Implementing advanced metering infrastructure and associated meter data management is challenging. Realizing the benefits and return on investments is challenging. It requires enterprise wide system and business process integration, big data analytics and organizational change management. Sessions in this track will cover lessons learned during advanced metering implementation and the benefits obtained.

Using Smart Meters to Improve Outage Management

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Hurricane Sandy in October 2012 was the latest in an onslaught of severe storms to strike the U.S. in recent years. Severe weather events have brought grid reliability and outage response to the forefront. This panel features stories of three utilities that have capitalized on their AMI infrastructures to improve outage management and storm response.

SESSION MODERATOR:
Hahn Tram, Vice President, Enterprise, Quanta Technology

PANELISTS:
Patricia M. Armbruster, Principal Process Management Facilitator, DTE Energy
Richard (Ricky) Orum, Director Distribution Control, CenterPoint Energy
Craig Stepien, Director of Technology and Quality, FP&L

Smart Meters at Municipals

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Advanced metering and smart grid deployments don’t have to be large to be successful. In this session, representative from three municipal utilities will discuss how they successfully designed and monetized their deployments.

SESSION MODERATOR:
Matt Oja, Vice President, Client Delivery, Silver Spring Networks

Right-sized Systems Integration for Municipal Utilities

Speaker: Hamid Jaffari, Town of Danvers - Electric Division
Co-author(s): Mike Bianco, BRIDGE Energy Group

Hold on Tight… Smart Metering is Just the Beginning of an Exciting Journey: How To Implement AMI and MDM and Realize Value at a Municipality

Speaker: Gail Cohen, Braintree Electric and Light Department
Co-author(s): Joe Morley, Braintree Electric Light Department
Zac Canders, SAIC Co.
Jason Haber, Braintree Electric Light Department

Leveraging Cloud Solutions for Operational and Financial Benefits: Helping Make your Vision your Reality

Speaker: Paul Kalv, City of Leesburg
Co-author(s): Jason Morris, GE Digital Energy
Achieving AMI Deployment Benefits: Three Utility Company Case Studies

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Attendees of this session will hear how three different utilities are achieving the intended goals of their AMI deployment. Topics include outage management, theft detection and demand response.

SESSION MODERATOR:
Glenn A. Pritchard, Principal Engineer, PECO, an Exelon company

Capturing and Analyzing Momentary Outages at an Individual Customer Level Using Advanced Metering Data
Speaker: Grayson Mixon, Gulf Power Company

Enabling Energy Conservation through C&I Demand Response Programs
Speaker: James Weir, Pacific Gas and Electric
Co-author(s): Carol Parker, MidAmerican Energy

Smart Grid ROI: Finding Instant Savings From Theft Detection Application Over IPv6 Network
Speaker: Dave De Yagher, BC Hydro

Theft Identification with Smart Meter Data
Thursday, January 30
8:30 a.m. - 10:00 a.m.

Traditional data analytics methods often rely on simple methodologies to identify trends and patterns, which can produce results that aren’t always accurate. The utilities representatives in this session will discuss how predictive data science allowed their utilities to use smart meter data to determine the most likely behaviors and identify energy theft and fraud.

SESSION MODERATOR:
Michael Danziger, Director, Deloitte Consulting LLP

PANEL MODERATOR:
Jesse Berst, Founder and Chief Analyst, Smart Grid News; Chairman, Smart Cities Council

PANELISTS:
Debjit Mukerji, Director of Venture Technology, Siemens Technology to Transfer Business (TTB) Berkeley
Richard Viens, CFO/COO, TROVE Predictive Data Science
Thomas Walker, Director of New Program Development, Southern California Edison
Roger Woodworth, Vice President and Chief Strategy Officer, Avista

AMI Experiences at IOUs
Thursday, January 30
10:30 a.m. - 12:00 p.m.

Representatives of three investor-owned utilities will present their perspectives and experiences gained during AMI deployment and operation. They will cover technology evolution, system integration, application development and new business processes.

SESSION MODERATOR:
Tim Wolf, Marketing Director, Itron Inc.

The Criticality of Sensors to Smart Grid Metering Technologies
Speaker: Ahmad Faruqui, The Brattle Group

Advanced Metering Insights: KCP&L’s Evolution to AMI/MDM-based Smart Metering
Speaker: Bill Menge, Kansas City Power & Light Co.
Co-author(s): Ed Hedges, Kansas City Power & Light Co.
Lucas McIntosh, Burns and McDonnell
Corey Paczosa, Kansas City Power & Light Co.
John Porachon, Structure

Finding and Fixing Customers Mislinked to the Wrong Supply Node Device in Your Outage Management System to Avoid Proactive Communication Problems, Simplify Predictions and Improve Reliability Metrics
Speaker: Jack Hierholzer, Gulf Power
Big Data is one of the hottest topics in smart grid. This track will include utility best practices and new concepts that create immediate value from customer and operational analytics.

FEATURING SESSIONS OF SPECIAL INTEREST TO:
- Asset managers
- Utility engineers
- Operations and engineering management
- System architects
- Business improvement engineers/analysts
- Project managers
- IT executives
- Business operations leaders

TRACK CHAIR: Tim Epp, IT Business Consultant, Snohomish County PUD

Managing Asset Risk Through Data Analytics

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Utilities are capturing data at a rate that is faster than ever before. The analytical use of this data is proving very useful for assessing the risk of asset failures. In this session three utilities will describe their approach to using information from various sources in new ways to promote better decisions for managing assets.

SESSION MODERATOR:
Tim Epp, IT Business Consultant, Snohomish County PUD

Data Analytics for Power Grid Modernization and Enterprise Operations Improvement

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

As myriad new data from smart grid technology deployments such as AMI and grid sensors are becoming more available to utilities, many are pursuing innovative analytics strategies to improve internal operations, monitor assets and improve grid reliability and efficiency. This panel of top utility analytics visionaries and consultants will summarize lessons learned through implementation of analytical methods, tools and algorithms leveraging meter and sensor data for grid operation improvements.

SESSION MODERATOR:
Tim Epp, IT Business Consultant, Snohomish County PUD

PANEL MODERATOR:
Ivette Sanchez, Senior Advisor, Quanta Technology LLC

PANELISTS:
Percy Haralson, Principal Manager, Advanced Technologies, Southern California Edison
Glenn A. Pritchard, Principal Engineer, PECO, an Exelon company
LaDee Homm, Business Strategy Analyst Expert, OGE Energy Corp.

Asset Risk Assessment Through Advanced Analytics
Speaker: Angela Rothweiler, PSE&G
Co-author(s): Curt Hertler, OSIsoft LLC
Ann Moore, OSIsoft LLC

From Data to Information: Using Data Analytics to Improve Reliability by Identifying and Proactively Responding to Impending Failures
Speaker: Bart Enright, ComEd

Asset Risk Management and Optimized Replacement, Repair and Rehabilitation at DTE Energy
Speaker: Richard Mueller, DTE Energy
Co-author(s): Tarun Kumar, IBM
Preparing Your Big Data Infrastructure

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

The benefits of big data analytics are proving their worth for many companies, but the challenges for getting started can be daunting. This session will highlight the planning, coordination and infrastructure that will prepare companies for a successful use of big data.

SESSION MODERATOR:
Bradley R. Williams, Vice President, Industry Strategy, Oracle Utilities

Big Data: Changing the Conversation
Speaker: Stuart Laval, Duke Energy
Co-author(s): Raiford Smith, Duke Energy

Data Analytics and the Smart Grid
Speaker: Mark Coleman, American Electric Power
Co-author(s): Jason McCullough, Battelle Memorial Institute

Interval Data: A Catalyst to Accelerating Analytics
Speaker: Victor Jimenez, Capgemini
Co-author(s): Mike Glass, Pacific Gas & Electric

Practical Application of Information: Power Outage Analytics

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Big data is more than just an abstract concept or marketing buzzword. Companies are using their ever-growing data sources for everyday applications. The presenters in this session will describe the practical use of data analytics before, during and after outages.

SESSION MODERATOR:
Greg Robinson, General Manager, Xtensible Solutions

Outage Root Causes Update
Speaker: Doug Houseman, EnerNex

Speaker: Robert Okashimo, Toronto Hydro

Use of Social Media in Support of Outage Management
Speaker: John Simmins, Electric Power Research Institute (EPRI)
Co-author(s): Christina Haddad, Electric Power Research Institute (EPRI)
Jennifer Robinson, Electric Power Research Institute (EPRI)

Big Data and AMI: Making the Most of Analytics

Thursday, January 30
10:30 a.m. - 12:00 p.m.

AMI systems can produce vast amounts of data. Before you lose control, attend this session and hear case studies that will help you learn about data integration, building analytics and using the results in an operations environment.

SESSION MODERATOR:
Edward Kobeszka, Sr. Product Marketing Manager, AMI, Aclara

AMI Data Integration and Analytics Using the CIM
Speaker: Mathieu Viau, Hydro-Quebec

Innovative Approach to Develop Smart Grid Analytics Capability
Speaker: Thomas Humphreys, Baltimore Gas & Electric Co.
Co-author(s): Matthew Comte, Accenture

Leveraging Big Data: Dynamic Meter Operations and Outage Management
Speaker: Peter Mitskos, Hydro One Networks Inc.
Co-author(s): Peter W. Ruppert, IBM
CUSTOMER STRATEGIES AND TECHNOLOGY

Utilities are developing technology roadmaps and leveraging smart grid investments to enable enhanced customer engagement. This track will provide an in-depth analysis of end use customer smart grid technologies, services and solutions.

This tracking is of interest to:
- Industry executives responsible for developing, marketing or implementing smart grid projects targeted at the commercial, industrial and residential retail consumer level.

How Customer Engagement is Transforming Utility Operations

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Much activity has occurred to more fully engage utility customers. While these efforts often focus on communication strategies and tactics, this session focuses on the operational and process changes utilities must make to support customer engagement efforts. Hear utility representatives discuss first-hand experiences and take home actionable best practice advice.

Panel Moderator:
Vicki Trees, Director of Marketing and Communications, Landis+Gyr

Panelists:
- Gail Allen, Senior Manager, Smart Grid, Kansas City Power and Light Co.
- Gary Smith, Director, Customer Energy Solutions, NV Energy
- Rob Trask, Advanced Metering Infrastructure Services, Salt River Project
- Victoria Zavattaro, Manager, Energy Research and Development, Sacramento Municipal Utility District

Driving Demand Response in LEED Commercial Buildings

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Demand response (DR) delivers reliability, economic and societal benefits to consumers and the electric grid. The DR LEED credit announced by the U.S. Green Building Council (USGBC) facilitates active participation of commercial building DR resources. This panel session will cover the results obtained from field testing the DR LEED credit in Las Vegas, Reno and southern California markets. Results of the field deployment will guide the refinement of the DR LEED credit.

Session Moderator:
Steve Kearney, Regional Manager, E-Mon/Honeywell

Panel Moderator:
Heather Langford, Director, LEED, U.S. Green Building Council

Panelists:
- Michael Brown, Manager, Demand Response, NV Energy Inc.
- James Fine, Senior Economist, Environmental Defense Fund
- Janie Page, Science/Engineering Associate, Environmental Energy Technology Division, Lawrence Berkeley National Laboratory
- Karen Klepack, Project Manager, Nonresidential New Construction DSM Pilot, Southern California Edison
- Chris Therriault, Senior Consultant, Skipping Stone, LLC
The New Normal: Customer Expectations During the 100 Year Storm

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

The GridWise Alliance recently published a lessons-learned report on Superstorm Sandy. Several members of congress, the DOE and the White House have requested copies of the report. Using the report’s recommendations as a backdrop, this panel will explore how they can or currently are implementing those recommendations in their service territories. The focus will be on how customers will benefit and how customers expect their electricity providers to manage very large events that produce significant and prolonged outages.

**PANEL MODERATOR:**
Michael Elzey, Partner, Ernst and Young

**PANELISTS:**
Keith Hull, Vice President, Distribution Operations, Oncor
Jack Hierholzer, Distribution Support Specialist, Gulf Power
Raiford Smith, Director of Technology Development, Duke Energy

Connecting C&I Demand to Supply Through Technology, Analytics and Pricing

Thursday, January 30
8:30 a.m. - 10:00 a.m.

A number of early adopter projects and programs are in the later stages of implementation and are showing success. Spanning the spectrum of emerging technology and innovative approaches from microgrids to pricing to customer communication to analytics, this session will review and discuss the key successes and path forward for these leading C&I technology projects.

**SESSION MODERATOR:**
Stephen Callahan, Vice President and Partner, IBM

- Predictive Analytics for Real-time Energy Management and Dynamic Demand Response
  **Speaker:** Natasha Balac, San Diego Supercomputer Center, UCSD
  **Co-author(s):** Ann Moore, OSIsoft LLC
- OGE Next Generation Demand Response Pilot
  **Speaker:** Joel Webb, OG&E

Operational Flexibility: Engaging the Demand Side to Optimize Today’s Power System

**Speaker:** Michael Starke, Oak Ridge National Laboratory

Meeting Customer Expectations Through Effective Communications

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Communication channels to customers continually evolve. Whether through a Web portal, community events or tweets, utilities understand the importance of reaching out to their customers and to the communities they serve. Furthermore, customers’ expectations increase with each passing year. In this panel discussion, each utility representative will describe the advanced research it performed on its channels, how it created consistent and seamless information across channels, and the methods it used to manage channels, especially those related to customers. Hear how these utilities strive to develop effective communication channels and their approaches, ranging from the strategic down to tactical day-to-day efforts.

**PANEL MODERATOR:**
Rod Litke, CEO, CS Week

**PANELISTS:**
Lisa Rosintoski, Customer Connections Department Manager, City of Fort Collins Utilities
Schad Koon, Manager, Customer Programs and Services, NV Energy Inc.
John Boladian, Director, Customer Billing and Meter Reading, DTE Energy
As more technology is introduced to electric utilities, cyber threats increase. Utilities are no different than any other business that has an increased exposure to malfeasance by becoming more technology dependent. Utility exposure could, however, bring more public distress from potential cyber-related outages or raids on sensitive customer and corporate data. Cybersecurity specialists and reliability focused utility technologists will find this track has information that is current and important to their utility tasks.

Password and Access Management: Who’s Got the Key?
Tuesday, January 28
1:00 p.m. - 2:30 p.m.
It’s becoming increasingly important to control access to utility networks and data. It’s also challenging to manage who has access and to which networks and data. This session offers some insight into these issues.

Evolving Security Challenges in the Utility Industry: Protecting Customers and Assets
Speaker: Sean McGurk, Verizon

Advanced IED Password Management Strategies
Speaker: John Stewart, Tennessee Valley Authority
Co-author(s): Scott Sternfeld, EPRI

Common Cybersecurity System (CCS) and High-grade Cybersecurity Sensors
Speaker: Jeff Gooding, Southern California Edison
Co-author(s): Jerry Goodwin, ViaSat Inc.
Brett Luedde, ViaSat Inc.
Philot Mar, ViaSat Inc.

Can Wireless Networks Be Secure?
Tuesday, January 28
3:00 p.m. - 4:30 p.m.
As wireless networks proliferate, providing secure access to those networks becomes a top cybersecurity concern. This session explores what enterprise security means for private and commercial wireless networks and, more importantly, how to implement it. It includes real world examples and lessons learned from secure wireless SCADA applications running on commercial wireless networks, as well as lessons learned from one utility’s AMI/DA intrusion detection program.

Bringing Enterprise-class Security to Wireless IP Networks for Smart Grid Systems
Speaker: Roman Arutyunov, ABB Tropos Wireless

Wireless Intrusion Detection for AMI and DA Networks
Speaker: David Bitter, Sacramento Municipal Utility District (SMUD)

Is Wireless Secure Enough for SCADA networks?
Speaker: Rita Mix, AT&T
Co-author(s): Ken Arnold, Sierra Wireless
Practical Cyberscurety for IEEE Standard 1815TM (DNP3)

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

This panel of experts will discuss what should be considered when securing systems using IEEE 1815 (DNP 3). The discussion will include implementing IEEE 1815 secure authentication and key management, practical approaches for key management and vulnerabilities in software implementations.

SESSION MODERATOR:
William Ackerman, Principal Consultant, Ackerman Associates

PANEL MODERATOR:
Ron Farquharson, Principal Consultant, EnerNex LLC

PANELISTS:
Grant Gilchrist, Principal Consultant, Smart Grid Engineering Team, EnerNex
Chris Sistrunk, Senior Engineer, Entergy
Andrew West, SCADA Consultant, DNP Technical Committee

Cybersecurity Deployment: Examples and Lessons Learned

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Advanced technologies and application deployments into the electric grid can introduce real-time system security challenges. These challenges, if not addressed properly, can result in unexpected grid failures, impacting a utility’s financial performance and business operations. To effectively address these challenges, utilities must plan, design and operate the electric grid with an end-to-end approach to enable overall system-wide stability and integrity. This session will present practical cyber security deployments, including project examples and utilities’ lessons-learned.

SESSION MODERATOR:
Bartosz Wojszczyk, Chief Innovation Officer, Manila Electric Company (MERALCO)

IT and OT Network Convergence

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Operational technologies are being exposed to what once was considered only in the realm of information technology. This session will discuss how these two technology domains must and can come together to benefit both.

SESSION MODERATOR:
Curtis Johnson, Utility Automation Director, Black and Veatch

Big Data and IT-OT Convergence Provide a Path to Smart Grid Security

Speaker: Ken Sims, Smart Utility Systems
Co-author(s): Jasvir Gill, Alert Enterprise

The Convergence of Physical and Cybersecurity

Speaker: Rick Geiger, Cisco

SCADA Security and the Iceberg Beneath the Water

Speaker: Jacob Kitchel, Industrial Defender
DEMAND RESPONSE AND ENERGY EFFICIENCY

Increased environmental pressures on coal and nuclear power, aging generation fleets, constrained T&D grids, and growth in intermittent renewables such as solar and wind, mean utilities and independent system operators are challenged to meet the needs of today’s dynamic electrical grid. Demand response (DR) resources and energy efficiency (EE) programs now play critical roles in energy markets and utility resource plans. This track covers a wide gambit of topics in this industry, including DR resource integration and optimization, utility pricing programs, consumer engagement for program growth, reliability and effectiveness of various DR technologies, and standards and protocols such as OpenADR.

Demand Response Optimization: Leveraging DR Resources for Business Value and Operational Efficiency
Tuesday, January 28
1:00 p.m. - 2:30 p.m.

As utilities implement and grow demand response (DR) resources on the distribution system, as well as on the customer side of the meter, operational challenges and opportunities emerge. These include issues such as load behavior, response time, reduction capability, prioritization, predictability and reliability. In this session, representatives from three large utilities will share their insights and experiences on this topic and how they leverage their diverse DR resource portfolios for optimal business value and operational benefit.

SESSION MODERATOR:
Bob Donaldson, Manager - Demand Response, Carolinas, Duke Energy

NVE’s Experience and Insights in Demand Response Dispatch Optimization
Speaker: Sarah Chatterjee, NV Energy Inc.
Co-author(s): Michael Brown, NV Energy Inc.
Haixiao Huang, NV Energy Inc.
Fulin Zhuang, Alstom

Beyond Demand Response: How CPS Energy is Utilizing Residential Load in Energy Markets
Speaker: Kenan Ogelman, CPS Energy
Co-author(s): Justin Louis, Landis+Gyr

Managing the Tension: Assessing the Impact of Coincident Voltage-based and Customer-based Demand Reduction Programs
Speaker: Mike Farrell, Oklahoma Gas and Electric Corporation
Co-author(s): Cristi Killian, Oklahoma Gas and Electric Corporation
Andrew Hanson, Structure
Chad Worthington, Structure

Real-life Stories of Critical Peak and Other Real-time Pricing
Tuesday, January 28
3:00 p.m. - 4:30 p.m.

In this session, representatives of three large utilities will share field experiences with critical peak pricing and other time-of-use programs. Gain candid insight from analyses that reveal surprising and counter-intuitive results. Discover game changing recommendations for future demand response program designs.

SESSION MODERATOR:
Ed Thomas, Executive Director, Peak Load Management Alliance

The Power of Energy Information and Control: SMUD’s Residential Summer Solutions Study
Speaker: Vikki Wood, Sacramento Municipal Utility District

Lessons Learned and Results From a Large-scale Pilot of Residential Real-time Pricing
Speaker: John Kurmer, Battelle Memorial Institute
Co-author(s): Karen Sloneker, American Electric Power

Estimating Time-of-use (TOU) Savings for Non-TOU Customers Using Advanced Metering Data to Encourage More Customers to Sign-up For TOU
Speaker: Grayson Mixon, Gulf Power Company

FEATURING SESSIONS OF SPECIAL INTEREST TO:
• Smart Grid project managers
• DR/EE program managers
• Utility and independent system operators
• Resource planners
• Power quality and reliability engineers
• Rate planners
• Regulatory staff

TRACK CHAIR:
Bob Donaldson, Manager - Demand Response, Carolinas, Duke Energy
Driving Consumer Engagement with Peak-time Rebates and Energy Saver Contests

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

In this session, representatives from Texas and Maryland utilities discuss innovative campaigns to encourage consumers to engage with their utilities by using smart meter data to obtain peak time rebates and benefit from energy saving contests. Learn the effectiveness of bill credits or reducing energy use during peak times, and cash and product contest prizes. Discover specific results and multiyear trends achieved in raising consumer awareness of and engagement with smart meter capabilities and benefits.

SESSION MODERATOR:
Robert Duval, Director, Program Administration, Comverge

Innovation in Smart Meter Customer Engagement

Speaker: Heather Anderson, Exelon
Co-author(s): Ryan Palacheck, Accenture

Driving Consumer Engagement: The Biggest Energy Saver Program

Speaker: Floyd LeBlanc, CenterPoint Energy

Biggest Energy Saver - 2013 Campaign

Speaker: Christopher Schein, Oncor

Evaluating Demand Response Technology

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Papers presented in this session will review technical, economic and business considerations required to create a set of new and important demand response infrastructure components and valuation approaches.

SESSION MODERATOR:
Michael Brown, Manager, Demand Response, NV Energy Inc.

Considerations in the Evaluation and Selection of Demand Response Management System Solutions

Speaker: Grant Jenman, CenterPoint Energy

Demand Response Participation Made Easy

Speaker: Michael Rowand, Duke Energy
Co-author(s): Brian Seal, EPRI

Valuing Integrated Demand Side Management (IDSM) for Improved Cost-effectiveness

Speaker: Mark Martinez, Southern California Edison
Co-author(s): Eric Woychik, Black and Veatch
Kenneth Skinner, Integral Analytics Inc.

Open Automated Demand Response in Practice

Thursday, January 30
10:30 a.m. - 12:00 p.m.

The panelists in this session, representing several utilities and an ISO, will present and discuss current progress and results in their use of Open ADR standard. These utility and ISO OpenADR projects are collecting an extensive set of experiences with facilities across customer types including industrial, retail and hospitality sites, as well as highly efficient commercial buildings. The panelists also will discuss their project objectives, hypotheses, findings, challenges and future steps.

SESSION MODERATOR:
Terry Nielsen, Senior Vice President, Utility Integration Solutions Inc. (UISOL)

PANEL MODERATOR:
Ingrid Bran, Senior Project Manager, EPRI

PANELISTS:
Angelia R. Eide, Sr. Program Engineer, Hawaiian Electric Company
Justin Hill, Research Engineer, Southern Company
Jill Powers, Smart Grid Solutions Manager, California ISO
Bruno Prestat, Resident Researcher at EPRI, Électricité de France
DER AND RENEWABLES INTEGRATION

The power industry is experiencing an unprecedented paradigm shift from centralized to highly distributed systems. The proliferations of distributed energy resources (DER), particularly renewables such as photovoltaic and wind, plug-in electric vehicles and microgrids, introduces challenges to the distribution business. As DER installations increase, so does the need to monitor, manage and optimize their integration into distribution grids. The electric utility industry must adapt and evolve to exploit DER’s benefits and achieve business objectives in this changing environment. They must embrace advanced monitoring, control and communications systems and software that supports real-time decisions and effective operations. This track covers updated distribution engineering, operations, planning, analysis and regulatory practices that are necessary to effectively manage DER.

FEATUREING SESSIONS OF SPECIAL INTEREST TO:
• Distribution engineers and engineering managers
• Distribution planners and planning managers
• Distribution operators and operations managers
• Regulatory Agency staff and regulators
• Smart Grid program managers
• Distributed Generation developers
• Manufacturers and vendors of distribution equipment
• Independent Power Producers (IPPs)
• Venture Capital and Private Equity investment funds

TRACK CHAIR:
Julio Romero Aguero,
Director and Executive Advisor, Distribution, Quanta Technology

Integrating Variable DER in Today’s Distribution Systems
Tuesday, January 28
1:00 p.m. - 2:30 p.m.

This session delves into issues that many distribution system operators face—accommodating variable generation sources. The discussion will center on using smart sensors in distribution circuits to manage rapidly shifting operating parameters. In addition, the panelists will reveal the results of a large-scale study conducted with utilities in the U.S. and Australia to determine grid-readiness factors such as sizing of potential DER sources, managing imbalanced phase loading, voltage regulations and other grid stability and reliability parameters. The panel consists of expert participants from electric distribution companies, a smart grid technology company, as well as recognized industry thought leaders.

SESSION MODERATOR:
Julio Romero Aguero, Director and Executive Advisor, Distribution, Quanta Technology

PANEL MODERATOR:
Koustuv Ghoshal, Managing Partner, Inspirra Inc.

PANELISTS:
Doug Houseman, Vice President, EnerNex
Dora Nakafuji, Director of Renewable Energy Planning, Grid Technologies Division, Hawaiian Electric Company
Stephen L. Prince, President and CEO, OptiSense
George Rodriguez, Consulting Engineer, Southern California Edison Company

Impact of Electric Vehicles on the Power Grid
Tuesday, January 28
3:00 p.m. - 4:30 p.m.

This session covers the impact of electric vehicles (EVs) on the grid, from the EV charging load at residential and commercial locations to vehicle-to-grid/grid-to-vehicle applications.

SESSION MODERATOR:
Alex Lago, Partner, Structure

Residential EV Charging – Grid Risk Reduction through Customer Participation and Active Management
Speaker: Peter Evans, New Power Technologies

Using Electric Vehicles for V2G-G2V Grid Services
Speaker: Sean Mitchem, Southwest Research Institute

Charging for EV Charging
Speaker: Pierre Fitzgerald, Ericsson
Energy Storage: Technologies, Operations and Value Propositions

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Energy storage has large potential benefits, but also significant barriers. Current energy storage system (ESS) offerings are solution specific, expensive and are not modular, interoperable or scalable. Interoperability, different revenue streams and business models must be integrated to make energy storage feasible. This panel covers two main installations: The MESA Project in which Snohomish County PUD and leading battery, power conversion and software suppliers are deploying a 1-MW MESA-based ESS at a Snohomish PUD distribution substation; and KCP&L’s SmartGrid Demonstration Program that uses an advanced, grid-connected, 1 MWh battery ESS.

SESSION MODERATOR:
Johan Enslin, Director, Energy Production and Infrastructure Center (EPIC), UNC Charlotte

PANEL MODERATOR:
Jason Zyskowski, Professional Engineer, Snohomish County PUD

PANELISTS:
Bill Menge, Director, Smart Grid, Kansas City Power and Light
Kevin Fok, Sales Manager, LG Chem
Andrew Miller, Vice President of Engineering, 1Energy Systems
Rob Via, Project Engineer, Parker Hannifan Corp., Energy Grid Tie Division

Emerging DER Technologies

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Speakers in this session will discuss the application of emergent technologies for integration of distributed energy resources in power distribution grids. Technologies to be discussed include advanced inverters and controllers and phasor measurement units (PMUs).

SESSION MODERATOR:
Anil Pahwa, Logan-Fetterhoof Chair Professor, Kansas State University

Applications of Phasor Measurement Units (PMUs) for Integration of DER in Modern and Future Power Distribution Systems
Speaker: Julio Romero Aguero, Quanta Technology
Co-author(s): Farid Kairoei, Quanta Technology
Muhtin (Dino) Lelic, Quanta Technology
Eric A. Udren, Quanta Technology LLC
Li Yu, Quanta Technology

Advanced Controls for Renewable Energy Inverters
Speaker: Dean Schoeder, Trimark Associates
Co-author(s): Tom Finch, Trimark Associates

Assessment of Solar PV Inverters Designed to Operate According to German Standards
Speaker: Steven Robles, Southern California Edison
Co-author(s): Robert Yinger, Southern California Edison
Richard Bravo, Southern California Edison
Roger Salas, Southern California Edison

Challenges of Deploying DER

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Many states and utilities have initiatives to deploy distributed energy resources (DER) using various technologies. DER might include renewables, especially solar PV, and might soon include other fuel sources such as natural gas fuel cells, diesel back-up generators or even microgrid storage. Each technology has challenges, but their impact on existing distribution grid planning, design and operations is increasingly complex. This panel will discuss how customers, developers or their own utilities handle DER interconnection requests and perform the studies of subsequent system impacts. Panelists will share how system design may be impacted and will be prepared to discuss the safe, reliable, efficient and complaint operational challenges they and our industry face as more DER are deployed on the system or in microgrids. Permitting, electrical, structural and architectural installations will be addressed. The panelists also will share the number of DER installations operating on their respective systems today, future installation plans in the queue and lessons learned to date.

SESSION MODERATOR:
Alan Saunders, Senior Industry Manager, Utilities, Autodesk

PANEL MODERATOR:
Michael E. Beehler, Vice President, T&D Services, Burns and McDonnell Engineering Co. Inc.

PANELISTS:
Kevin Dasso, Senior Director, Technology and Information Strategy, Pacific Gas and Electric Company
Barbara Lockwood, General Manager, Energy Innovation, Arizona Public Service
Bob Woods, Director, Electric System Planning, Southern California Edison
ENTERPRISE INFORMATION AND ASSET MANAGEMENT

Utilities must understand that information and systems are critical to the smart grid vision that impacts utility operations and asset performance. Managing the exponential growth of smart grid data requires a structured approach to information management. In addition, aging assets and budgetary constraints drive the need for asset management best practices. This track covers utility disciplines and best practices of enterprise information management (EIM) and asset management.

FEATURING SESSIONS OF SPECIAL INTEREST TO:
- Asset managers
- Utility engineers
- Operations and engineering management
- System architects
- Business improvement engineers/analysts
- Project managers

TRACK CHAIR:
Bradley R. Williams, Vice President, Industry Strategy, Oracle Utilities

Enterprise Information Management and Utility Semantics
Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Big data has huge potential but utilities need semantics to fully leverage its value. This session will review what Hydro-Quebec and the California ISO are doing with semantics and data modeling. Industry experts will describe utility business value and current standards supporting utility semantics and data models.

SESSION MODERATOR:
Bradley Williams, Vice President, Industry Strategy, Oracle Utilities

Using AMI Data for Added Value Operational Solutions
Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Many utilities are using data collected by their AMI systems to monitor outages and restorations with the goal of improving outage response. Based on their experiences, the panel will discuss what makes a stacked solution successful, such as sufficient communications bandwidth, sensors in the right locations, capability to detect and collect the needed data, system flexibility, ease of integrations and other considerations.

SESSION MODERATOR:
Kristen Wright, Senior Editor, Electric Light and Power

PANEL MODERATOR:
Michael Johnson, Program Manager, Elster Solutions

PANELISTS:
Steven Collier, V.P. Business Development, Milsoft Utility Solutions
Richard Ford, Manager of Grid Solutions, Toronto Hydro Electric Services
Dale Pennington, Managing Director, Utiliworks Consulting
David Whitehouse, Director, Customer/Corporate Services and Conservation Officer, Peterborough Utilities Group
Asset Investment and Planning Strategies to Optimize Utility Company Budgets

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Speakers in this asset management session will present asset management planning and evaluation methodologies used to optimize investment decisions for asset life-cycle management at Toronto Hydro and International Transmission Co. in Michigan. In addition, California regulatory staff will present their asset risk management strategies for the future.

SESSION MODERATOR:
Greg Robinson, General Manager, Xxtensible Solutions

Toronto Hydro’s Asset Management Planning and Evaluation Process
Speaker: Robert Otal, Toronto Hydro
Co-author(s): Chris Kerr, Toronto Hydro

Performance Driven Asset Management at International Transmission Company (ITC)
Speaker: Janice Yen, International Transmission Company
Co-author(s): Le Xu, Quanta Technology
Don Morrow, Quanta Technology
Brian Slocum, ITC Holdings

The Case for Condition-based Maintenance
Thursday, January 30
8:30 a.m. - 10:00 a.m.

In this session, panelists representing utilities that have adopted condition-based maintenance (CBM) will discuss the business case for CBM. The discussion will include advanced strategies leading up to reliability-based asset management and utility paradigm shifts needed to adopt CBM technology, IT systems, business processes and personnel expertise. In addition, panelists will present their vision of what on-line monitoring in determining asset condition will look like in the future.

SESSION MODERATOR:
Kristen Wright, Senior Editor, Electric Light and Power

PANEL MODERATOR:
Sri Varadan, P.E., Vice President, Asset Management Solutions, UISOL Inc., an Alstom company

PANELISTS:
W. Wayne Boone, Principal, Alabama Power Co.
M.G. (Marko) Kruithof, Manager, Networks, Stedin (DSO Netherlands)
Greg Parent, Manager, Substation Maintenance Engineering Department, Manitoba Hydro
Serge Varasse, Product Line Executive, Clevest Solutions Inc.

Device Monitoring and Management
Thursday, January 30
10:30 a.m. - 12:00 p.m.

With the modest increase in field asset data, utilities are now tasked with making this disparate data useful for device management, planning and analysis. This session will highlight the challenges as well as the benefits of integrating IT and OT to support system-wide predictive maintenance and asset health inquiries.

SESSION MODERATOR:
Scott Rogers, Senior Vice President, GeoDigital International Inc.

Field Data for Asset Management and Operations at TVA
Speaker: John Stewart, Tennessee Valley Authority
Co-author(s): R. Paul Barnett, Tennessee Valley Authority

Asset Analytics: Planning for the Entire Population of Distribution Assets
Speaker: Bruno Jesus, Hydro One
Co-author(s): James Weaver, Accenture

Operational Device Management: An Innovative Approach
Speaker: Jan Ferro, Green Mountain Power
Co-author(s): Bruce Kane, Oracle

Moving From a Compliance-based to a Risk-informed Performance-based Regulation and What It Means to Regulators and Utilities of the Future
Speaker: Elizaveta Malashenko, California Public Utilities Commission
Co-author(s): Ken Bruno, California Public Utilities Commission
Richard White, California Public Utilities Commission
GIS AND MOBILE SOLUTIONS

Planning, deployment and management of geographically distributed assets are some of the utility industry’s most demanding challenges. This track will examine new technologies and management practices intended to improve operations and maximize worker effectiveness.

FEATURING SESSIONS OF SPECIAL INTEREST TO:
- Asset managers
- Utility engineers
- Operations and engineering managers
- Project managers

Mobile Devices for the Next Generation Field Worker

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

This session will explore current trends in the deployment of mobile devices within the utility environment. Pros and cons of various device types will be examined, including reliability, ease of use, security and cost. Managing large fleets of devices will be discussed. Finally, the benefits that might be achieved through intelligent use of mobile technologies will be examined, including improved operational efficiency, worker safety and customer satisfaction.

SESSION MODERATOR:
Deryk Yuill, Technology Manager, Rugged Solutions, RuggedCom

Panelists:
- Lee Johnson, NetMotion Wireless
- Robert Sarfi, Boreas Group LLC
- Gerry Hibbard, Tensing USA
- John Simmins, Electric Power Research Institute (EPRI)

Using Mobility to Reshape the Utility-Customer Relationship Research-based Overview

Speaker: Bart Thielbar, Five Point
Co-author(s): Geoff Evans, Five Point

Mobile Utility Worker of the Future

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

The role of the utility worker is evolving rapidly. This panel of utility leaders will discuss and debate the pros and cons of new technologies and the impact they can have on the workforce.

SESSION MODERATOR:
Deryk Yuill, Technology Manager, Rugged Solutions, RuggedCom

PANEL MODERATOR:
Kevin O’Donovan, Worldwide Energy Sector Sales Director, Intel Corporation

PANELISTS:
- Bill Meehan, Director, Utility Solutions, ESRI
- Larry Cochrane, Worldwide Power and Utilities Industry Technology Specialist, Microsoft
- Alan Rose, Director, Energy and Utilities Industry Marketing, Intel Corporation

2013 Mobile Utility Survey:
Understanding the Impact of Mobile Devices in Utility Field Force Deployments
Speaker: Lee Johnson, NetMotion Wireless

Laptop, Tablet or Phone: What Makes the Most Sense for My Utility?
Speaker: Robert Sarfi, Boreas Group LLC
Co-author(s): Gerry Hibbard, Tensing USA John Simmins, Electric Power Research Institute (EPRI)

Using Mobility to Reshape the Utility-Customer Relationship Research-based Overview
Speaker: Bart Thielbar, Five Point
Co-author(s): Geoff Evans, Five Point

TRACK CHAIR:
Deryk Yuill, Technology Manager, Rugged Solutions, RuggedCom
Mobile Workforce Management

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Whether installing new smart meters or conducting routine inspections, managing a mobile workforce is a complex and essential component of every utility operation. This session will focus on solution justification, uses and benefits of mobile workforce management systems.

**SESSION MODERATOR:**
Scott Rogers, Senior Vice President, GeoDigital International Inc.

BC Hydro’s Smart Meter Deployment: Using Mobility to Simplify a Complex Undertaking  
**Speaker:** Darren Richter, BC Hydro

Maximizing Benefit Realization for Field Mobility Programs  
**Speaker:** Branton Cole, Pricewaterhouse Coopers

Implementing an Integrated Mobile Workforce Management System to Transform into a Real-time, Customer Service-focused Enterprise  
**Speaker:** Tony Landrith, Southern California Gas Company

Disaster Preparedness and Response

Thursday, January 30
8:30 a.m. - 10:00 a.m.

In an era where the 10-year storm seems to occur every other year, it is inevitable that utilities will be impacted by natural disasters. The speakers in this session will discuss how utilities plan for these events with GIS data and weather information. Learn how timely damage assessment information is captured and how vehicle locating technology can be used to manage field crews, reduce outage durations and improve internal and external communications, once an event has occurred.

**SESSION MODERATOR:**
Damon Dougherty, Saas Sales Manager, GE Digital Energy

Forecasting Disaster with GIS and Weather Tools  
**Speaker:** Danny Petrecca, Schneider Electric

Electric Utility Distribution Damage Assessment  
**Speaker:** William McEvoy, Northeast Utilities

Effectively Sharing and Managing Resources from Neighboring Utilities During Emergency Outages and Restorations  
**Speaker:** Jeffrey Olson, Pierce Pepin Cooperative Services

Co-author(s): Sharon Parker, Clevest

Grid Data Capture, Readiness and Visualization

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Data drives electric utility grid operations and split second decisions are made based on network model accuracy. Correct decisions require proper data capture through detailed design and analysis to ensure data meets the requirements to support smart applications, culminating in the visualization of data within real time systems. This session will focus on case studies from utilities that have realized the importance of data in supporting operational systems.

**SESSION MODERATOR:**
Eric Charette, Executive Systems Consultant, Intergraph

Impact of 3D Standards on Overhead Line Design and Related Business Workflows  
**Speaker:** Michael Davison, Midland Power Utility Corp.

Co-author(s): Peter Krotsky, ASI Inc.

When Default Values Won’t Do: Data Readiness in Preparation for a Distribution Management System at PECO  
**Speaker:** Greg Shumate, PECO Smart Grid GIS Implementation

Co-author(s): Roy Forsstrom, Structure

We Energies Prepares for the Storm With Cloud GIS  
**Speaker:** Tim Marquardt, We Energies

Co-author(s): Dave Twichell, ESRI
GRID COMMUNICATIONS

Smart grid and distribution automation have unique telecommunication system needs. Large geographic areas must be supported with cost effective solutions and bandwidth needs vary from sending a few alerts a day to streaming synchrophaser data. This track discusses communication technologies in context with the application. Sessions address business aspects, IT integration, deployment and the many important details to practical utility solutions.

FEATURING SESSIONS OF SPECIAL INTEREST TO:
- Power engineers
- Telecom engineers
- Project managers of Distribution Automation/AMI/Smart Grid projects
- IT architects
- Budget owners of Smart Grid projects
- Executives interested in industry direction

TRACK CHAIR:
Daniel Partridge, Director, Sentient Energy

Real-world Communication Networks for DA, AMI and More
Tuesday, January 28
1:00 p.m. - 2:30 p.m.
Hear what three large investor-owned utilities have implemented. This session will cover delivering a communication network for both DA and AMI, as well as using distributed intelligence to better manage distribution feeders. The speakers will discuss lessons learned from their projects and the status of each.

SESSION MODERATOR:
Sharon Allan, Managing Director, Soho Consulting

Worcester, Massachusetts Smart Grid Success with Multi-application Smart Grid Architecture
Speaker: Bill Jones, National Grid

The Coalition of the Willing: Leveraging the Vendor Community and the Principles of Open Source in the Utility Space
Speaker: Jason P. Handley, Duke Energy
Co-author(s): Stuart Laval, Duke Energy
Raiford Smith, Duke Energy

Breaking New Ground: Deploying and Operating a Million IPv6 Inter-networked Devices in a Field Area Network
Speaker: David DeYagher, BC Hydro
Co-author(s): Kai Hui, BC Hydro
Eruch Kapadia, Cisco

Moving Smart Grid Forward with Innovative Communication Technologies
Tuesday, January 28
3:00 p.m. - 4:30 p.m.
The need for sensors to operate in a peer-to-peer device network for field automation will be critical to meet the dynamic changes in the distribution network. A robust home area network is essential for simplicity and consistency. This session will explore various innovative applications taken by leading utilities that are deploying communication technologies to advance smart grid and create value.

SESSION MODERATOR:
Ron Chebra, Vice President, DNV KEMA

Utility Support of Home Area Networks
Speaker: Don Jacobs, Sacramento Municipal Utility District (SMUD)

Interoperability and Cost Savings from the Smart Grid: Realizing Distributed Intelligence via a Field Message Bus
Speaker: Stuart Laval, Duke Energy
Co-author(s): Jason P. Handley, Duke Energy
Raiford Smith, Duke Energy
Zac Canders, SAIC

Growing the Field Area Network for Legacy and Future Applications
Speaker: Jeremy Blair, Entergy Corporation
Advanced Technologies at Rural Electric Cooperatives

Wednesday, January 29 9:30 a.m. - 11:00 a.m.

The speakers in this session represent three technology-leading cooperatives and will discuss communications technologies they use for substation and distribution line automation. These utilities are deploying some of the most advanced technologies in remote substations and across large rural landscapes. Learn about applying IP into legacy systems, communications for FLISR, and deployment of Wi Max and “ultra-long range” WAN radio systems.

SESSION MODERATOR: Daniel Partridge, Director, Sentient Energy

Rural Distribution Substation Communications Utilizing Cellular Service
Speaker: Joby Wieser, Central Texas Electric Cooperative

Everything’s Bigger in Texas: A Case Study on Smart Grid Infrastructure Over Vast, Tough Terrain
Speaker: Bruce Goss, DETEC
Co-author(s): Eric Murray, Tantalus

Design and Implementation of a Communication Network to Support Real-time Distribution Feeder Automation
Speaker: Don Bowman, Wake Electric Membership Corporation
Co-author(s): Steve Ballard, Wake Electric Membership Corporation
Andre Smit, Siemens Industry Inc.
Curtis Brothers, WCPE FM 89.7
Suraj Chanda, Siemens Industry Inc.
Jordan Overbee, Wake Electric Member Cooperative
Alexandr Stinskiy, Siemens Industry Inc.

Distribution Automation Communications: What Are Utility Companies Learning?

Thursday, January 30 8:30 a.m. - 10:00 a.m.

In this session, representatives of three large investor-owned utilities will share lessons learned from their large, multi-year communication network programs. Learn how these programs evolved from concept through implementation and how they addressed challenges with maturing security standards, conversion of legacy solutions, integration of multiple networks and overall operational coordination.

SESSION MODERATOR: Mark Browning, Vice President, ComEd IT, ComEd

CenterPoint Energy’s Communications Challenges in Its D-SCADA Implementation
Speaker: PJ Donner, CenterPoint
Co-author(s): Arturo Gonzalez, Structure

DA Communications: Evolution of Communication Over a Multi-year DA Deployment
Speaker: Steven Chisholm, Oklahoma Gas and Electric
Co-author(s): William Conn, Structure
Cristi Killian, Oklahoma Gas and Electric

Upgrade and Expansion of a Legacy DA Radio Network as a Part of a Comprehensive Smart Grid Deployment
Speaker: Carol Bartucci, ComEd

Choice, Choices, Choices: What Communications Architecture Fits You?

Thursday, January 30 10:30 a.m. - 12:00 p.m.

The foundation of any smart grid deployment should be a robust communications architecture. This session will present communication solutions from three different utilities dealing with important topics such as moving from narrowband to broadband, how to secure wireless communications and MPLS change management.

SESSION MODERATOR: Jason P. Handley, Technology Development Manager, Duke Energy

Toronto Hydro Feeder Automation Network: Solving Challenges of RF Design for Distribution Automation
Speaker: Ali Mehrpouyan, Black & Veatch
Co-author(s): Chris Kerr, Toronto Hydro

Secure Wireless Communications in the Electric Utility Industry
Speaker: Joey St. Jacques, Hydro Ottawa
Co-author(s): Sonya Konzak, CEATI International

MPLS – It’s More Than Just a Technology Upgrade, It’s an Organizational Change
Speaker: Doug McGinnis, Exelon Business Services Company
Co-author(s): Tim Valin, West Monroe Partners
Dan Frein, West Monroe Partners
INTERNATIONAL PROJECTS

Grid modernization is taking shape across the globe and this track covers many areas from T&D to customer sectors. Implementation in different regions and nations is executed under different sets of business, technical, regulatory and national policy drivers. Each implementation has its own focus on grid modernization in general and smart grid in particular, yet the core technologies used are similar. This track of sessions provides insight into how technologies are used now and in the future, and how the market is expected to evolve from an international perspective.

FEATUREING SESSIONS OF SPECIAL INTEREST TO:
- Regulators and policy analysts
- Marketing and sales directors of small, medium and multi-national corporations and overseas vendors
- Product development directors of small, medium and multi-national corporations and overseas vendors

TRACK CHAIR:
Marco C. Janssen, CEO, UTInnovation

International Advanced Power Grid Management
Tuesday, January 28
1:00 p.m. - 2:30 p.m.
Utilities from New Zealand, Netherlands, Guatemala and UK have recently implemented technologies to better manage assets, improve system reliability, provide wide-area visibility and enhance operational productivity. Hear what utilities in these countries are implementing for improved T&D grid management.

SESSION MODERATOR:
ML Chan, Sr. Vice President, ML Consulting Group

The Role of Network Visualization in Managing Power Distribution Assets
Speaker: Gaganpreet Chadha, Unison Networks Ltd.
Co-author(s): Andrew Halliday, PowerSense ANZ Pty. Ltd.

Enexis: Pre vs. Post Retrofit Distribution Automation
Speaker: Jesper Nielsen, PowerSense A/S
Co-author(s): Daniel Kaiser-Almind, PowerSense A/S
Johan Morren, Enexis B.V.
Sjors Van der Heijden, Enexis B.V.
Ivan Thenunissen, Enexis B.V.

Wide-area Measurement and Control Scheme Maintains Central America’s Power System Stability
Speaker: Fernando Calero, Schweitzer Engineering Laboratories Inc.
Co-author(s): Jose Espinoza, AMM-Guatemala, Guatemala
Armando Guzman, Schweitzer Engineering Laboratories Inc.
Mangapathirao V. Mynam, Schweitzer Engineering Laboratories Inc.
Eduardo Palma, Schweitzer Engineering Laboratories Inc.

DER Integration in Electric Distribution Grids
Tuesday, January 28
3:00 p.m. - 4:30 p.m.
A major challenge for utilities is integrating the growing amount of distributed energy resources (DER) into the power grid. This session presents experiences and best practices regarding how utilities in Europe are mastering this challenge and how the integration of DER in distribution grids affects their medium- and low-voltage systems.

SESSION MODERATOR:
Marco C. Janssen, CEO, UTInnovation

Smart Grid Distribution Planning Based on Measurements
Speaker: Michael Fiedeldey, Allgaeuer Ueberlandwerk GmbH
Co-author(s): Hugo Bashualdo, Siemens Industry Inc.
Robert Koeberle, Allgaeuer Ueberlandwerk GmbH
Holger Mueller, Siemens AG

Grid4EU Demonstration Project: Smart Distribution Management to Maximize Distributed Energy Resources Integration Into the Low and Medium Voltage Grid
Speaker: Remy Garoude-Verdier, ERDF

Network Studies at Wachtendonk: Eyes in the Power Grid
Speaker: Bruno Opitsch, Siemens AG
Co-author(s): Hermann-Josef Kroon, SWK AG
Communications Using Demand Response and Microgrids to Balance Load and Power Generation

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

The introduction of more small-scale generation in the distribution grid creates a challenge when balancing load and demand. This session provides an overview of how utilities are meeting such challenges.

SESSION MODERATOR:
ML Chan, Sr. Vice President, ML Consulting Group

Smart Grid Demand Response Communications: The Urgent Need for International Standards
Speaker: Dave Hardin, EnerNOC
Co-author(s): Scott Neumann, UISOL, an Alstom company
Alex Habre, PJM Interconnection LLC

MILLENER Project: Leveraging Smart Grid Technologies to Face the Energy Balancing Challenges of Islanded Areas
Speaker: Yves Jeanjean, Schneider Electric
Co-author(s): Matthieu Mournier, Schneider Electric

Implementing LV Distribution Monitoring System: Lessons Learned and Enabled Applications
Speaker: Palak Parikh, GE Digital Energy
Co-author(s): Jesus Concejo, GE Digital Energy

Convergence of IT and OT: Practical Experience
Thursday, January 30
8:30 a.m. - 10:00 a.m.

The systems used for IT and OT are growing closer together. Combining the two can provide substantial benefits in the areas of engineering, planning, operations and maintenance. This session highlights different IT and OT convergence experiences from projects in Jamaica, Northern Ireland and Denmark.

SESSION MODERATOR:
Heiko Englert, Head of Standardization Management, Siemens Smart Grid Division

OT and IT Integration to Improve Outage Restoration in Jamaica
Speaker: Parag Parikh, Ventyx
Co-author(s): Karlene Haye-Williams, Jamaica Public Service Company
Clava Mantock, Jamaica Public Service Company
Dwight DaCosta, Jamaica Public Service Company

Northern Ireland Electricity: Transforming Power Distribution Through Technology
Speaker: Bradley R. Williams, Oracle Utilities
Co-author(s): Rodney Ballentine, Northern Ireland Electricity

Convergence of IT/OT and the Nature of Applications in the Future
Speaker: Signe Bramming Andersen, Dong Energy
Co-author(s): Jesper Vinther Christensen, Similix

International Smart Grid Visions
Thursday, January 30
10:30 a.m. - 12:00 p.m.

The smart grid “craze” is continuing throughout the world and it is more important than ever for utilities to have visions, strategies and implementation plans. This session highlights the visions, roadmap and strategies from three different projects in three different parts of the world.

SESSION MODERATOR:
Bill Meehan, Director, Utility Solutions, ESRI

CEATI Distribution Technology Roadmap Update
Speaker: Doug Houseman, EnerNex

The Smart Grid as a Smart City Aspiration
Speaker: Jagoron Mukherjee, Booz and Company
Co-author(s): Marco C. Janssen, UTInnovation

Deploying Active Network Management to Accelerate Renewable Connections
Speaker: Euan Davidson, Smarter Grid Solutions
Co-author(s): Bob Currie, Smarter Grid Solutions
Alan Gooding, Smarter Grid Solutions
Martin Hill, Scottish Power Energy Networks
Euan Norris, Scottish Power Energy Networks
RENEWABLES, TRANSMISSION AND POLICY

Lines are blurring between transmission and distribution in the emerging grid that includes distributed generation, empowered customers and smart technology. This track explores both transmission technology and the interface between distribution and transmission. The sessions examine wide area monitoring, protection and control, as well as transmission and distribution interface and explore grid impacts on PV penetration and mitigation strategies.

Preventing Cascading Power Outages Through Time Synchronization of Wide-are Monitoring, Protection and Control Systems

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Wide area monitoring, protection, and control (WAMPAC) systems provide real-time information that can prevent cascading outages, enable islanding, improve efficiencies and help operators manage the complex real-time variances in the grid for utilities all over the world. Understanding standards, such as IEEE 1588, “Precision Time Protocol (PTP) and the Power Profile,” that have been developed to address precise time in power applications is key. This panel of experts will discuss utilities’ increasing concerns about the reliability and security of using GPS as a primary reference and explore alternatives or back-up references for their time-critical projects.

PANEL MODERATOR:
Raj Nayar, Business Segment Manager, Disconnect Switch Products, Siemens Medium Voltage Systems

PANELISTS:
Dewey Day, Principal OT Architect, Pacific Gas and Electric
Herbert Falk, Solution Engineer, SISCO
Manish Gupta, V.P. Marketing and Business Development, Symmetricom

Using DLR and Real-time Technologies to Manage Generation Impacts on Transmission

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Changing generation supply could create congestion, overload and outages on the transmission system. New technologies are giving transmission operators more information to meet these challenges. The presenters in this session will address real-time situational awareness, dynamic line ratings, and automated flow monitoring. All are exciting changes to transmission operations.

SESSION MODERATOR:
Linda Finley, Sr. Regional Transmission Engineer, Snohomish County PUD

Real-time Situational Awareness of WAMS at San Diego Gas and Electric

Speaker: Tariq Rahman, San Diego Gas and Electric Company
Co-author(s): Rebekah Atkinson, Process Innovations Inc.
Bruno Bachiega, OSIsoft LLC
Chuck Wells, OSIsoft LLC

From Line to Market: Feeding Live Dynamic Line Ratings Directly From Oncor to ERCOT in Real-time

Speaker: Tip Goodwin, Oncor Electric Delivery

Automated Flow Monitoring Tool for Transmission Outages

Speaker: Kevin Bellflower, Pacific Gas and Electric
Co-author(s): Mike Nettler, Pacific Gas and Electric
Ann Moore, OSIsoft
Beyond PV “Percentage Penetration”: Myth or Fact

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

High penetration solar photovoltaic (PV) electricity supply in distribution systems has revealed that percent penetration has little meaning as a screen for appropriate levels of PV on a circuit. The 15 percent rule or screen is increasingly accepted as too conservative. This expert panel will discuss how DOE-funded efforts involving researchers and utilities across the country are leading to many new insights.

PANEL MODERATOR:
Heather Sanders, Director, Regulatory Affairs - Distributed Energy Resources, California ISO

PANELISTS:
Barry Mather, Senior Electrical Engineer, National Renewable Energy Laboratory
Rick Meeker, P.E., Prog. Dev. Mgr. - Industry Partnerships, FSU Center for Advanced Power Systems
David Narang, Senior Engineer, Energy Innovation, Arizona Public Service Company
Jeff Smith, Manager, Power System Studies, EPRI

Utility Companies and DG: Islanding, Integration and Interconnection

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Distributed generation is a rapid growth and change area for utilities, leading to many questions—what are the impacts of photovoltaic (PV) penetration on the grid and how can utilities mitigate them? This session will focus on case studies, lessons learned and policies focusing on grid management, commercial rules and arrangements, and safety.

SESSION MODERATOR:
Raj Chudgar, Vice President, Power Generation Services Inc. (“PoGens”)

Smart Commercial Arrangements for the Integration of Distributed Energy Resources (DER): Evidence from Europe and the United States
Speaker: Bob Currie, Smarter Grid Solutions
Co-author(s): Karim Anaya, University of Cambridge
Graham Ault, Smarter Grid Solutions
Sotiris Georgiopolous, UK Power Networks

Anti-islanding Protection of Distributed Generation Using PLC Communications
Speaker: Nachum Sadan, Amperion Inc.

Regional/Transmission and Distribution Impacts of High-penetration Wholesale PV Interconnections
Speaker: Peter Evans, New Power Technologies

The TransForum conference series addresses issues facing the power transmission industry at a regional level. TransForum Texas will connect executives, subject matter experts, litigators, regulators and other transmission professionals focused on the State of Texas with presentations, forum discussions and networking opportunities. Don’t miss your chance to help shape the future of power transmission in Texas!

AGENDA HIGHLIGHTS INCLUDE:
• CREZ: A retrospective
• Constraints in the ERCOT market
• Leveraging synchrophasor applications
• And much, much more!

See page 46 for details

*DistribuTECH attendees can upgrade their registration to include TransForum Texas for only $295! See pages 98-99 for details.
SMART DISTRIBUTION MANAGEMENT

Distribution feeder applications and equipment will require technologies, such as sensors, controls, telecommunication infrastructure, analysis, simulation software and so on, to facilitate real time decisions and meet growing customer expectations. With the integration of different smart distribution applications, software tools are being developed to integrate information from dissimilar systems and summarize it to facilitate and enhance operating distribution system decisions.

FEATUREING SESSIONS OF SPECIAL INTEREST TO:
- Electric utility operators
- Electric utility engineers
- Electric utility planners
- Electric utility consultants
- T&D and automation managers

DISTRIBUTION FEEDER APPLICATIONS AND EQUIPMENT

Distribution Feeder
applications and equipment include the following topics:

- Distributed energy resources integration (or this could be possibly be drawn over to another track)
- Remote controlling of feeder reclosers and switches
- Fault location, isolation and service restoration
- Adaptive distribution feeder protection
- Accurate fault location based on wave shape analysis
- Remote controlling of capacitors
- Volt and VAR control and optimization (for conservation voltage reduction and peak shaving)
- Power quality measurements (Voltage sags and surges, harmonic content, etc.)
- Distribution line monitoring (power measurements)

DMS/SCADA Vision,
Design, Procurement and
Implementation

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

This panel session will focus on the efforts and activities of four utilities in all phases of strategy, procurement and implementation of a distribution management system (DMS). Utility representatives will share the challenges experienced at each stage and the lessons learned. Discussions will include business readiness and the specialized training that a DMS requires, along with the evolution and adjustments required to existing processes in distribution operations. The panel will include a discussion on the main functional aspects of a DMS and will address what has achieved maturity and what has worked well in the “live” environment.

SESSION MODERATOR:
Craig Befus, Principal Engineer - Technology Strategy, Xcel Energy Services

PANEL MODERATOR:
Rafael Ochoa, Partner and Smart Grid Practice Area Lead, The Structure Group

PANELISTS:
Valentine A. Ernesih, Director, Control System, CenterPoint Energy
Scott Milianowski, Sr. Director of Engineering Innovation and Technology, Oklahoma Gas and Electric Company
Len Sanelli, Director, Distribution System Operations, PECO Energy
Bo Van Beekum, Director, Distribution Management System Projects, Xcel Energy

The Management and Business Side of Smart Distribution

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

There is more to a smart distribution system than equipment and software. Often forgotten are the people and business aspects of these implementations. This session will focus on areas such as balancing sustainment with growth due to modernization, training and planning optimization, and the utilization of data analytics from smart devices for equipment usage validation.

SESSION MODERATOR:
Joe Zerdin, Manager Distribution Planning, Hydro One Inc.

Now What? Sustaining and Growing Our Grid Modernization Future: How a Holistic Approach and Effective Program Management Will be Key to Driving Future Benefit Delivery
Speaker: Mark Wyatt, Duke Energy
Co-author(s): Daniel E. Woodall, Duke Energy

Novel Use of Existing Data for Smart Grid Value Analysis and Asset Optimization
Speaker: Vincent Forte, National Grid
Co-author(s): Jeffery Pires, National Grid Cheryl A. Warren, National Grid

How a Distribution Operations Simulator May Be Used to Perform Pre-deployment Distribution Automation Capabilities
Speaker: Steve Russell, Duke Energy
Co-author(s): Ethan C. Boardman, Alstom Grid
Automated Fault Detection, Isolation and Restoration

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Representatives from three large electricity suppliers share their real world experiences implementing fault location and restoration through the use of updated network models and DMS technologies.

SESSION MODERATOR:
Blaine Dinwiddie, Division Manager, T&D Operations, Omaha Public Power District

Deployment of a Model-based Centralized Restoration Gateway at Georgia Power
Speaker: Craig Walker, Georgia Power
Co-author(s): Sam Mullinax, Efacec ACS

A Measured Approach to Full-scale DMS Deployment for Fault Detection, Isolation and Restoration
Speaker: Bhaji Dhillon, Cobb EMC
Co-author(s): Gary Ockwell, Efacec ACS

Improved Distribution Fault Location at Oncor
Speaker: Phillip McCrory, Oncor Electric Delivery
Co-author(s): Roy Maxley, Siemens
Jeff Walz, Siemens

DER Integration and Volt/VAR Optimization

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Higher penetrations of distributed generation (DG), especially renewables, on electric distribution systems significantly impacts distribution system operation and performance. Electric distribution utilities must manage voltage and power fluctuations associated with variable output from DG units, while operating as efficiently as possible. This session covers several innovative approaches used by electric utilities to mitigate the adverse impacts of voltage and power swings to maintain high voltage quality at all times while attaining loss reduction, demand reduction and other efficiency improvement measures.

SESSION MODERATOR:
Robert Uluski, V.P., DA/DMS Systems, Utility Integration Solutions, Inc.

Dynamic Voltage and VAR Control via a Distributed Architecture
Speaker: Jason P. Handley, Duke Energy
Co-author(s): Deepak Divan, Varentec

AEP Kentucky Power’s SMART Circuit Distribution Automation Program: Lessons Learned Coordinating, Initiating, Implementing and Installing Distribution Automation Programs
Speaker: Thomas F. Weaver III, American Electric Power
Co-author(s): William Biehl, Black & Veatch

New Tools for Improving Distribution Circuit Performance Using Smart Solar Inverters and Utility-driven Control Schemes
Speaker: Dan Sowder, Duke Energy

Distribution Management Systems (DMS): Network Models, Data and System Integration

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Distribution management systems are not one-size-fits-all systems. While much of the technology is the same from system to system, each utility uses different solutions to meet its operational requirements. The three paper presentations in this session will cover distribution network models, geographical information-based operations and system integration. Hear smart grid experts from three different utilities discuss what has made their DMS successful.

SESSION MODERATOR:
Subrahmanyam (Mani) Venkata, Principal Scientist, Alstom Grid NMS

Geographical Operations are Facilitated by Geographic Presentations
Speaker: G. Larry Clark, Alabama Power Company - a Southern company
Co-author(s): Ethan C. Boardman, Alstom Grid

Smart DMS at Georgia Power Company: The Right Information to the Right People at the Right Time – System Integration and Business Process Drive Operational Excellence and Customer Satisfaction
Speaker: Gregory Brock, Georgia Power Co.

Improving Distribution Operators’ Situational Awareness at PECO Energy by Designing Optimum One-line Displays in the New SCADA/DMS
Speaker: John "Jack" Huber, PECO Energy, an Exelon company
Co-author(s): John Geil, Structure
SMART GRID OPERATIONS

This track focuses on technology, business process and performance, job responsibility and decision making involving core power system operations. It offers a venue for the world’s utilities to share and gain new experiences and perspectives on the evolving power systems. It includes an array of technologies and innovations that aid in grid monitoring, operation, control and optimization activities and capabilities. Topics include storm response, outage management, distribution and transmission grid optimization, grid monitoring and control, grid analytics and their use in improving operational processes, as well as the impacts of distributed energy resources on grid management.

Case Studies of In-service Utility Operations Projects

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

In this session, representatives from three utilities will discuss their lessons learned and experiences running new advanced distribution operations systems. Mississippi Power will share experience with its advanced OMS, detailing how it integrated smart grid devices by extending communications and adding distributed intelligence to existing grid management solutions. OG&E will share lessons learned from operating the DMS and the challenges associated with maintaining its DMS and keeping it ready for use. FP&L, which has been operating its DMS since 2008, will discuss leveraging fault current data obtained from protective relays and the DMS network model to better dispatch restoration crews closer to the actual location of the fault.

SESSION MODERATOR:
Bennie Fussell, Smart Grid Solutions Architect, Schneider Electric

Case Study: Mississippi Power Integrates NMS With Smart Grid Devices
Speaker: Janell M. Ross, Mississippi Power Company
Co-author(s): S. Mark Rose, Mississippi Power Company

OG&E DMS Experiences After One Year of System Operations
Speaker: Grant Cochenour, Oklahoma Gas and Electric
Co-author(s): Jason Estel, Oklahoma Gas and Electric
Vijayasekar Rajsekar, Structure

Distribution Feeder Performance Analysis Utilizing Distribution Management System Fault Location Data at Florida Power and Light
Speaker: Jerry Gray, Florida Power and Light Company
Co-author(s): Ethan C. Boardman, Alstom Grid
John Sell, Alstom Grid

Using Big Data to Improve Real-time Decision-making on the Grid

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

More digital technologies create more data, which can overwhelm even the most experienced utility employee. This session will dig into three approaches that utilities have developed to turn their data into action. From the control room to the feeder to storm restoration, these papers will describe trends, technologies and methodologies that turn data into action.

SESSION MODERATOR:
Otto Marquardt, Regional Customer Service Manager, Wisconsin Public Service Corporation

Cost and Benefits of a Modular Smart Grid Architecture: Multiple T&D Use Cases via a Common Nodal Communications Platform
Speaker: Jason P. Handley, Duke Energy
Co-author(s): Stuart Laval, Duke Energy
Raiford Smith, Duke Energy
Zac Canders, SAIC

Distribution Automation in Smart Grid Operations
Speaker: Tommy Ross, CPS Energy

The Impact of Control Room Decision-making on Grid Resilience
Speaker: Laurie Burnham, Sandia National Laboratories
Co-author(s): Christy Warrender, Sandia National Laboratories
DER and Grid Integration: Case Histories

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

This session focuses on three distributed energy resource (DER) solutions that have been implemented at three large utilities. The presenters will provide attendees with state-of-the-industry lessons learned regarding solar generation and battery storage integration, distribution-level battery energy storage systems and the use of DER to offset post-outage cold load pickup situations.

SESSION MODERATOR:
Paul Yarka, Vice President, Market Development and Strategy, Flextronics Energy

Optimized Integration of PV With Battery Storage: A Real-world Success Story

Speaker: Steve Willard, PNM Resources
Co-author(s): Brian Arellano, PNM Resources
Jon Hawkins, PNM Resources
John Simmins, Electric Power Research Institute (EPRI)

Case Study in Utility Implementation of Innovative Technology: BC Hydro Deployment of Sodium Sulphur Battery Energy Storage System on a Distribution Feeder in Field, British Columbia, Canada

Speaker: Helen Whittaker, BC Hydro

Mitigating Cold Load Pickup Problems With Distributed Energy Resources

Speaker: Eric Sortomme, Alstom Grid NMS
Co-author(s): Subrahmanyan Venkata, Alstom Grid NMS

NIST Framework: Real-world Applications for the Smart Grid

Thursday, January 30
8:30 a.m. - 10:00 a.m.

National Institute of Standards and Technology (NIST) has coordinated with smart grid stakeholders to develop an interoperability framework that would enable the deployment of a reliable and secure smart grid. NIST Framework and Roadmap for Smart Grid Interoperability Standards lays out a plan for transforming the nation’s aging electric power system into an interoperable smart grid. This panel brings together stakeholders from across the industry - utilities, manufacturers, standards organizations and regulators to discuss their experiences and approaches in using the Framework and explore what value it brings to their respective roles.

SESSION MODERATOR:
Michael Pesin, Chief Technology Advisor, Seattle City Light

PANEL MODERATOR:
Chris L. Greer, Acting Director, Cyber Physical Systems and Smart Grid Program Office, Engineering Laboratory, National Institute of Standards and Technology

BC Hydro Operational Experience With Distribution Voltage and VAR Optimization

Speaker: Nimesh Shah, BC Hydro
Co-author(s): Warren Quan, BC Hydro
Ron Nielsen, BC Hydro

Prioritizing Feeders for a Volt/VAR Optimization Project Roll-out

Speaker: Tim Taylor, Ventyx
Co-author(s): William R. Bartel, CenterPoint Energy

New Volt/VAR Control Optimization Methodology with Single-phase Capacitor Bank Switching

Speaker: Aleksandar Vukovic, BGE
Co-author(s): Paul Frey, BGE
Michael Smith, BGE

Volt/VAR Optimization and Feeder Metering for Improved Distribution Operations

Thursday, January 30
10:30 a.m. - 12:00 p.m.

The speakers in this session will present utility examples of Volt/VAR optimization (VVO) for peak demand reduction and improved efficiency through energy loss reduction. The session also includes metering applications to improve distribution reliability and operations.

SESSION MODERATOR:
Gary Rackliffe, Vice President Smart Grids, North America, ABB

PANEL MODERATOR:
Chris L. Greer, Acting Director, Cyber Physical Systems and Smart Grid Program Office, Engineering Laboratory, National Institute of Standards and Technology

BC Hydro Operational Experience With Distribution Voltage and VAR Optimization

Speaker: Nimesh Shah, BC Hydro
Co-author(s): Warren Quan, BC Hydro
Ron Nielsen, BC Hydro

Prioritizing Feeders for a Volt/VAR Optimization Project Roll-out

Speaker: Tim Taylor, Ventyx
Co-author(s): William R. Bartel, CenterPoint Energy

New Volt/VAR Control Optimization Methodology with Single-phase Capacitor Bank Switching

Speaker: Aleksandar Vukovic, BGE
Co-author(s): Paul Frey, BGE
Michael Smith, BGE
SUBSTATION AUTOMATION

Substation integration and automation is driving innovation and change. Modern intelligent electronic devices (IEDs) such as protection relays can generate valuable operational and non-operational data. This data can be used for local analytics and advanced applications and can be delivered to applications and users across the enterprise (e.g., asset management, maintenance, power quality) to deliver significant organizational benefits. The adoption of standards and broadband communications (WAN/LAN) enables greater access to and management of substation data, as well as improved cyber protection. Lessons learned and benefits realized are key features of this track.

FEATURING SESSIONS OF SPECIAL INTEREST TO:

• Applications engineers
• Automation & IT specialists
• Communications specialists
• Control and integration engineers
• Electric maintenance engineers
• Grid automation specialists
• Grid control managers
• Hardware engineers
• Integration architects
• IT infrastructure / IT security managers
• Manufacturers
• Measurement & control specialists
• Operations supervisors
• Product managers
• Protection & automation managers
• Substations solutions personnel
• T&D managers
• Telecom engineers

IAC 61850: Lessons From the Front Lines and New Directions With DER Integration

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

A number of North American utilities and their consultants have been demonstrating and piloting IEC 61850 and are planning their wider implementations. They now are able to share experiences, lessons learned, what worked well and what didn’t, and benefits expected or realized. Simultaneous with the growing industry adoption, the standards activity is continuing with the development of new parts defining modeling for a wide range of applications. In this session, two well-known industry experts will provide an update on the IEC 61850 standard with focus on DER/storage integration.

SESSION MODERATOR:
Ron Farquharson, Principal Consultant, EnerNex LLC

Pushing the Envelope on Substation Automation: Part KCP&L’s End-to-end Smart Substation and Smart Distribution Initiatives

Speaker: Ed Hedges, Kansas City Power and Light Co.
Co-author(s): Andrew Dicker, Structure
Matthew Olson, Burns and McDonnell
John Porachan, Structure

Lessons Learned Using IEC 61850

Speaker: Doug Young, Black and Veatch

Grid Integration of Distributed Generation and Energy Storage with IEC 61850: Experience From Smart Grid Projects and New Standardization Developments

Speaker: Christoph Brunner, i4power
Co-author(s): Alexander Apostolov, OMICRON Electronics

Innovations in Substation and Power Distribution Communications

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Wireless technology is often used for modern substation and distribution communications. In this session, one presenter will explain how using wireless technologies in substation yards for retrofits when installing fiber cable may be cost prohibitive. Another will describe the use of wireless communications for distribution automation applications where wide area protection and control is implemented using IEC 61850. The final presenter will share an overview of the Precision Time Protocol (PTP) based on IEEE Standard 1588v2 and the associated communications infrastructure needed. In addition, two use cases where PTP is used to solve utility timing challenges will be presented.

SESSION MODERATOR:
Richard Wernsing, Manager Asset Strategy, PSE&G

Wired vs. Wireless Solutions in the Substation Environment

Speaker: Adam Guglielmo, ABB/Tropos
Wireless Communications Systems

Practical Experiences When Testing Wide-area Protection and Control Systems That Utilize Wireless Communications

Speaker: Andre Smit, Siemens Industry Inc.
Co-author(s): Don Bowman, Wake Electric Cooperative

Suraj Chanda, Siemens Industry Inc.
Ron Harris, Rappahannock Electric Cooperative
Todd Houseknecht, Siemens Industry Inc.
Kelvin Perlitt, A&N Electrical
Alexandr Stinskiy, Siemens Industry Inc.


Speaker: Joshua Kenney, Burns and McDonnell
Co-author(s): Matthew Steyer, Burns and McDonnell
Matthew Olson, Burns and McDonnell
Substation Device Management: A Structured Approach for Utility Companies

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

Today’s modern substation incorporates an ever-increasing number of intelligent electronic devices (IEDs). While the improved functionality and wealth of operational and non-operational data IEDs provide is invaluable, effective management and maintenance of this growing fleet of devices is an increasingly complex challenge. Three presenters in this session will discuss a structured approach to firmware revision and patch control, configuration and password management, secure remote engineering access, and address the increasing pace of evolution and obsolescence of these devices.

SESSION MODERATOR:
Dean Craig, Supervising Engineer, System Automation, ENMAX Power Corporation

Version Control and Patch Management of Protection and Automation Systems
Speaker: Jerôme Arnaud, Alstom Grid
Co-author(s): Matthew Vau, Alstom Grid
Suresh Kalaichelvan, Alstom Grid
Abraham Varghese, Alstom Grid

Creating a Sustainable Protective Relay Asset Strategy
Speaker: Eric A. Udren, Quanta Technology LLC
Co-author(s): Aaron Feathers, Pacific Gas and Electric Company

Total Device Management With IEC 61850
Speaker: Anthony Eshpeter, SUBNET Solutions Inc.

Substation Automation in Action: Real Utility Companies Achieving Real Success

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Today’s automated substations can provide substantially greater visibility, security, and reliability than ever before. As regulatory pressure, severe weather, economic climate and other challenges mount, substation automation is increasingly looked upon as a key part of the utility’s competitive strategy. In this session, three utilities share their substation automation success stories: how they overcame technical and operational challenges, benefits realized, and lessons learned along the way.

SESSION MODERATOR:
Tom Eyford, Principal Business Strategy Consultant, Oracle Utilities

Energy Strong: Hardening and Resiliency - Substation Automation
Speaker: Richard Wernsing, PSE&G
Co-author(s): Ann Moore, OSIsoft LLC

Case Study: Substation Automation at Snohomish PUD
Speaker: Bob Anderson, Snohomish Co. PUD No. 1
Co-author(s): Anthony Eshpeter, SUBNET Solutions Inc.
Chris Fate, Snohomish Co. PUD No. 1
Ryan Pham, Snohomish Co. PUD No. 1
Jason Zyskowski, Snohomish Co. PUD No. 1

Integration of Smart Substations in Advance DMS: A Case for Integrated Self-healing Applications
Speaker: Bill Menge, Kansas City Power and Light Co.
Co-author(s): Andrew Dicker, Structure
Steve Goecckeler, Kansas City Power and Light Co.
Ed Hedges, Kansas City Power and Light Co.
Angilberto Hernandez, Structure
John Porachan, Structure

New Technologies Deployed by Utility Companies for Proactive System Optimization

Thursday, January 30
10:30 a.m. - 12:00 p.m.

This session will discuss how a number of utilities have deployed new technologies to migrate from serial to IP networks, internal and external to the substation. The discussion will include scenarios, migration and security strategies, lessons learned and the tight integration of cybersecurity and legacy communications. In addition, the session will cover how imaging, coupled with automation and SCADA software in the substation, can be used to remotely monitor impending equipment failures and security breaches, reducing the chance for equipment failures and downtime, as well as extend the lifecycle of assets through preventative maintenance.

SESSION MODERATOR:

Best Practices for Serial-to-IP SCADA Migration
Speaker: Scott Sternfeld, EPRI
Co-author(s): Grant Gilchrist, EnerNex

Legacy System Migration Best Practices: A Checklist for Designing and Deploying a Secure Industrial Ethernet Communications System
Speaker: Tim Wallaert, Belden Inc.
Co-author(s): Mike Trayler, Raymar Telenetics

Imaging as a Valuable Diagnostic Tool in Substations
Speaker: John McClean, PowerStream Inc.
Co-author(s): Angelo Rizzo, Systems With Intelligence Inc.
Pino Porciello, Systems with Intelligence Inc.
The need to upgrade and put new technology in place is becoming a priority for the water industry as it addresses aging infrastructure problems and water resource challenges. Streamlining operations and turning to automation to cut costs and gain insight into the distribution system is just the beginning for this growing industry. DistribuTECH’s Water Utility Technologies track gives water utilities the tools they need to accomplish these goals.

**FEATURING SESSIONS OF SPECIAL INTEREST TO:**
- Water/wastewater plant operators
- Multi-utility plant operators
- GIS professionals
- AMR/AMI managers, planners, personnel
- Asset planning managers
- Automation/SCADA/IT specialists

**TRACK CHAIR:**

Angela Godwin, Chief Editor, WaterWorld Magazine, PennWell Corp.

**AMI: A Multi-Utility Technology**

Tuesday, January 28
1:00 p.m. - 2:30 p.m.

Advanced metering infrastructure (AMI) provides significant value across utility platforms. This session will demonstrate the power of AMI and discuss how water, electric and gas utilities have worked together to make the most of their AMI investments.

**SESSION MODERATOR:**
Angela Godwin, Chief Editor, WaterWorld Magazine, PennWell Corporation

**Two-way Smart Metering: Taking Water Utilities Beyond the Data**

Speaker: Matt Thomas, Mueller Systems

**Lakeland Smart Grid Initiative: What Worked and What Didn’t in Electric and Water Advanced Metering Infrastructure**

Speaker: Randy Dotson, P.E., Lakeland Electric

Co-author(s): Robert Maurer, SAIC/Leidos

**Smart Grid as a Service: Not Just for Electric But for Gas and Water Infrastructure Too**

Speaker: Nick Hendricks, Jr., City of Kings Mountain

Co-author(s): Rob Jamieson, SAIC

Chris Tipton, SAIC/Leidos

**Derived Value from AMI Analytics**

Tuesday, January 28
3:00 p.m. - 4:30 p.m.

Advanced metering infrastructure (AMI) holds tremendous potential for helping utilities streamline operations, but the massive amount of data generated by AMI can be daunting. This session will explore how utilities have been able to analyze AMI data to make effective business decisions across their organizations.

**SESSION MODERATOR:**
David Foltz, Program Manager, Sensus USA

**Optimizing Water and Gas Utility Performance Using Advanced Metering Analytics**

Speaker: Morrice Blackwell, Badger Meter Inc.

**Kansas City BPU Leverages Data Analytics to Protect the Utility and Its Customers**

Speaker: William Johnson, Kansas City Board of Public Utilities

**City of Georgetown, Texas: Water Conservation Based on AMI and Market Economics**

Speaker: Glenn Dishong, City of Georgetown, Texas

Co-author(s): Letecia Zavala, City of Georgetown, Texas
확장된 정보

**SCADA, Data and Beyond**

Wednesday, January 29
9:30 a.m. - 11:00 a.m.

SCADA and automation play a critical role in managing water. Many aspects need special consideration, however, including secure communications, data management and new innovations such as cloud technologies. The presenters in this session will discuss how utilities are meeting today’s challenges with these solutions.

**SESSION MODERATOR:**
Gary Wong, Global Water Executive, OSIsoft LLC

Practical Considerations for Using DNP3 for a Water Utility
Speaker: Jacob Brodsky, DNP Users Group

Connecting Water Utilities to the Internet of Things
Speaker: Graham Symmonds, GW Resources
Co-author(s): Trevor Hill, Global Water Fathom

Bridging the Gap Between SCADA and CMMS: Waterford, Michigan’s Workflow Solution
Speaker: Bill Fritz, Waterford Township DPW

**Smart Asset and Work Management Strategies**

Thursday, January 30
8:30 a.m. - 10:00 a.m.

Utilities are finding innovative ways to optimize operations to meet increasing financial, workforce and customer pressure. This session will demonstrate how utilities have increased efficiencies through technologies—such as GIS—that help them visualize their businesses and spot areas for improvement.

**SESSION MODERATOR:**
Sergio Escalante, Manager, Maintenance Engineering, Water System Operations, Metropolitan Water District of Southern California

Painting a Complete Asset Information Picture
Speaker: Joel Smith, American Water
Co-author(s): Sterling Blake, Accenture

Making the Transition to an Integrated Utility Solution for Work and Asset Management
Speaker: Sheila Crawford, Eugene Water and Electric Board (EWEB)
Co-author(s): Geoff Evans, Five Point
Skip Heis, GeoNexus
Peter Turi, Five Point

Mobile Workforce Training and Support: How to Avoid Leaving Mobile Workers Out in the Cold
Speaker: Wanda Barnett, Los Angeles Department of Water and Power

**Innovative Energy Management**

Thursday, January 30
10:30 a.m. - 12:00 p.m.

Energy costs account for the largest annual expenditure at water and wastewater facilities today. This session will explore some unique approaches to managing energy usage—and saving big dollars in the process.

**SESSION MODERATOR:**
Thomas Neary, CEO, OpCon Technologies Inc.

Water to Wire: Generating Electricity From Water Pipes
Speaker: Gregg Semler, Lucid Energy

Power Management and Automation Scheme for Water Canal Networks
Speaker: Amandeep Kalra, Schweitzer Engineering Laboratories Inc.
Co-author(s): David Dolezilek, Schweitzer Engineering Laboratories Inc.
Ron Nauman, HydroScientific West

Valuing Agricultural Irrigation Demand Response Capabilities: Insights From Utility Data
Speaker: Daniel Olsen, Lawrence Berkeley National Laboratory