

Proposed 2019 ISGT Panel Session: Improving Power System Reliability and Resilience through the Use of Enhanced Modeling and Advanced On-line Software Tools

Proposed duration: 120 minutes

Date/Time: Monday, February 18, 2019 from 3:30 PM – 5:30 PM

Chair: Marianna Vaiman, V&R Energy

Scope of Panel Session:

Maintaining reliable and resilient operation of the bulk power system is a fundamental aspect of grid operation, and focuses on ensuring the system can withstand sudden disturbances or unanticipated failures of system elements such that instability, uncontrolled separation, or cascading failures will not occur, and in case such events do occur, the system is able to quickly recover.

The proposed panel session will feature presentations from four utilities (ERCOT, ISO New England, Peak Reliability, and San Diego Gas & Electric) describing their experience, lessons learned and future work on improving real-time models and advanced online applications that support their extensive efforts to enhance reliability and resilience of the grid in real-time and near real-time environments. The panel will also feature presenters from two National Labs, ORNL and PNNL, describing advanced technologies related to big data analytics (PNNL) and modeling efforts to support recovery work in Puerto Rico (ORNL).

The proposed panel session will address the following topics:

- Advanced technologies for managing grid stability
- Advanced technologies and methodologies for wide area operations and awareness
- Applications of “Big Data” and advanced analytics
- Development of on-line models, algorithms, and tools to support real-time power system operation

This panel will present utility best practices and technological innovations by National Labs to help power system practitioners and researchers in answering the following two questions:

1. How to improve reliability in real-time through enhanced power system modeling?
2. How to improve resilience of the grid through the use of advanced online software tools?

Panelists:

No.	Name	Affiliation	Intends to Cover
0	Marianna Vaiman	V&R Energy	Opening Comments and Introductions
1	Alex Lee	ERCOT	ERCOT’s modeling efforts necessary to support real-time tools and experience with real-time/on-line advanced applications.
2	Slava Maslennikov	ISO New England	ISO NE experience running on-line cascading analysis and lesson learned from on-line analysis of extreme events.
3	Hongming Zhang	Peak Reliability	Peak’s modeling and coordination efforts to create, maintain, and improve West-Wide System Model for real-time analysis in WECC, and validation efforts to bring advanced on-line applications to control room.
4	Robin Manuguid	San Diego Gas & Electric	Supporting real-time models for SDGE’s control room, coordination of models with CAISO and Peak Reliability, and coordination of assumptions, scenarios, and advanced applications and their results for wide-area monitoring.
5	Nils Stenvig	ORNL	ORNL’s modeling and analysis efforts related to Puerto Rico system studies.
6	Pavel Etingov	PNNL	PNNL’s research and results of “Big Data” analytics and machine learning techniques with focus on synchrophasor applications, including approaches, cloud-based platform, lessons learned, and advantages for real-time power system applications.
7	ALL		Questions & Answers (Q&A) session

Panel Session Plan:

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| 1. Opening comments and introductions by Panel Chair | 5 minutes |
| 2. Six presentations (15 minutes each) | 90 minutes |
| 3. Q&A session with the audience | 25 minutes |

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Total	120 minutes
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Thank you!