

## i-PCGRID Workshop - 2020

### Catalysts and Interdependency - Power System Modernization Initiatives and Experiences

#### Strategies for Energy Trends & Industry Sustainability

April 7 – 9, 2020

San Diego, California, USA

Earn Continuing Education Credits (CEUs)

*Our Vision is to illuminate and charter the roadmaps for the 21st Century power grid by exchanging knowledge and lessons learned, exploring core standards, and cultivating strategies for efficient asset management.*

#### Eighteenth (18<sup>th</sup>) Annual Workshop Overview

Welcome to the **Leading Global Workshop in Power System Trends, Practices, Technologies & Applications** hosted by *San Diego Gas and Electric*. Following many successful years in Northern CA / Bay Area, and receiving valuable suggestions from attendees, the organizing committee is broadening its ambassador utility hosts.

Front line Global technology and business Leaders and Experts gather at the eighteenth annual premier industry event. Featuring keynotes from industry luminaries, insightful forums, and demos, the i-PCGRID 2020 workshop will provide a forum to discuss best practices, review lessons, and develop solutions.

The Electric power industry continues to transform at an accelerating rate. Join **Experienced Industry Navigators** (utilities, vendors, consultants, regulators, and academics) united in a shared vision to craft a steady course towards higher level of resiliency, reliability, security, and energy efficiency electrical power system. Participate in a range of open collaboration forums from renewable energy resources and microgrids to HVDC/HVAC grid infrastructure including adoption of storage, electrification, and use of advanced data analytics applications. Address managing hybrid grid with mix of synchronous generation, inverter-based resources, and dynamic and active distribution grids with conventional and new loads and latest developments in Human-Computer interactions, Computational Intelligence in Smart Technologies, blockchain and IoT.

Modern society has reached a point where virtually every crucial economic and social function depends on the resilient, secure, reliable operation of the power and energy infrastructure. The energy industry worldwide is experiencing significant changes caused by rapid technology transformation, security and environmental concerns, evolving consumer needs, and a regulated environment. Advanced energy management devices and systems (e.g. distributed energy resource management) continue to proliferate. Digital Substation business case is

becoming more evident and creating context-aware environments with next-generation sensors (e.g. motion, light, moisture, energy, synchronized measurements) are now possible. Edge computing advances, Smart Assistants, and artificial intelligence are supporting rapid global adoption for connected smart environments. New platforms have been engineered specifically to for these context-aware environments to overcome the limitations inherent to previous generation. The initiatives we undertake today affect the way in which the grid is operated and maintained in the future.

The 2020 Workshop will explore business models and supply chain realities in the scope of technology transformation, the lessons learned, strategies and operational aspects of managing electrical power systems and equipment assets to enhance security, safety, efficiency, resilience, and reliability of the energy infrastructure.

**Core Program** discussions focus on **Key Success Factors and Technologies for Modernizing the Electrical Power System** 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 resilience and modernization efforts, and the required performance levels.

Electrical system planning and operations must transform to address integration of distributed energy resources, storage, and electrical transportation. Share your experiences and learn from others in dealing with integration of those technologies and impact on balancing demand and supply chain, as well as the need for new policies 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**.

**Winning Ticket** - Your Organizing Committee, *San Diego Gas & Electric, Mississippi State University, and Quanta- Technology* have formulated another **Innovations in Protection and Control for Greater Reliability Infrastructure Development** (i-PCGRID) workshop.

**GOALS** - Delve into Challenges of the delicate operating balance of the 21<sup>st</sup> Century Electrical Power System by offering in depth presentations, demonstrating lessons learned and solutions taken, revealing test results and impact of strategies and architecture.

## **i – PCGRID Workshop - 2020**

### **Catalysts and Interdependency - Power System Modernization Initiatives and Experiences** **Strategies for Energy Trends & Industry Sustainability**

#### Topics Covered

##### Modern Grid Planning and Operations

- Integrated resource and T&D planning and investments
- Value of DER and Electrical grid, Non-Wire Alternatives, and Hosting capacity
- Load and DER forecasting
- Hybrid HVDC/HVAC grid deployment
- Integration of inverter-based resources,
- Microgrids, renewable energy and storage integration
- Impact of electrification
- Demand response and distributed controls
- Distribution System Operator value chain
- Business case studies, roadmaps and priorities
- Energy and capacity markets

##### Resilience and Reliability

- Advanced protection, control, and automation
- Cyber and physical security
- Natural calamity, fire, and cascading event mitigations
- Electromagnetic pulse and GMD
- Hidden Failure, Frequency and Voltage stability
- Power quality
- System integrity and restoration (black-start)

##### OT/IT Integration and Technologies

- Computational Intelligence for power system
- Grid edge computing
- Blockchain and IoTs
- Operating parameters for 5G technology
- Human-machine interactions & Machine learning

##### Technical Standards & Regulation

- IEEE and IEC standards
- Interoperability initiatives for DER
- NERC Reliability and CIP standards
- Regulatory constructs and standards

**Workshop Platform – Three (3) Days of Expert Technical Presentations** with Topical Formats, including **Panel Q&A Sessions and opportunities to make connections at Professional Networking Events.**

**Attendee Feedback** – Survey feedback are reviewed and incorporated by the Organizing Committee every year.

**Earn Continuing Education Credits (CEUs)**

#### Workshop Location:

**Hilton San Diego, Mission Valley**

901 Camino Del Rio South I San Diego, CA 92108 I USA

#### Parking:

Negotiated rate of \$15/daily for overnight parking

Negotiated rate of \$8/daily for day only parking

#### Accommodations:

Hilton San Diego, Mission Valley

Hotel reservations by the link [i-PCGRID Workshop 2020](#) or by calling 1-800-682-6099 with group code “PC5”

Negotiated rate of \$149.00 per night using special code for the Event,

Rate available from April 3-11, 2020. Cutoff date for negotiated rate, March 11, 2020

#### Airports:

**San Diego International (SAN)** – 5 miles from the Workshop location.

**Santa Ana Airport (SNA)** – Approximately 40 miles from the Workshop location

**Los Angeles International (LAX)** – Approximately 100 miles from the Workshop location

#### Contacts:

Shelby Chaney – Mississippi State University  
[shelby@ece.msstate.edu](mailto:shelby@ece.msstate.edu), Phone: 662-325-2314

Teri Coates – Quanta Technology

[tcoates@quanta-technology.com](mailto:tcoates@quanta-technology.com), Phone: 919-334-3061

Marissa Heater – San Diego Gas and Electric Co.

[MHeater@sdge.com](mailto:MHeater@sdge.com), Phone: 619-676-6391

#### Registration:

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

#### Registration Fee:

Attendee - \$450 registration

Speakers - \$300 registration

Graduate Students - No charge, must register

Late Fee – \$100, After March 28, 2020.

There is a \$25 processing fee for CEUs

There is no partial registration option