Alltricity Network

DISTRIBUTION 2024

Distribution Engineering & Planning Workshop

Tuesday, October 15th, 2024
8:00 a.m. - 4:30 p.m. CDT

Wednesday, October 16th, 2024
8:00 a.m. - 11:30 a.m. CDT

Evergy, One Kansas City Place
1200 Main St, Suite 114 | Kansas City, MO 64105

Description

The Distribution Engineering & Planning Workshop will address the evolving challenges and opportunities in energy distribution. Attendees will gain valuable insights into planning for future growth and innovative system designs. The workshop will explore the impact of significant projects like Bitcoin and AI on distribution networks and discuss the synergy between economic development and distribution design, and much more. With a wealth of knowledge and practical solutions on offer, this workshop is valuable for those looking to stay ahead in the energy distribution field.

Who Should Attend

The primary focus is for anyone involved with the distribution of electricity, from the substation to the customer. Personnel involved in capital projects, operations, planning, engineering, environmental regulations, safety, maintenance, design or installation are encouraged to attend. Individuals with other backgrounds are also welcome to learn about the issues in this section.

Professional Development Hours

All attendees will receive a continuing education certificate worth 12.0 Professional Development Hours (PDHs) by Alltricity Network, upon completion of the course. Alltricity Network serves a large territory in which attendees participate in a number of accrediting organizations, each with their own requirements. Depending on the certifying body you are affiliated with, Alltricity Network PDHs may be applied towards your recertification credit. Use the event brochure and agenda to determine how the content applies to your certification. The attendee is also responsible for verifying how the quantity of Alltricity Network PDHs convert to your certifying body credits. Typically 1.0 PDH is equal to .1 CEU, but you should always verify the conversion scale.

Conference Pricing

Registration includes: Breakfast, breaks, lunch, handouts, attendee roster and, upon course completion, a continuing education certificate.

Member price	$595
Non-member price	$895
**Student Member price	$295

Online Registration is Now Open!

ONLINE: Register at AlltricityNetwork.org

PHONE: Call Alltricity Network at (303) 865-5544

**To receive the Student Member price, you must be a full-time student at an Alltricity Network member university. All student registrations must be called in, and a copy of your student ID and full-time class schedule are required.

Cancellation Policy: Fees are refundable if cancellation is received on or before 5 p.m. MDT on October 5th, 2024. If cancellation is received after that date, half of the registration fee will be refunded. Payments will be processed for those who do not attend or do not cancel by 5 p.m. MDT the day before the event. To have someone take your place, please notify Alltricity Network anytime before the event.

Alltricity Network

Distribution Engineering & Planning Workshop

Conference Agenda

Tuesday, October 15th, 2024

7:00-8:00 a.m.
Networking Breakfast

8:00-8:30 a.m.
Welcome & Introductions

8:30-9:15 a.m.
Distribution Transformer Analysis
***Andy Alexander**, Director - Distribution Engineering, Evergy*
***Frederic Dubois**, Senior Product Manager - Power Grid System Analytics, 1898 & Co.*

Evergy and 1898 & Co. developed solutions to validate meter connectivity and calculate loading profiles across their distribution transformer asset base. This session is an overview of the data science applied, the data and process pitfalls encountered, and how the solution was practically implemented to support planning and asset management decisions.

9:15-10:30 a.m.
Common Sense: Understanding the Evolution and Application of Both Legacy & Emerging Sensor Technology
***Steve Parr**, Director - Business Development, Gridware Solutions*

In this presentation, we'll discuss the evolution of line sensors and their practical applications on distribution systems. This will include an overview on various types of sensor technology from legacy to emerging along with use cases and challenges that distribution engineers and operators should consider when evaluating deployment.

10:30-10:45 a.m.
Networking Break

10:45 a.m.-11:30 a.m.
Integrated System Planning
***David Mino**, Xcel Energy*

11:30 a.m.-1:00 p.m.
Networking Lunch

1:00-1:45 p.m.
Utility Planning Guides or Standard Practices for Utilities to Plan for Future Growth
***Suman Poudel**, Supervising Engineer I - Power System Studies & Planning, K&A Engineering Consulting*
***Hiva Nasiri**, Principal Engineer, K&A Engineering Consulting*

This presentation delves into utility planning practices for future growth and emerging energy sector challenges. We will explore the standard practices and how the utilities are evolving to handle the proliferation of distributed energy resources. In addition to planning for DER impacts we will also provide insights on reliability improvement methods such as distribution automation. Our discussion will encompass the key considerations shaping planning decisions, including grid implications, reliability concerns, and economic factors. We will also highlight advanced analytical tools employed in distribution planning. By exploring these key areas, we aim to provide insights into current best practices and innovative approaches that enable utilities to effectively prepare for and adapt to the changing energy landscape while maintaining grid reliability, cost-effectiveness, and customer satisfaction.

1:45-2:30 p.m.
Flexible Interconnections: Addressing Interconnection Challenges on Distribution Grids
***Jon Grooters**, Director of Utility Solutions, Smarter Grid Solutions (Division of Mitsubishi Electric Power Products, Inc.)*

As more Distributed Energy Resources (DERs) want to connect to the distribution grid, capacity limits are being reached forcing utilities to look at costly system upgrades or modifying how they look at interconnection agreements. This presentation will focus on a growing trend with utilities called Flexible Interconnections. This is an interconnection arrangement with larger DERs that does not cap their generation output (or load consumption) at a specific static threshold based on very conservative system analysis studies. Instead, it allows for those DERs to generate or consume more when grid capacity is available and curtails those DERs in real-time as certain system constraints are breached. This allows the utilities to bring more DERs on to their existing infrastructure while having the peace of mind no system violations will occur in the process. This presentation will include references to utilities that are using this approach both in the United States as well as in the UK where this has become standard practice. This technology will be explored how software communicates in real-time with existing utility OT systems like SCADA or ADMS and controls DER assets based on dynamic grid conditions. The constraints that could be monitored in this type of solution include thermal overloads, reverse power, voltage violations, power quality, and others. Many utility commissions are asking utilities to look further into these types of solutions, including the Minnesota Public Utilities Commission.

2:30-2:45 p.m.
Networking Break

2:45-3:30 p.m.
Electric Vehicle Impacts to the Utility Distribution System
***Mike Marshall**, Vice President - DRG Technical Solutions*

Electric vehicles can have a significant impact to the utility T&D grid. Unlike most other types of large residential electric loads they tend to be appear without the utility's knowledge and in an unpredictable manner. A large number of them connected to an individual circuit can easily result in overload conditions, leaving the utility planners to respond reactively instead of the preferred proactive manner. This presentation addresses methods to minimize uncertainty, perform rapid impact evaluations for a variety of charging patterns and locations, and provide system flexibility to alleviate and respond to adverse conditions in a timely manner.

3:30-4:30 p.m.
Roundtable Discussion
Facilitated by the **Distribution Committee**

Roundtables offer a unique forum for peer-to-peer sharing of experiences, critical issues and expertise and provide each attendee the opportunity for participation and dialogue on their particular issue. Bring roundtable topics for discussion and/or send topics ahead of time to khail@alltricitynetwork.org.

5:00-6:00 p.m.
Networking Happy Hour

Keep the conversations going join the conference attendees and organizers for an evening networking happy hour!

Yard House
1300 Main St
Kansas City, MO 64105

Sponsored by:

BURNS McDONNELL

Conference Agenda

Wednesday, October 16th, 2024

7:00-8:00 a.m.
Networking Breakfast

8:00-8:30 a.m.
Welcome Back & Day 1 Recap

8:30-9:15 a.m.
Utilities Responses to Large Customer Load Requests
***Jason Klindt**, Senior Director of External Affairs, Evergy*

The new world of increased load growth. A look at how Evergy is now handling large projects and a discussion of economic incentives and considerations for all new projects.

9:15-10:00 a.m.
Building Capacity in the Workforce Athlete
***Dr. Kevin Rindal, DC**, CEO & Co-Founder, Vimocity*

Sprain and strain injuries are the most common and costly workplace injuries, not only disrupting productivity but also diminishing the quality of life for those affected. In this presentation, Dr. Rindal will share simple, science-based strategies to enhance the physical capacity of workforce athletes, helping employees become more resilient to injuries. By improving overall physical well-being, productivity will increase, and employees will be able to move and feel their best both on and off the job.

10:00-10:15 a.m.
Networking Break

10:15-11:30 a.m.
Fleet Electrification Impact on Distribution System
***Josh Loyd**, Senior Project Manager, 1898 & Co.*
***Preety Mathema**, Business Line Director, 1898 & Co.*

Many companies across the United States have set targets to electrify their fleet vehicles. Some have started operating EVs and are actively building EV charging infrastructure to support fleet operations. There are various operating scenarios for fleet vehicles such as return to base, multi-stop and dynamic routing. Since the operations of each fleet varies and can be unique this creates different infrastructure and charging behaviors depending on operations. A key step to beginning a fleet electrification journey is to develop a plan that evaluates the operation of a fleet by performing a techno-economic analysis to understand vehicle technology, energy requirements, charging needs, facility upgrades, utility make ready, and total cost of ownership. Understanding the demand impact from fleet electrification can help support distribution planning efforts. In this session, we will discuss the fleet planning process, potential demand and impacts to the distribution system, and the mitigations to support fleet charging such as traditional grid upgrades and non-wires alternatives.

11:30 a.m.
Wrap Up & Adjourn

Thank You, Alltricity Network Distribution Committee!

CHAIR
Brent Gerling
Distribution Engineering & Design Supervisor - Northland
Evergy

VICE CHAIR
Jon Grooters
Director of Utility Solutions
Smarter Grid Solutions

Jake Barker
Director - Area and Transmission Planning
PacifiCorp

Joshua Contreras
Power System Principal Engineer - Supv. Distribution Standards
Austin Energy

Bill Galloway
Standards Managing Engineer
Colorado Springs Utilities

Travis Johnson
Manager - Electric Distribution Standards
Xcel Energy

Jonathan Meyer
Construction Supervisor
Arizona Public Service

Mark VanSkiver
Engineering Specialist IV - Delivery
Nebraska Public Power District

Joshua Walker
Senior Manager - Electrical Consulting
ENTRUST Solutions Group

The **Alltricity Network Distribution Committee** plans all Alltricity Network Transmission events. If you'd like to send information to the committee, please email Kathryn Hail at khail@alltricitynetwork.org.