

2018 N.D. REC ENGINEERING AND OPERATIONS CONFERENCE & EXHIBITOR SHOWCASE

March 20 to 22, 2018 ▪ DoubleTree by Hilton West Fargo ▪ 825 East Beaton Drive ▪ West Fargo, N.D.

Co-sponsored by: The North Dakota REC Engineering and Operations Association and The North Dakota Association of Rural Electric Cooperatives (NDAREC)



PLAN TO ATTEND THE ANNUAL CONFERENCE AND EXHIBITOR SHOWCASE!

You and your colleagues are invited to attend the annual conference, sponsored by the North Dakota REC Engineering and Operations Association and the North Dakota Association of Rural Electric Cooperatives (NDAREC). The conference is intended for engineers, line superintendents, operations and construction personnel. Consulting engineers and NDAREC associate members are also invited to attend.

NEW THIS YEAR!

The conference-planning committee has added a new session this year, "What's New, What's Next," to give NDAREC associate members and vendors an opportunity to provide a five-minute preview of their products and services on March 21, just prior to the Exhibitor Showcase. There are limited time slots for this session so registrations will be honored on a first come, first served basis for NDAREC associate members and vendors wanting to participate in this session. Registration is required for associate members and vendors to be considered for this session.

EXHIBITOR SHOWCASE AND SOCIAL ON MARCH 21

NDAREC associate members will be joining conference attendees from 5 to 7 p.m. on Wednesday, March 21, for the Exhibitor Showcase and social. This is an opportunity to visit with associate members about their products and services. Our thanks to NDAREC Associate Members, who are participating in the Exhibitor Showcase, for their generosity in hosting the social.

CONFERENCE AGENDA

Tuesday, March 20

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| 11:30 a.m. to 1 p.m. | Conference Registration |
| 1 to 1:15 a.m. | Welcome and Opening Announcements |
| 1:15 to 3 p.m. | Revolutionary Change in the Electric Grid: Challenges and Opportunities for Electric Cooperatives
<i>Steve Collier, director of Smart Grid Strategies, Milsoft Utility Solutions</i> |

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| 3 to 3:15 p.m. | Refreshment Break |
| 3:15 to 5 p.m. | Revolutionary Change in the Electric Grid: Challenges and Opportunities for Electric Cooperatives (continued)
<i>Steve Collier</i> |
| 5 to 6:30 p.m. | Bull N' Beer Welcome Reception |

Wednesday, March 21

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| 7:45 to 8:30 a.m. | Hot Breakfast Buffet |
| 8:30 to 9:15 a.m. | Interoperability: A Foundational Attribute of Cybersecure ICS
<i>Tony Thomas, senior principal engineer, National Rural Electric Cooperative Association (NRECA) Business & Technology Solutions</i> |
| 9:15 to 10 a.m. | Work Order Inspection and Submittal Process to Obtain RUS Loan Funds
<i>Tim Bohan, general field representative, USDA-RUS</i> |
| 10 to 10:15 a.m. | Refreshment Break |
| 10:15 to 11:15 a.m. | What Does Product Quality Have to Do with Distribution?
<i>Tony Thomas</i> |
| 11:15 a.m. to 12 p.m. | The Cop and the (Ex) Criminal: An Unlikely Friendship
<i>Dan Donlin, Bismarck Chief of Police, and Tyler Auck, addiction counselor</i> |
| 12 to 1 p.m. | Group Luncheon |
| 1 to 3 p.m. | Hazardous Energy Control for Electrical Power
<i>Bill Wuolu, safety professional, KLJ</i> |
| 3 to 3:20 p.m. | Refreshment Break |
| 3:20 to 4:30 p.m. | "What's New and What's Next" in Products and Services
<i>Time is reserved for NDAREC associate members and vendors to give 5-minute updates.</i> |
| 4:30 p.m. | Adjournment |
| 5 to 7 p.m. | Exhibitor Showcase and Social |

Thursday, March 22

- 7:15 to 8 a.m. Hot Breakfast Buffet
- 8 to 8:30 a.m. Business Meeting of the N.D. REC Engineering and Operations Association**
- 8:30 to 10 a.m. Making the Member Connection on National Energy Issues**
Bryan Singletary, Practical Energies
- 10 to 10:15 a.m. Refreshment Break
- 10 a.m. to 12 p.m. Making the Member Connection on National Energy Issues (continued)**
- 12 p.m. Conference Evaluations and Adjournment**

TUESDAY CONFERENCE SESSION: Revolutionary Change in the Electric Grid: Challenges and Opportunities

Key topics

- Current electric power delivery system and infrastructure
- Disruptive new technologies that place new demands on the electric grid while enabling cost-effective, secure and environmentally sustainable supply of electricity
- Challenges and opportunities electric cooperatives face with the emerging new electric grid
- Open forum for questions and discussion with conference attendees

WEDNESDAY CONFERENCE SESSION: Interoperability – A Foundational Attribute of Cybersecure ICS

Key topics

- Operations technology and IT network architecture
- How system interoperability affects cybersecurity
- Possible structural cybersecurity attack vectors and proposed solutions

WEDNESDAY CONFERENCE SESSION: Work Order Inspection and Submittal Process to Obtain RUS Loan Funds

Key topics

- RUS work order inspection requirement
- Process for closing work orders and preparing work order inventories for submittal
- Conversion of completed capital construction to long-term debt, using the RUS loan

WEDNESDAY CONFERENCE SESSION: What Does Product Quality Have to Do with Electrical Distribution?

Key topics

- Product quality versus power quality
- Product quality as a fundamental metric in the near future

WEDNESDAY CONFERENCE SESSION: The Cop and the (Ex) Criminal—An Unlikely Friendship

Key topics

- Addiction and recovery from addiction
- Overcoming insurmountable struggles to lead a productive life

WEDNESDAY CONFERENCE SESSION: Hazardous Energy Control for Electrical Power

Key topics

- OSHA requirements, with an emphasis on working in substations
- Components for a lockout/tagout program

THURSDAY CONFERENCE SESSION: Making the Member Connection on National Energy Issues

Key topics

- National energy issues such as carbon legislation, energy efficiency, climate change, renewable energy and distributed generation
- Types of messages that cooperatives' member-owners receive on energy issues from various media sources, and separating fact from fiction
- Why electric cooperatives approach issues differently than other types of utilities
- Operational and safety challenges associated with the coming changes in the electric utility industry

GUEST PRESENTERS



Steve Collier is Director of Smart Grid Strategies at Milsoft Utility Solutions, an industry-leading provider of electric utility engineering and operations software. He joined Milsoft in 2007 as Vice President of Business Development, to assist with the company's rapid growth and reorganization.

Steve now assists with product development, customer support, marketing and sales, and industry relations as Milsoft's resident smart-grid expert and industry thought leader.

He writes, speaks and consults widely on issues, technologies and applications related to the development of a modern, intelligent electric power grid.

Previously, Steve worked as a professional, consultant, executive and board member for energy, telecommunications, technology and consulting companies in the U.S. and abroad — including Sandia National Labs, C. H. Guernsey & Company, and the National Rural Telecommunications Cooperative.

Steve has BS and MS degrees in electrical engineering from the University of Houston and Purdue University, respectively. He is a member of the IEEE and has served as chairman of the IEEE IAS Rural Electric Power Committee and as board member of the Industry Applications Society. He is also a member of the IEEE Smart Grid Operations Committee and chair of the IEEE Smart Grid Education Committee.

No photo available

Tony Thomas is a senior principal engineer with the National Rural Electric Cooperative Association (NRECA) Business & Technology Solutions. Tony comes to NRECA with nearly four decades of experience in energy automation and control. His expertise spans the range from distributed generation integration and control

to AMI, SCADA and distribution automation.

After many years at General Electric and Emerson Electric, Tony was one of the first employees at Hunt Technologies and participated in the market development of the Hunt Turtle AMR System. He subsequently went on to assist in the development of the first residential energy gateway at MainStreet Networks.

During the past 20 years, Tony has implemented more than 200 AMR/AMI systems and more than 50 SCADA systems in the U.S. and internationally. He holds Certified Energy Manager (CEM) and Global Industrial Cyber Security Professional (GICSP) certifications and has a Bachelor of Science in Electrical Engineering.



Tim Bohan has served cooperatives in the four-state area as the USDA-Rural Utilities Service (RUS) Electric Program General Field Representative since 2003. From 1981 to 2002, he worked in a variety of engineering and operations positions for the U.S. Navy, Westinghouse, Lockheed Martin and the U.S. Air Force.



Dan Donlin is a lifelong Bismarck resident in his 30th year of service with the Bismarck Police Department. He is a graduate of St. Mary's Central High School and the University of Mary.

His law-enforcement experience includes patrol, investigations, public information, the Police Youth Bureau and 15 years on the SWAT team. He is a certified law-enforcement instructor, specializing in defensive tactics.

Chief Donlin is a 2003 graduate of the FBI National Academy and became Chief of Police for his hometown department on Jan. 20, 2013.



Tyler Auck was born and raised in Bismarck. He graduated from Bismarck High School in 1993 and then attended Minot State University, where he earned a bachelor's degree in addiction studies in 2017.

Tyler is currently an addiction counselor in training at the Heartview Foundation. He's served on

numerous Opioid panels throughout the state to help combat the drug epidemic plaguing our communities. Tyler is an inspirational speaker and a member of the ThinkND Blue Ribbon panel.



Bill Wuolu is an experienced safety professional with more than 12 years in the safety profession, and currently works for KLJ. He holds the Associate Safety Professional and Construction Health and Safety Technician certifications from the Board of Certified Safety Professionals. Bill currently serves as the chairman of the board for the ASSE Northern Plains Section.

Bill has worked in multiple industries during his career. He is well-versed in federal, state and local EHS regulations and excels in applying them to the safety profession. He is an authorized Occupational Safety and Health Administration (OSHA) instructor for both Construction and General Industry, and is an OSHA Training Institute Education Center instructor. Bill focuses on clear communication of injury prevention and application information to employees.



Bryan Singletary began his career with Florida Power Corporation, advancing rapidly to the position of vice president before he was 30 years old. For more than 20 years Bryan has owned and operated Practical Energies, a utility consulting firm specializing in assisting client companies to meet the needs of their consumers.

With more than 30 years in the electric utility industry, Bryan has consulted with hundreds of utilities in the design, development and implementation of a wide range of customer programs. His client list includes both the largest and smallest utilities in the U.S., Canada and the Caribbean.

An accomplished speaker and writer, Bryan is a nationally sought-after lecturer and trainer in the areas of utility competition and strategic planning, key accounts management, distributed generation, technology implementation, demand-side management, customer service and power quality.

REGISTRATION INFORMATION

Please register for the conference by Friday, March 9. Complete the attached registration form and return to Pamela Clark-Stein, director of education and member services, NDAREC. Registrations may be emailed to pstein@ndarec.com. Online registration is also available at <http://ndarec.com/content/2018-education-programs>.

The training offered via the conference sessions are part of the 2018 NDAREC Menu of Education Programs and is open to other cooperative employees and NDAREC associate members who wish to attend.

REGISTRATION FEE

The registration fee is \$247/person. This covers the cost of course materials, meals and refreshment breaks. If you need to cancel, please let Pamela Clark-Stein know at least 48 hours in advance of the conference. Without notice of cancellation, you will be billed for the registration fee, all meals and refreshment breaks.

HOTEL ACCOMMODATIONS – DOUBLETREE BY HILTON WEST FARGO

For your convenience, a block of sleeping rooms is reserved for March 20 and 21 at the DoubleTree by Hilton West Fargo, 825 East Beaton Drive, West Fargo. The block is reserved under “**N.D. Association of Rural Electric Cooperatives**,” and will be held until **March 2**. After March 2, the reserved block will be released for booking by the general public.

Conference attendees are responsible for making their own room reservations. Please call the DoubleTree by Hilton West Fargo at (701) 551-0120 to make your reservation.

Planning Committee

Cole Johnson, Nodak Electric Cooperative

Ashten Dewald, Northern Plains Electric Cooperative

Dan Johnson, KLJ

Pamela Clark-Stein, NDAREC