



2017 FALL TECHNICAL WORKSHOP

October 10-12, 2017
Sheraton Music City Hotel
Nashville, TN

PROGRAM AGENDA

Tuesday, October 10, 2017

7:30 a.m. – 8:30 a.m.

Registration & Breakfast

Location: Belle Meade Room

8:30 a.m. – 12:00 p.m.

Half-Day Tutorial – Essential Reliability Services – Resources, Requirements and Next Steps

Location: McGavock's A

Chair: Mark Ahlstrom, NextEra Energy Resources

Introduction to Essential Reliability Services – **Nicole Segal**, NERC (30 min each)

Introduction to Voltage Considerations – **John Simonelli**, ISO-NE

Introduction to Frequency Considerations – **Mark Ahlstrom**, NextEra Energy Resources

Introduction to Balancing Considerations – **Rodney O'Bryant**, Southern Company

Introduction to Distributed Energy Resources Considerations – **Rich Hydzik**, Avista

Open Discussion

10:00 a.m. – 10:30 a.m.

Break

Location: Foyer

12:00 p.m. – 1:15 p.m.

Lunch for Tutorial and Working Groups Participants

Location: Belle Meade

Working Group Meetings (UVIG Members & Invited Guests Only)

1:15 p.m. – 3:00 p.m.

Reliability Working Group Meeting

Location: McGavock's A

Chair: **Nick Miller**, GE

- New Working Group/Task Force Format, Ideas and Activities
- VG Model Validation TF, **Bob Zavadil**

1:15 p.m. – 3:00 p.m.

System Operation and Market Design Working Group Meeting

Location: McGavock's B

Chair: **Aidan Tuohy**, EPRI

- New Working Group/Task Force Format, Ideas and Activities
- Task Force on Operating Reserve Practices with Increased VG Penetration

Presenters

- **Clyde Loutan**, CAISO
- **Jay Caspary**, SPP
- **Nitika Mago**, ERCOT

3:00 p.m. – 3:15 p.m.

Break

Location: Foyer

3:15 p.m. – 5:00 p.m.

System Planning Working Group Meeting

Location: McGavock's A

Chair: **Aaron Bloom**, NREL

- New Working Group/Task Force Format, Ideas and Activities
- What are the system planning challenges with reaching 100% wind and solar generation?

Panelists

- Challenges for planning systems that rely on Markets
Aaron Townsend, ERCOT
- Resource adequacy and very high penetrations of wind and solar
Bethany Frew, NREL
- Searching for Inflexion points
Maire Boese, MISO
- Tools for modeling very high penetrations of wind and solar
Russ Philbrick, Polaris Systems Optimization

3:15 p.m. – 5:00 p.m.

Distributed Energy Resources (DER) Working Group Meeting

Location: McGavock's B

Chair: **Debbie Lew**, GE; Co-Chairs: **Abe Ellis**, Sandia and **Barry Mather**, NREL

- New Working Group/Task Force Format, Ideas and Activities
- Visibility and Control of DER in Real-Time Operations

Presenters

- **Jim Painter**, ONCOR
- **Abe Ellis**, Sandia National Laboratory
- **Frank Goodman**, San Diego Gas & Electric

5:00 p.m.

Adjourn for the Day

5:30 p.m. – 9:00 p.m.

UVIG Board of Directors Meeting

Location: Oaklands Room

Wednesday, October 11, 2017

7:00 a.m. – 8:00 a.m.

Registration & Breakfast

Location: Belle Meade Room

8:00 a.m. – 8:30 a.m.

Fall Technical Workshop Program

Location: McGavock's AB

Introduction

Mark Ahlstrom, NextEra Energy Resources

Welcome and Opening Remarks

Will Kaul, Great River Energy

Meeting Overview

Charlie Smith, UVIG

8:30 a.m. – 10:15 a.m.

Session 1: New Insights into PV and Distribution System Design

Moderator: **Abe Ellis**, Sandia

Holistic DER Planning

Obadiah Bartholomy, SMUD

Net Metering and DER Compensation

Debbie Lew, GE

Why Combining Solar and Storage May Actually Make Sense
Paul Denholm, NREL

Enabling High Penetration of Distributed PV Through the Optimization of Sub-transmission
Voltage Regulation
Nader Samaan, PNNL

10:15 a.m. – 10:30 a.m.

Break

Location: Foyer

10:30 a.m. – 12:15 p.m.

Session 2: Wind and Solar System Studies

Moderator: **Mark O'Malley**, UCD

Interconnection Seams Study
Jay Caspary, SPP

The August 21 Solar Eclipse – How Did We Do?
Santosh Veda, NREL

Energy Storage and the Greenhouse Gas Emission Debate
Jim Baak, Stem

Southeast Solar Integration Study
Aidan Tuohy, EPRI

12:15 p.m. – 1:30 p.m.

Lunch

Location: Belle Meade

1:30 p.m. – 3:00 p.m.

Session 3: Interconnection of Wind and Solar Systems

Moderator: **Steve Saylor**, Vestas

Recent Events in South Australia
Nick Miller, GE

PV Resource Interruption Investigation and NERC Recommendations
Rich Bauer, NERC

Preparing for the New IEEE 1547 Standard
Tom Key, EPRI

3:00 p.m. – 3:15 p.m.

Break

Location: Foyer

3:15 p.m. – 5:00 p.m.

Session 4: Advances in Market Design and System Operation

Moderator: **Bruce Rew**, SPP

Assuring the Reliable Operation of the Western Interconnection
Brett Wangen, PEAK Reliability

Use of Predictive Intervals for the Timing of Wind Ramps at BPA
Andrea Staid, Sandia

Balancing the Grid Using Flexible Loads
Sean Meyn, University of Florida

Probabilistic Forecasting and Stochastic Unit Commitment/Dispatch Performance
Jean-Paul Watson, Sandia

5:00 p.m.

Adjourn for the Day

6:30 p.m. – 8:00 p.m.

Reception

Location: Belle Meade

Thursday, October 12, 2017

7:00 a.m. – 8:00 a.m.

Registration & Breakfast

Location: Belle Meade Room

8:00 a.m. – 10:00 a.m.

Session 5: Recent Industry Developments and Updates

Moderator: **Carrie Dixon**, Xcel Energy

Update from Washington DC
Michael Goggin, AWEA

Mountain West Transmission Group Market Implementation
Steve Beuning, Xcel Energy

DOE Grid Modernization Laboratory Consortium (GMLC) Testing Network
Matthew Lave, Sandia

Working Group Updates

Distributed Energy Resources – **Debbie Lew**, GE

Reliability – **Nick Miller**, GE

System Planning – **Aaron Bloom**, NREL

System Operation and Market Design – **Aidan Tuohy**, EPRI

10:00 a.m. – 10:15 a.m.

Break

Location: Foyer

10:15 a.m. – 12:00 p.m.

Session 6: Operating Impacts of Higher VG Penetrations – A Panel Discussion

Moderator: **Bob Zavadil**, EnerNex

Impacts of Higher Wind Penetration Levels on Operating Reserves

Mike McMullen, MISO

High Wind and Solar Penetrations and the Need for Ramping Market Products

Clyde Loutan, CAISO

Changing Needs for Ancillary Services: Reliability and Resiliency Services

Mark Ahlstrom, NextEra Energy Resources

VG Integration: Operational Challenges and Lessons Learned in ISO-NE

John Simonelli, ISO-NE

12:00 p.m.

Closing Remarks & Adjourn

Charlie Smith, UVIG