# 2017 Spring Technical Workshop



### Tucson, Arizona / March 14-16, 2017

#### Tuesday, March 14, 2017

8:00 a.m. - 9:00 a.m. - Registration & Continental Breakfast

**Location: Plaza Grand Ballroom Foyer** 

#### 9:00 a.m. - 12:00 p.m. - Half Day Tutorial - Capacity Adequacy in an Uncertain Future

**Location: Salon C** 

**Chair: Udi Helman, Helman Analytics** 

- Introduction to Capacity Adequacy and Reliability Michael Milligan, NREL (25 min)
- Introduction to Capacity Markets Ron Coutu, ISO-NE
- Introduction to Energy-only Markets Julia Matevosjana, ERCOT
- Introduction to Bi-lateral Markets Clyde Loutan, CAISO
- Introduction to Capacity from Storage and DSM Craig Glazer, PJM
- Discussion

10:00 a.m. - 10:30 a.m. - Break

**Location: Grand Ballroom Foyer** 

12:00 p.m. - 1:15 p.m. - Lunch

**Location: Flying V Bar & Grill** 

#### **User Group Meetings (UVIG Members and Invited Guests Only)**

1:15 p.m. -3:00 p.m. VG Modeling and Interconnection Study User Group Meeting

**Location: Salon B** 

Chair: Bob Zavadil, EnerNex

What the New NERC Standards Mean for VG Plant Model Validation

- Ryan Quint, NERC
- Nick Miller, GE
- Bob Zavadil, Enernex

#### 1:15 p.m. -3:00 p.m. - Operating Impacts and Integration Study User Group Meeting

Location: Salon C Chair: Aidan Tuohy, EPRI

Production Cost Modeling Tools Being Used to Assess Renewable Integration Challenges

- Julia Matevosjana, ERCOT
- Jay Caspary, SPP
- Francisco de la Rosa, CENACE
- Carlo Brancucci, NREL
- Russ Philbrick, Polaris Optimization Systems

3:00 p.m. - 3:15 p.m. - Break

**Location: Grand Ballroom Foyer** 

#### 3:15 p.m. -5:00 p.m. - Market Operations and Transmission Planning User Group Meeting

**Location: Salon B** 

**Chair: Aaron Bloom, NREL** 

FERC NOPR on Storage and DER Aggregation - What Does It Mean?

- Clyde Loutan, CAISO
- Becky Robinson, FERC
- Ron Coutu, ISO-NE
- Udi Helman, Helman Analytics

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#### 3:15 p.m. - 5:00 p.m. - DG Applications User Group Meeting

**Location: Salon C** 

Chair: Debbie Lew. GE

Modeling Load with High Levels of DER: Where Are We Going?

- Jens Boemer, EPRI
- Abe Ellis, Sandia National Labs
- Ryan Quint, NERC

5:00 p.m. - Adjourn for the Day

6:00 p.m. - 9:00 p.m. - UVIG Board of Directors Meeting

**Location: Executive Boardroom** 

#### Wednesday, March 15, 2017

7:00 a.m. - 8:00 a.m. - Registration & Breakfast

**Location: Grand Ballroom Foyer** 

#### 8:00 a.m. - 5:30 p.m. - Spring Technical Workshop Program

**Location: Salon C** 

#### 8:00 a.m. - 8:30 a.m. - Welcome and Overview Session

Introduction - Mark Ahlstrom, WindLogics/NextEra Energy

Welcome and Opening Remarks - Kent Grant, Vice President, Tucson Electric Power

Meeting Overview - Charlie Smith, UVIG

### 8:30 a.m. - 10:15 a.m. - Session 1: New Insights into Wind and Solar Integration Practice and Studies

Moderator, Charlton Clark, DOE

- "Wind Power Integration Development Path in the Northeast China Grid" Jiankun Zhang, President, Northeast China Grid
  Company
- "Can DR Help Integrate PV in Florida?" Elaine Hale, NREL
- "The Role of Transmission in a Western Wind Future" Greg Brinkman, NREL
- "Future Growth of Wind and PV, Including State-level Insights" Wesley Cole, NREL

#### 10:15 a.m. - 10:30 a.m. - Break

**Location: Grand Ballroom Foyer** 

#### 10:30 a.m. - 12:00 p.m. - Session 2: Distribution System of the Future

Moderator: Frank Goodman, SDG&E

- "A Roadmap for Integrating DER" Vijay Ganugula, NYISO
- "ARPA-E Network Optimized Distributed Energy Systems (NODES) Initiative" Carlton Reeves, ARPA-E
- "Incentive Based Control and Coordination of DERs" Jason Fuller, PNNL
- "Packetized Energy Management, A New Approach to DSM" Mads Almassalkhi, University of Vermont

#### 12:00 p.m. – 12:45 p.m. - Annual Membership Meeting (Members Only)

**Location: Salon C** 

- Membership Meeting & Board of Directors Election

12:45 p.m. - 2:00 p.m. - Lunch

**Location: Flying V Bar & Grill** 

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2:00 p.m. - 3:30 p.m. - Session 3: DER Compensation

Moderator, Debbie Lew, GE

"Options for DER Compensation" - Ben Davis, Concentric

"Value of Solar Tariff" - Lise Trudeau, MN DOC

"The Changing World - A View From the Trenches" - Dallas Dukes, Tucson Electric Power

"A Solar Developer Point of View" - Jim Baak, Vote Solar

3:30 p.m. - 4:00 p.m. - Break

**Location: Grand Ballroom Foyer** 

4:00 p.m. - 5:30 p.m. - Session 4: Advances in T&D Practice

Moderator, Will Kaul, Great River Energy

"An Update on IEEE 1547" - Jens Boemer, EPRI

"PV-Statcom – A Smart Inverter for T&D Applications" - Rajiv Varma, University of Western Ontario

"Storage Breakeven Cost Analysis" - Paul Denholm, NREL

"Impact of DER Interconnection and Operations at the T&D Interface" - Jim Painter, ONCOR

5:30 p.m. - Adjourn for the Day

6:30 p.m. - 8:00 p.m. - Annual Awards Reception

**Location: Bill's Grill** 

Thursday, March 16, 2017

7:00 a.m. - 8:00 a.m. - Registration & Breakfast

**Location: Grand Ballroom Foyer** 

8:00 a.m. - 12:30 p.m. - Spring Technical Workshop Program

**Location: Salon C** 

8:00 a.m. - 10:00 a.m. - Session 5: System Planning for a High Renewables Future

Moderator, Jim McCalley, Iowa State University

"Role of Forecasting and Resource Assessment in the Power System of the Future" - Justin Sharp, Sharply Focused

"Co-optimization of HVDC Networks and Massive Renewable Generation Expansion" - Chris Clack, Vibrant Clean Energy

"Working Backwards: Maximizing Renewables Expansion in an Existing Network" - Jody Dillon, UC Dublin

"Modeling a HVAC/HVDC Transmission System with Massive Renewable Penetration" - Dennis Woodford, Electranix

"Interconnection-Wide Modeling: Needs, Concerns and Activities" - Dale Osborn, MISO

10:00 a.m. - 10:30 a.m. - Break

**Location: Grand Ballroom Foyer** 

10:30 a.m. - 12:30 p.m. - Session 6: Preparing for a Low Inertia Power System

**Moderator: Nick Miller, GE** 

"Implications for Future Low Inertia Power Systems" - Nick Miller, GE

"Interconnecting Wind Plants in Weak AC Grids" - Jason MacDowell, GE

"NERC Synchronous Inertia Sufficiency Guideline" - Julia Matevosjana, ERCOT

"Linking Unit Commitment with System Short Circuit Strength Evaluation" - Matt Richwine, GE

12:30 p.m. - Closing Remarks & Adjourn

**Charlie Smith, UVIG**