## Wind Interconnection Workshop January 21-23, 2009 Golden, CO

## Sponsor:

National Rural Electric Cooperative Association

## Co-sponsors:

American Public Power Association
Utility Wind Integration Group
Western Area Power Administration
U.S. DOE Wind and Hydropower

Technologies Program

## Location:

Western's Electric Power Training Center 1667 Cole Boulevard
Building 19, Suite 152
Golden, C0 80401

> National Wind Coordinating Collaborative

Are you ready to integrate the world's fastest growing form of generation into your power mix? This two-day workshop, with an optional tour of the National Wind Technology Center on Friday, Jan. 23, will answer your questions about interconnecting wind turbines and other distributed generation applications to electric distribution systems.

Get an overview of wind energy, followed by an introduction to the Utility Wind Integration Group's Internetbased tools for assessing a distributed wind project's impact on the local distribution system. Training will cover the theory behind each tool and demonstrate their use with actual data.

Also, Western's Electric Power Training Center (EPTC) instructors will be there to offer a tour of the center. Participants will have the opportunity to observe a demonstration of the EPTC's hands-on miniature power system, including a Wind Farm Simulator developed in partnership with the National Renewable Energy Laboratory and the U.S. Department of Energy's Wind and Hydropower Technologies Program.

Continuing education credit is available for this work shop.

## January 21 Agenda

## 7:30 a.m. Continental breakfast at EPTC

8:00 a.m. Welcome and Introductions
8:30 a.m. Wind Energy Update
9:15 a.m. Distributed Wind Integration Experience
10:00 a.m. Break
10:30 a.m. Distributed Wind Impacts Project Overview
Noon Lunch
1:00 p.m. Screening Distributed Wind Projects - Economics Lab Exercise: Capacity Factor, Production Tax Credit, Clean Renewable Energy Bonds

## 2:45 p.m. Afternoon break

3:15 p.m. Screening Distributed Wind Projects - Flicker Lab Exercise: Flicker Evaluation
5:00 p.m. Adjourn

January 22 Agenda

## 7:30 a.m. Continental breakfast at EPTC

8:00 a.m. Tour of Feeder Simulator and MultiSpeak Import Engineering Distributed Wind Projects - Voltage Control Lab Exercise: Capacitor Bank and Tap Changer Impacts
9:45 a.m. Break
10:15 a.m. Engineering Distributed Wind Projects - Overcurrent Protection
Lab Exercise: Fault Clearing and Reclosing Impacts
Noon Lunch
1:00 p.m. Transmission Planning for Renewables in the West
2:00 p.m. Open Discussions and Q\&A
2:30 p.m. Tour ofWestern's EPTC and Wind Simulator (Interactive Demonstration of Wind Energy Operations)
4:30 p.m. Workshop adjourned

## Instructors:

Larry Flowers, National Renewable Energy Laboratory
Tom McDermott, EnerNex Corporation
Michael Milligan, National Renewable Energy Laboratory
Bradley Nickell, Western Electricity Coordinating Council
Mike Pehosh, National Rural Electric Cooperative Association
Bob Putnam, CH2M HILL
Tom Wind, Wind Utility Consulting

## To register:

Participation is limited to the first 30 registrants. The registration fee is $\$ 300$. Register online at http://windworkshop.govtools.us.

For more information about the workshop agenda, contact Bob Putnam, CH2M Hill, 315-751-2638 or rputnam@ch2m.com.

## Lodging:

Residence Inn by Marriott Denver West Golden
14600 W 6TH AVE., FRONTAGE ROAD
Golden, C0 80401
303-271-0909

## Marriott Denver West

1717 DENVERWEST BLVD.
Golden, C0 80401
303-279-9100

Holiday Inn Denver West Village
14707 W. COLFAX AVE.
Golden, C0 80401
303-279-7611

Courtyard by Marriott Denver West Golden
14700 W. 6TH AVE., FRONTAGE ROAD
Golden, C0 80401
303-271-0776

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