



WORKSHOP ON WIND FORECASTING APPLICATIONS TO UTILITY PLANNING AND OPERATIONS

February 18-19, 2009
Wyndham Phoenix Downtown
Phoenix, Arizona

PROGRAM AGENDA

Workshop Purpose

This workshop is intended for utility and wind industry personnel associated with producing and using wind plant output forecasts for power system operation.

The workshop purposes are to:

- Explore the practical aspects of the use of wind forecasting models to the scheduling and operation of power systems
- Develop a better understanding of next generation wind forecasting requirements and possibilities in the hour-ahead and day-ahead time frames
- Develop a better understanding of operations planning requirements
- Continue an ongoing dialog between the wind forecasting research, development, applications and user communities.

Wednesday, February 18

7:30 a.m. – 8:00 a.m.

Registration & Continental Breakfast

Location: South Ballroom

8:00 a.m. – 5:00 p.m.

Workshop

Location: South Ballroom

8:00 a.m. – 9:30 a.m.

Opening Session

Local Welcome

Ron Flood, Arizona Public Service

Background and Introduction to Workshop Purpose

Charlie Smith, Utility Wind Integration Group

Operations Forecasting – The Basics

John Zack, AWS Truewind

- Numerical Weather Prediction Models
- Wind Plant Forecasts

12:15 p.m. – 1:15 p.m.

Lunch

Location: Salon 1-2

1:15 p.m. – 2:45 p.m.

Wind Forecasting Capabilities Interactive Panel

Session Chair: Bob Zavadil, EnerNex

Forecast providers will each make a ~ 5-10 minute presentation that describes a significant forecast issue, question, or unfilled need that is currently impacting their ability to deliver accurate hour ahead or day ahead forecasts useful for system operations or operations planning. A discussion will follow each forecast provider's presentation with the utility panelists first expressing their opinions on the issue(s) raised by the forecast provider and then having workshop participants contribute to the discussion.

Forecast Provider Panelists

- | | |
|---|-----------------|
| • AWS/Truewind -site data | John Zack |
| • Precision Wind –customization, accuracy | James Stalker |
| • Garrad Hassan –metrics and alerts | Craig Collier |
| • Weprog –source and number of forecasts | Corinna Mohrlen |

Forecast User Panelists

- | | |
|----------------|-----------------|
| • PNM | David Miller |
| • CAISO | Jim Blatchford |
| • RWE | Hendrik Neumann |
| • Energinet.dk | Lasse Borup |

2:45 p.m. – 3:15 p.m.

Break

Location: Ballroom Foyer

3:15 p.m. – 5:30 p.m.

Wind Forecasting R&D Activities

Session Chair: Pascal Storck, 3TIER

- | | |
|---|--------------------------|
| • ANEMOS and Stochastic UC | Aidan Tuohy, UCD |
| • Short Term Wind Power Predictions and Market Optimization using Ensembles | Corinna Mohrlen, Weprog |
| • Xcel Wind Forecasting Project | Keith Parks, Xcel Energy |
| • Hourly Updated NWP in RUC, Rapid Refresh, and HRRR | Stan Benjamin, NOAA |
| • WRF Modeling | Ned Patton, NCAR |
| • WindSense | Dora Yen, LLNL |
| • Wind Plants and Microclimatology | Mike Robinson, NREL |

5:30 p.m.

Adjourn

6:00 p.m. – 7:30 p.m.

Reception

Location: Pool Deck

Thursday, February 19

7:30 a.m. – 8:00 a.m.

Continental Breakfast

Location: South Ballroom

8:00 a.m. – 3:00 p.m.

Workshop

Location: South Ballroom

8:00 a.m. – 9:30 a.m.

Managing Forecast Expectations, Forecasting Priorities, and Respective Roles

Session Chair: Ed DeMeo, RECS

Insights will be gleaned from the information presented in the previous day's sessions, and personal perspectives will be provided.

1. What are the proper roles for the government sector, private sector and utilities?
2. What are reasonable expectations for the different types of forecasts?
3. What are the right forecasting R&D priorities?
4. How should the different sectors interact to maximize the probability of success in the integration of renewable energy?
 - DOE perspective Stan Calvert, DOE 1
 - Utility industry perspective Sanjay Patil, PJM 2, 3
 - Forecasting Industry perspective Mark Ahlstrom, WindLogics 1-4
 - Government lab perspective Mike Robinson, NREL 1, 4
 - Open discussion

9:30 a.m. – 10:00 a.m.

Break

Location: South Ballroom

10:00 a.m. – 12:00 p.m.

Integrating Forecasting into Market Operation

Session Chair: John Norden: ISO-NE

- ERCOT David Maggio
- NYISO Mike Swider
- AESO John Kehler
- CAISO Jim Blatchford
- MISO Mike McMullen
- Germany Hendrik Neumann
- Denmark Lasse Borup

12:00 p.m.

Lunch

Location: Salon 1-2

1:00 p.m.

Integrating Forecasting into the EMS and Control Center

Session Chair: Michael McMullen, Midwest ISO

- Spain Miguel de la Torre, REE
- Portugal Rui Pestana, REN
- BPA Steve Barton, BPA
- Comm and Control Protocol IEC 61400-25 Erich Gunther, EnerNex
- ABB Jorge Naccarino
- AREVA Russ Philbrick
- Siemens Jim Waight

3:00 p.m.

Closing Comments

Brian Parsons, NREL