



Wind Scheduling Work Group, Update

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Tom Foley

April 25, 2003



PPM Energy
A ScottishPower Company

Wind Scheduling Group, Overview

- Two meetings were held, Jan 28, & Feb 27.
- Tom Foley elected Chairman
- Initial Focus, consider an alternative scheduling and forecasting protocol for wind resources.
- FPL presented a wind scheduling & forecasting method, comparable with the CAISO Method
- A number of issues, and concerns raised, with no consensus reached
- Alternative perspectives & ideas offered
- Wind generators discussed the benefits of Wind energy as a clean no cost fuel option to manage risk
- At the Feb 27 meeting the group discussed the impact and costs associated with Integration of Wind Resources in the NW

Jan 28, Kickoff Meeting

- FPL presented a Wind Scheduling & Forecasting Method, comparable with the CAISO method
- Key aspects of the FPL proposal:
 - Follows CAISO wind scheduling template
 - Recognition that Wind resources cannot schedule as accurately as dispatchable resources
 - Wind Generators would allow third party to schedule their generation through state of the art forecasting to avoid manipulation of schedules
 - Net Deviations Are Aggregated Across the Month
 - No non-cost penalties assessed on Imbalances

Jan 28, Meeting, Continued

- Issues Raised, Against the FPL Proposal:
 - What is the true cost to integrate wind?
 - Impact on the BPA Hydro System
 - Tariff change would require rate case
 - BPA Hydro System, Not the Same as CAISO!
 - Imbalance Penalties are a Cost of Doing Business!
 - Wind is a less Valuable Resources than hydro
 - No Consensus reached
- Common Ground; More information is required on the true cost to integrate wind in the NW, BPA addressing this issue. Next Meeting would include discussion on integration issues

Overview of Feb 27, Meeting

■ Focus Items:

- Alternative proposal presented by a few Public Power customers (Lon Peters, Rod Noteboom, & Steve Kearns)
- The Costs of Integrating Wind in the NW
 - Ken Dragoon discussed wind integration costs in the PacifiCorp control area.
 - Elliot Mainzer & Warren McReynolds discussed the Eric Hirst model on wind integration in the BPA control area

■ A Discussion Paper Presented by Public Power:

- Unique characteristics of wind, place demand on the control areas, different from other resources.
- Wind is not predictable and other resources must respond to its unpredictability.
- Wind resources or the holder of transmission should pay all costs that they impose on the system
- One idea, Wind resources should pay a charge similar to variable loads.

Overview of Feb 27, Meeting

■ Ken Dragoon, Presented the PacifiCorp Integration Study

Key Points:

- Reserve Requirements increase with additional wind capacity.
- Total costs of integrating wind were estimated at \$3.26/MWh to \$5.97/MWh in East, & \$3.49/MWh to \$4.99/MWh in the West area assuming 500 - 1000 MW of wind.
- Evidence suggests wind integration issues and costs are manageable for a significant amount of wind.
- PacifiCorp may be able to accommodate as much as 20% of its resources in the \$5-\$6/MWh range.

Overview of Feb 27, Meeting, cont.

- Elliot Mainzer of BPA/PBL and Warren McReynolds BPA/TBL discussed the Eric Hirst model, BPA's cost of integrating wind.
- Hirst only used a few months of data and determined the costs to be very low. Elliot discussed his work in attempting to add additional wind data and review the value of the model.
- Need an incentive for wind resources to continue to improve the forecasting capability and scheduling accuracy.
- Minimal costs are associated with low levels of wind capacity.

Wind Work Group Summary

- Originally, Wind Scheduling and Settlements were the Focus
- The sessions Prompted Good debate on the issues and produced awareness of opposing views
- An understanding of integration costs were necessary to advance further discussions.
- Next Steps:
 - Report from Elliot on BPA integration cost analysis
 - More wind forecasting data needed to develop proposal
 - Gain input from TBL on various forecasting methodologies
 - Anticipate a modified proposal will be brought forward, once additional information is analyzed and discussed.