Utilities Technology Council™

Utilities Technology Forum
February 2-5, 2020
Silver Legacy, Reno, NV

AGENDA

Sunday, February 2nd

12pm – 1:30pm	**Super Bash Big Game Party Ticket & Badge Pick Up – Silver Legacy - Lobby level across from Pearl restaurant**
2pm	**Super Bash Big Game Party – Mandalay Ballroom at Circus Circus**

Monday, February 3rd

7:00AM	**Registration & Breakfast**
8:00 – 8:15AM	**Welcome Remarks**
8:15 - 9:15AM	**Relocation of Wireless Macro Sites Due to Transmission Tower Projects**

Electric utilities across the U.S. are replacing aging infrastructure to provide safer and more reliable electricity. As they replace their aging electric transmission towers, these replacement projects will have an impact on existing wireless co-location sites located on the existing towers. Over the last six years, Public Service Electric and Gas (PSE&G) has undertaken a series of large tower replacement projects to upgrade their overhead electric transmission system. In this session, PSE&G representatives will discuss a number of lessons learned from these projects, including the best ways to identify wireless sites impacted by replacement projects, reviewing Master Services Agreements, how to work closely between the tower-replacement project team and the impacted wireless carriers, and much more. Attendees will learn by being prepared, having regularly scheduled meetings and/or conference calls and following a set process will help get these sites relocated more efficiently for your wireless attachment group.

Speaker: Tony Suppa, Project Manager – PSEG

9:15 – 9:30AM	**Networking Break**
9:30 – 10:30AM	**SONET to Packet Transition - Using Technology to Streamline Project Management**

Are you concerned that packet network equipment will not last as long as your TDM equipment? We hear you and we have a design that mitigates the impact. Select a modern TDM platform with a long lifecycle and pair it with a pure packet box. Come to this session to see how Central Lincoln PUD has approached their next generation network using some innovative approaches to deploy their Power Transport Network. This case study focuses on a project approach that reduces initial deployment costs, O&M costs over the life of the network, and even the costs associated with their future hardware refresh in 10 to 15 years. A deliberate approach to network design and equipment selection, technician

training and equipment staging, adding in innovative technologies like 3D scanning and photospheres all contribute to cost-cutting for the Oregon rate payers.

Speakers: Ron Beck, Network Engineer - Central Lincoln PUD
Daniel Bayouth, PE - Project Manager, Networks, Integration & Automation – Burns & McDonnell

10:30 – 11:30am Employing Packet Switched Networks for Critical Applications

Migrating utility communications networks from traditional SONET/SDH to a more flexible, packet based converged IT/OT network is the goal of many utilities. The impetus to migrate might be well identified, but the actual transition process is not as well understood. When looking forward to the transition, it is important to understand and document what is working well with the current SONET/SDH platform, and work to maintain this level of performance, particularly for the mission critical services. It is also important to understand the limitations of the current SONET/SDH platform and utilize the new technology to improve performance. And finally, do not let the existing network architecture, or current services dictate the updated network, and take advantage of simplifications and optimizations available.

Speaker: Tim Phillippe, Senior Product Manager, Industrial Communications - GE

11:30AM – 12:45PM Networking Lunch – Silver Baron Ballroom on lobby level

12:45 – 3:45PM Fiber Optic Training – Pole-Plant and End-Device

Graybar Training Alliance: Fiber Optic Training – Pole-Plant and End-Device by Graybar, FITEL, Hubbell Power Systems, OFS, Signify (Phillips Lighting), VIAVI, Klein Tools and Milwaukee Tools

The Graybar Training Alliance is a multi-manufacturer consortium for introductory fiber optic training…Pole to End-Device. During the 3-hour training program, delegates will learn classroom theorem for design, networking and what they need to build, maintain and operate their fiber-optic network. During the hands-on portion, attendees will learn Pole attachment (aerial/underground) of fiber, how it connects, how to splice, how to prepare splice cases, how to ground and bond, installation, and testing.

Training Topics:

- Network Design
  OSP Network Elements
  Material Requirements and Options
- Hands-on Stations
  - Splice Case Preparation
  - Splicing & Connectors
  - OSP Hardware Installation
  - Test & Inspection
  - Bonding & Grounding

Speakers: Mark Boxer, Technical Manager, Solutions and Applications - OFS

Mike Dee, Field Engineer – VIAVI Solutions
Bryan Hunley, Sr. Sales Support Specialist – Hubbell Power Systems
Scott Jackson, National Market Manager – Broadband – Graybar Engineering and Telecommunications Division – OFS
Jamie Pickup, Territory Manager Communications – Hubbell Power Systems
Matt Pittman, Deployment Engineer – BrightSites

3:45 – 4:00PM **Networking Break**

4:00 – 5:00PM **Business Relationship Management (BRM): Reinventing Value Realization in Energy & Utilities**

Business Relationship Management (BRM) embodies a set of competencies for fostering effective, business value-producing relationships between business functions and their business partners. These competencies can be leveraged through a shared organization discipline, capability, and dedicated role. This session will feature Tucson Electric Power implementation of BRM.

Speakers: Morgan Stoll, Vice President & CIO – Tucson Electric Power
Terry Krafthefer, IT Manager of Business Relationship Management, Tucson Electric Power
Maureen Jesuthasan, Senior Partner Energy & Utilities Practice - West Monroe Partners
Dan Belmont, Director – Energy & Utilities – West Monroe Partners

5:00 – 7:00PM **Exhibit Hall Grand Opening Reception**

Tuesday, February 4th

7:00AM **Registration & Breakfast**

8:00 – 10:00AM **Wood Pole Tutorial- Why inspection, maintenance of and proper management of wood poles is important to your company**

Wood distribution poles are the backbone of the nation's critical infrastructure. They provide the pathway for the electric and telecommunications lines and equipment that power and connect the nations homes and businesses. Wood distribution poles require regular inspection, maintenance and treatment to ensure their integrity and longevity. This session covers best practices for inspection, maintenance and treatment of poles, administration of joint pole attachments and guidelines for newer telecommunications attachments such as small cell antennas and their associated equipment.

Speaker: Ron Bilodeau, Senior Solutions Consultant – Osmose

10:00 – 10:15AM **Networking Break**

10:15 – 11:15AM **Individual Regional Meetings**

11:15AM – 12:00PM **Combined Regional Meeting**

12:00 – 2:00PM **Networking lunch & Exclusive Exhibit Time**

2:00 – 3:00PM	**UTC Leadership Address**
3:00 – 4:00PM	**Federal Advocacy Update**
4:00 – 5:00PM	**State of the Union Utility Presentations** **Presented by Regional Officers**
5:30 – 7:30PM	**Reception at Top Golf – located on the Lobby Level**

Wednesday, Feb 5th

7:00AM	**Registration & Breakfast**
8:00 – 9:00AM	**How to ensure your Telecom requirements for T-Line Fiber Optic Installation are realized**

Telecom Fiber Optic cables are often the last material installed and the first required to be turned up with a new transmission line.

The risks of improper installation are:

- Poor Splice Quality resulting in multiple deployments
- Higher dB loss
- Manufacture specifications not understood or implemented
- Multiple Finger Pointing
- Shorter lifespan of splice locations
- Increased expense in the long run
- Project delays that result in Liquidated damages

This session will highlight best practices and Lee Onsager, NV Energy will provide insight regarding the following:

- Sectionalized static wire and OPGW
- Lines that NVE has with TRC ADSS under the static wire
- Issues with fiber migration
- Mastic water block at isolated splices
- Slack loops

Speakers: Lee Onsager, Supervisor Telecom Construction Maintenance - NV Energy
Nathan Smyth, Manager of Implementation, Field Engineer & Project Manager – Gillespie, Prudhon & Associates

9:00 – 10:00AM **Substation Communications IP Migration Model**

As utilities see the number of substation communications IP migration projects and adoption of packet-based technologies increase, many lessons have been learned from early adopters. Utilities must

consider and address the IT/OT convergence gap by understanding the complete IP migration landscape and developing a model that addresses these various issues. This presentation provides an overview of the landscape of the IP migration model, addressing issues such as reliability, network security, management and operational support. This presentation also addresses the need to understand the major gaps that occur as a result of such migration and explores several ways utilities can overcome those challenges and take advantage of the many benefits that result in migrating to a packet-based infrastructure. Finally, the presentation offers successful case studies of substation communications IP migration.

Speaker: Manny Duvelson, Product Manager, RFL Products - Hubbell Power Systems

10:00 – 10:15AM **Networking Break**

10:15 – 11:15AM **The Evolution and Future of Networking Time Synchronization in Power Utilities**

Synchronization across Wide Area Networks have become a challenge for the Power Utility industry. Especially when the reasons for power interrupts or blackouts must be analyzed. But also, protection, automation and control need accurate time references. This presentation will discuss the evolution of clocking, from separate clock lines in synchronized serial networks, walking through TDM synchronization to future time synchronization protocols like IEEE1588. We will explain the IEEE1588 key principles and the differences between the profiles that are currently in use along with best practices. Emerging measurement applications require an absolute accuracy of 1 microsecond or better. A terrestrial clocking distribution network is necessary to complement satellite-based systems.

Speaker: Bernard Brault, Sales Manager Power Utilities – North America – OTN Systems

11:15AM – 12:15PM **Narrowband Wireless SCADA Traffic Management for SCADA/DA**

The most common challenge encountered when deploying an Ethernet based SCADA/DA network across narrowband devices is caused by improper configuration of the SCADA host or excessive traffic generated by other devices attached to the OT network.

Often, these issues force a delay in deployment and as this is not a skill that is widely developed by utility personnel it can be quite frustrating to identify the root causes. 4RF often sends field service engineers to the customer location to perform traffic analysis and make recommendations but this can add delays as well. With some understanding and examples of what this behavior looks like it is within the capabilities of most utilities or supporting IT organizations to resolve these problems.

There are tools available in the radio that can help in identifying this condition and when used in conjunction with some freely available network analysis applications the utility can identify the offending devices or the parameters of the SCADA system that need to be configured differently.

We will present examples of the performance statistics and packet captures taken from several misbehaving networks. Identify the steps taken to resolve the different issues and captures from those same networks once the changes were made.

Even when this type of misconfiguration has not significantly impaired network performance it leaves security vulnerabilities and an eventual limit to how many devices can be added to the network. When this artificial cap on performance is found midway through deployment it can require significant rework to address the issue when there are hundreds of devices already on the network.

Speaker: Tisha Hayes, Senior Engineer, North America – 4RF USA

12:15 – 12:45PM **Roundtable Discussion, Prize Drawings & Wrap Up**