

i-PCGRID Workshop 2017

Innovations in Protection & Control for Greater Reliability Infrastructure Development

Strategies for Energy Trends & Industry Sustainability The Three “R’s” in Modern Grid: Resiliency, Relativity, and Reliability

2.4 Continuing Education Units (CEU) available this year

To register, please contact Kendra Posovich, Mississippi State Univ. - Phone: (662) 325-2314

Program

March 29 – 31, 2017

245 Market Street, Auditorium, San Francisco, California, USA

You are cordially invited to attend the Annual Workshop in Innovations in Protection and Control for Greater Reliability Infrastructure Development (i-PCGRID) hosted by Pacific Gas and Electric Co. (PG&E) and organized by PG&E, Mississippi State University and Quanta Technology.

The importance of a modern electricity grid for sustainable delivery of reliable, communicative, and high-quality electricity has energized the organizing committee to continue with its tradition of fostering knowledge, sharing of best practices, and information exchange through workshops. As the electrical power and energy industry is in a crucial transition phase as initiatives we take today will affect how the grid is operated for years to come, this gathering of the minds initiative works to develop a shared vision for a modern, efficient grid. The i-PCGRID 2017 Workshop will emphasize both practical lessons learned from managing grid system and equipment assets and innovative and future looking technologies and solutions to continue building a more resilient and efficient grid.

Core Program discussions focus on **Key Success Factors for Modernizing the Electrical Grid** to provide reliable, safe, and cost-effective delivery of electrical energy around the world. **IN-DEPTH** featured topics dive into energy trends and industry sustainability, global grid resiliency and modernization efforts and the required performance levels. Part of this year’s program is focused on technical and regulatory opportunities and challenges.

To effectively enable and utilize these resources and maintain reliability, T&D planning and operations must transform. Learn from those already dealing with large scale interconnection of renewable resources and storage and impact on balancing demand and supply chain, or the need for new policies in grid of things to address investments in support of the new energy trends. Worldwide sustainability roadmaps and efforts, to improve the performance of electric utility systems and address the energy needs of society, offer many lessons learned and winning strategies.

Supplemental Security and Communication; Microgrids and Smart invertors, Electric Vehicles, Advanced Monitoring, Protection and Control and Automation, Adaptive Protection Systems, Architectures for Grid Modernization, Advanced Test Facilities, Integrated Planning and Operation, Importance of Standards. It will showcase endeavors and findings by practitioners navigating the Frontiers of the Grid, Balancing Operational Readiness, Energy Mix Strategies, and Implementing Advances in Technology.

On-line Registration: <https://ipcgrid.ece.msstate.edu>

To register by phone, please contact Kendra Posovich: kendra@ece.msstate.edu

Electrical and Computer Engineering

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On-site registration is available during the Event. Partial registration is not available.

For questions, please contact us:

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Day 1 - Wednesday, March 29, 2017		
Time	Item	Presenter / Session Coordinator
7:15 AM	Registration & Refreshments <i>Executive Greeter:</i> Safety and Emergency Response - Vahid Madani <i>Session Coordinator:</i>	Terry Morford - Energy Consulting Jonathan Sykes – PG&E <i>Sandra Elis & Vladimir Frenkel - PG&E</i>
8:00 AM	Welcome and Introduction	Ken Wells – PG&E
*8:05 AM	Energy Storage at PG&E	Pat Hogan – PG&E
*8:30 AM	Driving Grid Transformation - U.S. DOE Advanced Grid Research and Development	Michael Pesin – Department of Energy
*8:55 AM	Electrification - A Digital Industrial Transformation	Steven Martin–GE Grid Software Solutions
*9:20 AM	Trends in Reliability from a Regulator's Perspective	David Ortiz – FERC
9:45 AM	Significant Storms of 2017 and System Reliability	Mike Voss – PG&E
10:05 AM	Break <i>Session Coordinators:</i>	<i>Cheryl Gessner & Shirin Tabatabai -PG&E</i>
*10:20 AM	Advances in Electrical Metrology and the Redefinition of the “Systeme International”	Carl Williams - NIST
10:45 AM	Oscillation Detection Experience in Control Rm	Dmitry Kosterev & Steve Yang - BPA
11:10 AM	California Storms and Hydroelectric Energy Strategy	Anthony Boardingham – CA Dept. Of Water Resources
11:35 AM	Outperforming the Duck Curve: Case Study of BTM Solar Impacts on Net Load	Kevin Clifford - PG&E
12:00 PM	Lunch <i>Session Coordinators:</i>	<i>Fareed Khan –PG&E, Ali Daneshpooy–QT</i>
12:55 PM	Energy Storage, Microgrids and Sustainable DER Moderator: Tom Martin – PG&E	Shay Bahramirad – ComEd Clyde Loutan – CAISO Roger King – MSU Jayant Kumar – GE Software Solutions
2:15 PM	Integrated Smart Grid Performance Testing	Gerald FitzPatrick – NIST
2:35 PM	A Roadmap for Disciplined Management and Technology Innovation in the Utility Sector	Gordon Matthews - BPA
3:00 PM	Break <i>Session Coordinator:</i>	<i>Reza Nasri – QT, Lise Phan – PG&E</i>
3:15 PM	DOE Grid Modernization Laboratory Consortium Moderator: Michael Pesin – DOE	John Grosh - Lawrence Livermore Nat'l Lab Jeff Dagle – Pacific Northwest Nat'l Lab Ben Kroposki –Nat'l Renewable Energy Lab Tom King – Oak Ridge Nat'l Lab
4:25 PM	Data Analytics Developments at CURENT NSF/DOE Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks	Frank Liu – Univ. of Knoxville, TN
4:45 PM	Standards Implementation and Conformity Assessment Process	Ravi Subramaniam – IEEE Conformity Assessment
5:05 PM	Day 1 Closeout – Adjourn	<i>Vahid Madani, Yong Fu</i>

* Keynote Speaker

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Day 2 - Thursday, March 30, 2017

Time	Item	Presenter
7:15 AM	Registration & Refreshments <i>Executive Greeter:</i> <i>Session Coordinators:</i>	Terry Morford-Energy Consulting <i>Cheryl Gessner & Steven Ng -PG&E</i>
8:00 AM	Introduction & Greetings	Jay Mearns – PG&E
*8:00 AM	The Three “Rs” in Transmission Operation	Gregg Lemler – PG&E
*8:25 AM	Grid Modernization Initiatives at ComEd	Michelle Blaise – ComEd
*8:50 AM	Harmonizing the Changing Resource Mix Keeping the Grid Together	Robert Cummings - NERC
*9:15 AM	Industry Trends & IEEE PES Related Initiatives	Damir Novosel – QT, Vahid Madani - PG&E
9:40 AM	Adaptive Protection for High Levels of DER Integration	Jeff Shiles-SCE, Ashok Gopalakrishnan - QT
10:05 AM	Break <i>Session Coordinators:</i>	<i>Greg Langan & Alan Stanek -PG&E</i>
*10:20 AM	Technology, Infrastructure & Life Cycle Deployment	Kevin Dasso – PG&E
10:45 AM	Japanese Energy Industry Transformation	Yasutomo Johraku - TEPCO - Japan
11:10 AM	Energy Storage Roadmap and Business Case	Ralph Masiello & Farid Katiraei - QT
11:35 AM	Microgrid Deployment to Benefit DER Integration	Ratan Das – icaPower, Sakis Meliopoulos – GT
12:00 Noon	Lunch <i>Session Coordinators:</i>	<i>Dessai, Rustom, Sun Young-Lai-PG&E, Bill Davila-Applied Sys Eng.</i>
12:50 PM	Panel Session Challenges and Solutions with DER Integration Moderator: Mike Jensen – PG&E	Karl Iliev – SDG&E Murty Yalla - Beckwith Electric Co. Alex Apostolov - OMICRON
2:10 PM	Frontiers of Synchrophasor Solutions Deployment	Anil Jampala, Manu Parashar and Vijay Sukhavasi– GE Software Solution
2:40 PM	Strong Synchronization of Distributed Energy Resources to Weak and Dynamic Grids	Masoud Karimi - MSU
3:00 PM	Break <i>Session Coordinators:</i>	<i>Steve Yang – BPA, Frankie Au-Yeung -PG&E</i>
3:15 PM	A Changing Paradigm: Integrated Resources Planning in California	Antonio Alvarez & Ben Moradzadeh - PG&E
3:40 PM	Adapting to the Brave New Modeling & Compliance World	Ben Williams – Utility System Efficiencies
4:05 PM	Experiences with Superconducting Cable & Fault Current Limiter in a German City Center	Mark Stemmler - Nexans
4: 25 PM	Integration of DERs in Power System & Possible Solutions	Chase Sun – PG&E
4:45 PM	Wind and Solar PV sub harmonic interactions with Power System	Krish Narendra - ERLphase
5:05 PM	Day 2 Closeout – Adjourn	<i>Damir Novosel, Roger King</i>

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Strategies for Energy Trends & Industry Sustainability

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Day 3 - Friday, March 31, 2017		
Time	Item	Presenter
7:15 AM	Registration and Refreshments <i>Session Coordinators:</i>	<i>Martin Aschcroft & Sandra Ellis – PG&E</i>
7:45 AM	Power Line Carrier Holes and Field Trial Tests	Tony Bell - AMETEK
8:05 AM	Protection Structure of VCS DC Transmission Line	Xinzhou Dong - Tsinghua University, Beijing China
*8:30 AM	The Road Ahead for Protection and Reliability	Jonathan Sykes – PG&E
8:55 AM	A Distributed Control Approach for Power System Management	Sherif Abdelwahed - MSU
9:20 AM	Design, Installation, and Testing Methods That Promote Substation IED Resiliency for High-Altitude Electromagnetic Pulse Events	Tim Minter - SEL
9:45 AM	Break <i>Session Coordinator:</i>	<i>Smith, Suzette -PG&E, Patrick Sorrells - SMUD</i>
10:00 AM	Panel Session IEC 61850 Solutions Moderator: Alexander Apostolov - Omicron	Chan Wong – Entergy Ralph Mackiewicz - SISCO Christoph Bruner – it4Power Mark Adamiak – GE Peter Rietmann - ABB
12:00 AM	Lunch <i>Session Coordinator:</i>	<i>Ronnie Lau -PG&E, A. Boardingham –CDWR</i>
12:50 PM	Innovative Downed Conductor Detection	Eric Udren - QT and Karl Iliev - SDG&E
1:15 PM	The Universal Solution for Overall Grid IoT Integration	Ameen Hamdon - Subnet Solutions
1:40 PM	CES-21 Cyber Project – Overview of Attack Scenario Simulation and Use Case	Brian Kelley – LLNL, Xavier Francia – PG&E
2:05 PM	Pilot Experiences with Station Monitoring and NERC PRC-005-2	Tony Pink - Dynamic Ratings
2:30 PM	Break <i>Session Coordinator:</i>	<i>Carmen Contreras -PG&E</i>
2:45 PM	Micro-Synchrophasors for Distribution Systems: Implications for Grid Reliability and Resilience	Elizabeth Ratnam - Berkeley Energy and Climate Institute, UC Berkeley
3:05 PM	Voltage Stability Management	Rahul Anilkumar, QT & Vahid Madani, PG&E
3:30 PM	Progress Update on Big Data Analysis	Mika Takata and Panitarn (Joseph) Chongfuangprinya - Hitachi
4:00 PM	Wrap-up / Topics for Future Events - Adjourn	<i>Vahid Madani, Damir Novosel, Yong Fu</i>