike Webb, Old Dominion EC

- **IT/OT Jeopardy**

Somerset

Come join us and test your knowledge on various IT/OT topic categories. Three to six teams will be formed to compete and phrase their answers in the form of a question. The winning team with the most points will walk away with the prizes. Get your team formed before the session starts and be prepared to learn while having a bit of fun! Don't want to participate on a team? Come and enjoy the session as part of the Jeopardy audience!

3:45 PM - 4:00 PM

Break

Refreshments and transition to next session

4:00 PM - 5:00 PM

Emerging Trends in Solar and Energy Storage

Windsor Ballroom

The panelists will provide the latest update on the state of solar and storage technology, applications, economics, financing and enabling policies. The panelists will conclude with a discussion of NCEMC's initiative on a programmatic approach to deployment of distribution and transmission interconnected solar + storage facilities.

Lee Ragsdale, Senior Vice President, Grid Infrastructure and Compliance, North Carolina Electric Cooperatives

Eric Spigelman, CEO, NRCO

8:00 AM - 9:00 AM **Breakout 10**

• **The Engineering and Operations Case for Drones**

Winchester

Over the past couple years, many cooperatives have begun researching how drones can be used as valuable tools for utilities. Whether it is with internal programs or contracted services, drones are starting to make a big impact on the bottom line through inspection, mapping, and data analytics projects. In this presentation, you will hear from a leading drone services contractor from a major US utility with actual use cases and future possibilities of drones in cooperatives.

Colbey Ryan, General Manager, Utilities, AeroLabs, An Exelon Company

• **Are Your Physical Security Measures Beating You Up?**

Oxford

There is a good chance that you are not a physical security expert. However, you just might be the person responsible for physical security at your Co-Op. How do you make the right decisions? How much should you budget? What are the most important issues to address? You're invited to join us for a tour of physical security best practices at your facilities and substations.

Ken Colson, VP and General Manager, SCI Electronics

Mike Metz, President, MBM Consulting

• **Beneficial Electrification**

Somerset

Electric technologies can save consumers money, improve our environment and make the grid more flexible. If you can do one while harming none, you have beneficial electrification. This session will cover what is taking place nationally to move the needle on beneficial electrification, as well as what is happening closer to home.

Keith Dennis, Senior Director, NRECA

Diane Huis, Senior Vice President, Innovation and Business Development, North Carolina Electric Cooperatives

9:00 AM - 9:15 AM **Break**

Refreshments and transition to next session

9:15 AM - 10:15 AM **Breakout 11**

• **What is DERMS?**

Winchester

This session provides an overview of the capabilities of a Distributed Energy Resource Management System (DERMS) and how it can positively impact your operations and benefit your cooperative members. A DERMS solution helps the utility to address new types of DER technology- microgrids, community solar, electric vehicles, and combine it with existing types of Demand Response assets (water heaters, air conditioners) for a cohesive system to improve your daily system operational targets.

Walter Kaslow, Open Access Technology International, Inc.

Ajaz Sadiq, VP, Technology Integration, North Carolina Electric Cooperatives

• **Alexa, How Much Is My Electric Bill?**

Oxford

Communication channels evolve every day, and members of all ages expect their cooperatives to keep pace with advances in technology. Leveraging Amazon's Alexa service to connect with members inside their homes, while they are going about their daily routines, can increase success rates in message delivery and payment collection. Developing a relationship with your member's "virtual assistant" enables you to deliver targeted, account-specific messaging, and face-to-face service can be achieved through the Alexa Show, giving members the options they want based on the technology they already have.

Connor Buckley, SEDC

- **Deploy Broadband!! – Now What?**

So, the board has instructed you to bring high speed internet access to your members? Now what? What are the financial considerations? What are the hardware considerations, inside and out? What do we have to do to even start? Join Jeff Brooks of Roanoke Electric Cooperative and Dwayne Long of Mecklenburg Electric Cooperative to discuss the financials and building of their broadband to the home initiatives. Jeff gives you an inside look at money. Dwayne brings 10 years of broadband technical experience. Together, they will give you the big picture and the small details for your fiber build.

Dwayne Long, VP of Information Technology, Mecklenburg Electric Cooperative / Empower Broadband
George Stamper, VP Engineering & Information Services, Roanoke EMC

10:15 AM - 10:30 AM	Break Refreshments and transition to next session	
10:30 AM - 11:00 AM	Door Prizes Door prize giveaway	Windsor Ballroom
11:00 AM - 12:00 PM	NRECA/DARPA Cyber Attack Project Do you have the knowledge and tools needed to recover from a black start caused by a cyber-attack? NRECA is participating in a series of military exercises with DARPA. The mission is to fully recover the power grid, when traditional SCADA and other systems have been compromised. In this session, we will hear about the two events on Plum Island and the challenges and successes of the project.	Windsor Ballroom
		Doug Lambert, National Rural Electric Cooperative Association Craig Miller, Chief Scientist, National Rural Electric Cooperative Association
12:00 PM - 12:15 PM	Closing Remarks Conference wrap-up	Windsor Ballroom
