DIGITAL GRID INNOVATION
CONFERENCE

January 14-15, 2019
Renaissance Westchester Hotel
White Plains, NY

EUCI is authorized by IACET to offer 0.9 CEUs for the conference
OVERVIEW

Power grids across the country are moving from old systems of centralized power generating entities to complex multi-directional grids that include millions of diverse power sources. Renewables, microgrids, and even electric vehicles all demand that utilities adopt new ways of operating. This new reality of distributed generation brings challenges to utilities looking to provide reliable service on resilient grids. Fortunately, as generation becomes more distributed, new tools arise to help monitor supply, demand, and asset health. Internet of Things allows for second by second monitoring, while big data provides tools for targeted decision making that allows for more efficient operations. While solutions abound, implementation can be challenging due to the complexity of companies’ internal structure and the grid itself.

EUCI’s Digital Grid Transformation Conference provides an overview of the challenges utilities face in maintaining a reliable and resilient multi-directional grid. It is also a forum for analytics and operations professionals to engage in a direct dialog to understand what opportunities are being created by technological advances to improve operations and maintenance on grid infrastructure.

LEARNING OUTCOMES

- Review regulatory changes designed to facilitate grid modernization
- Leverage technology to manage an increasingly distributed grid
- Develop a collaborative relationship between customers and the grid
- Take a tour of NYPA’s Innovation Center and Digital Hubs
- Discuss advanced metering infrastructure for more reliable distribution operations
- Diagnose complex asset health issues
- Integrate storage in a distributed generation system
- Assess the threat landscape for better grid security
- Harness value from grid-edge technology

WHO SHOULD ATTEND

Directors, Managers, Engineers overseeing:
- Distribution
- T&D
- DER Integration
- DER Engineers
- Technology Officers
- Operational Technology
- Asset Management
- System Intelligence
- System Protection
- Control Engineering
- Innovation
- Renewable Integration
- Storage
- Solar

REGISTER TODAY! CALL 303-770-8800 OR VISIT WWW.EUCI.COM
AGENDA
MONDAY, JANUARY 14, 2019

12:00 pm  Registration

1:00 – 1:45 pm  Creating a Regulatory Environment that Facilitates Grid Modernization
Utilities are constrained by regulatory frameworks in terms of what kind of business model they choose to operate under. Regulators must stay on top of changing grid structures and new technologies so that companies can adapt. This session will examine how regulations need to evolve in order to:
• Allow and encourage innovation in transmission and distribution infrastructure
• Provide tools for customers to manage their electricity costs
• Enhance power markets so they work more efficiently with increasingly distributed grid
• Mitigate bill increases for customers
• Work with power companies to create sustainable business models
  Upendra Chivukula, Commissioner, New Jersey Board of Public Utilities

1:45 – 2:15 pm  Leveraging Technology to Manage an Increasingly Distributed Grid
In maintaining reliable electricity delivery, utilities must manage multiple disparate trends that are shaping electric power systems. What challenges do utilities face in managing complex distributed systems? What digital tools enable this transformation? How are grid operators harnessing distributed resources to maintain reliability and resiliency?
• Evaluating challenges and opportunities created by growth in distributed energy resources
• Anticipating reliability problems that come from an increasingly severe weather
• Creating “pro-sumers” – consumers who can give back to the grid
• Capturing value and improving efficiencies through technological innovation
• Using analytics to providing visibility into cost, energy, and carbon savings
  Damian Sciano, Director, Distributed Resource Integration, Con Edison

2:15 – 2:45 pm  Networking Break

2:45 – 3:15 pm  Enabling DER’s: A Partnership Between Customer and Grid Function
Customers load profiles are experiencing notable changes due to new services, customer choice, and proliferation of grid edge technologies. Electric utilities need to take a more proactive role in shaping the future net-load shapes in a way that provides benefits to the customers and the utility itself. Actions undertaken individually by Grid (transmission, distribution, grid modernization) and Customer functions can both impact customer satisfaction and the reliability of the grid. DERs – battery storage, backup generation, solar, microgrids, etc. – can be used for both grid (utility-side-of-the-meter) and customer (customer-side-of-the-meter) opportunities but have an impact on both functions no matter where they are installed. The Grid and Customer functions collaborate and integrate their efforts to better serve the customer while providing safe, affordable, reliable power. This presentation will cover the tools to perform DER cost-effectiveness, propensity, and geospatial analysis in order to build load profiles, create forecast, and develop planning scenarios.
  Cat Wong, Manager of DER Engineering, Entergy Corporation
3:15 – 5:00 pm  **Tour of NYPA’s Innovation Center and Digital Hubs**  
Learn about NYPA’s 3 digital hubs, as well as the innovation center they’ve built out to encourage innovation and collaboration. NYPA is exploring new ways of working in the innovation zone, bringing together groups within the organization that benefit from collaboration and working in physical proximity with each other, like R&D, Strategy, Cybersecurity, and Data Analytics. NYPA’s 3 Digital Hubs:  
- **iSOC: Integrated Smart Operations Center**  
  - iSOC uses predictive analytics software to forecast and prevent equipment failures and significant outages at NYPA’s 16 power plants and more than 1,400 circuit miles of transmission lines.  
- **AGILe Lab**  
  - Rapid technological changes in energy use, data, and generation have led NYPA to create an advanced laboratory facility to test, model, and create new solutions for energy systems.  
- **NYEM: New York Energy Manager**  
  - NYPA’s advanced, secure energy management center, headquartered in Albany. NYEM helps drive insights to improve building energy performance across nearly 20,000 state facilities, reduce environmental impact and lower energy bills. The data is accessible online through desktop and mobile devices, and consists of three formats: Monthly utility bills, building interval data, and deep submetering data at the appliance level.  

*Paul Tartaglia, Chief Technology and Innovation Officer, New York Power Authority*  

5:00 pm  **Return to Hotel and End of Day One**

**TUESDAY, JANUARY 15, 2019**

8:30 – 9:00 am  **Continental Breakfast**  

9:00 – 10:00 am  **Customer Engagement: Leveraging AMI as IoT for Distribution Operations Reliability**  
This session covers uses and the evolution of leveraging Service Delivery Point Sensors, also known as AMI Meters, for Distribution Operations reliability priorities. We will explore the line of thinking and applied operational uses of ‘Smart Meter’ data that results when the view of them extends beyond seeing them as mini cash registers to end-point sensors on an electric distribution network, or as IoT devices. The topic will be explored through the lens of specific use cases implemented at DTE Energy, the current set of use cases underway and the effect of doing so in the context of an OT/IT operating model.  
Sample Cases:  
- **AMI-Driven Outage Metrics**  
- **Quality of Power Indices**  
- **AMI-Based Outage Detection & Response Optimization**  
- **Individual Customer EEG through the Electrical Experience Index**  
- **Power Quality Forensics:**  
  - Circuit & Transformer Level Voltage Performance  
  - 1-Leg Dead Detector  
  - Faulty Meter Installation & Performance Surveillance  
  - Open Neutral Detector  
  - Pre-Flight Probable Load-Side Voltage Issue Assessment  
  - Grounding Risk Assessment  

*Gary Gauthier, IT Manager, Operational Technology, DTE Energy*
TUESDAY, JANUARY 15, 2019 (CONTINUED)

10:00 – 11:00 am  How Duke Energy Uses Machine Learning/Artificial Intelligence for Complex Health Diagnostics

HRM is a machine learning/artificial intelligence enhanced analytics tool that does complex health diagnostics for High Voltage power equipment and the risk that they hold for the grid. It is used for monitoring the health of transmission assets and the risk that they present to the grid, and promises to change how the transmission grid is managed.

Nicole Kurant, Lead Engineer, Asset Management Systems Intelligence, Duke Energy

11:00 – 11:30 am  Networking Break

11:30 am – 12:30 pm  Modernization of Distribution System and Integration of Distributed Generation and Storage

San Diego Gas & Electric (SDG&E) conducted a pre-commercial demonstration to evaluate IEC 61850 architectures for substation protection and controls applications. The project involved development of a laboratory test bed for an IEC 61850 process bus-based substation protection system. Protection use cases, adhering to current SDG&E practices, were used to demonstrate the interoperability of IEC 61850-capable merging units and relays from multiple vendors for various protective functions. The project goals were to gain familiarity with the IEC 61850 standard, test and compare IEC 61850-based protection and control systems against existing SDG&E practices, and provide recommendations for possible commercial adoption of the standard to SDG&E stakeholders. The pre-commercial demonstration use cases included protection and controls using Sampled Values (SV), MMS, and GOOSE. This project was funded through the California Energy Commission’s Electric Program Investment Charge (EPIC). Detailed work was presented in a comprehensive final report delivered to the California Public Utilities Commission.

Kirsten Petersen, System Protection & Control Engineer (SPACE) Engineer II, San Diego Gas & Electric

12:30 – 1:30 p.m  Group Luncheon

1:30 – 2:30 p.m  Grid Security: Assessing the Threat Landscape

Each digital upgrade introduces new risks. Distributed energy also creates new vulnerability as more generation assets join the grid that utilities don’t own or control. What new areas are companies protecting from cyberattack in this increasingly complex environment?

Tobias Whitney, Technical Executive Cyber Security Program, EPRI

2:30 – 3:00 pm  Networking Break

3:00 – 4:00 pm  Harnessing Value from Grid-Edge Technologies

• What technological trends are informing investment in the electricity sector?
• What investment opportunities exist in the convergence of electrification, decentralization, and digitalization?
• How can utilities manage the cost of transitioning to new technologies so they are most cost effective?

Panelists:
Lara Pierpoint, Senior Fundamental Program Strategy Manager, Exelon
Mark Stinner, Vice President, Greentech Capital Advisors
Peter Flynn, Managing Partner, Executive Vice President, Bostonia Partners

4:00 pm  Conference Concludes
INSTRUCTIONAL METHODS

Case studies, PowerPoint presentations, tour and panel discussion will be used in this program.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for the entirety of the conference for continuing education credit.

IACET CREDITS

EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

EUCI is authorized by IACET to offer 0.9 CEUs for the conference and 0.3 CEUs for each workshop.

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this event may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.

EVENT LOCATION

A room block has been reserved at the Renaissance Westchester Hotel, 80 West Red Oak Lane, West Harrison, NY, 10604, for the nights of January 13-15, 2019. Room rates are US $139 plus applicable tax. Call 1-914-694-5400 for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is December 23, 2018 but as there are a limited number of rooms available at this rate, the room block may close sooner. Please make your reservations early.

SPONSORSHIP OPPORTUNITIES

Do you want to drive new business through this event’s powerful audience? Becoming a sponsor or exhibitor is an excellent opportunity to raise your profile before a manageably sized group of executives who make the key purchasing decisions for their businesses. There is a wide range of sponsorship opportunities available that can be customized to fit your budget and marketing objectives, including: platinum, gold, or VIP sponsor, networking break host, tabletop exhibit, lanyard sponsor, luncheon host and breakfast host.

Please contact Dave Hoffman at dhoffman@euci.com or 720-642-9751 for more information.
Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before December 14, 2018 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at 303-770-8800.
EUCI reserves the right to alter this program without prior notice.

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

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Company

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OR Enclosed is a check for $ to cover registrations.

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