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Renewable Northwest Project

917 SW Oak
Suite 303
Portland, OR 97205

Phone: 503.223.4544
Fax: 503.223.4554
www.RNP.org

Renewable Northwest Project

February 9, 2007

Jean D. Jewell, Secretary
Idaho Public Utilities Commission
472 West Washington Street
P. O. Box 83720
Boise, ID 83720-0074
Via email

Re: Operational Impacts of Integrating Wind Generation into Idaho Power's Existing Resource Portfolio

Dear Ms. Jewell:

We appreciate the time and effort Idaho Power Company expended in preparing their study *Operation Impacts of Integrating Wind Generation into Idaho Power's Existing Resource Portfolio* (Study). In addition, Idaho Power Company's analysts have been generous in sharing their intermediate results and discussing their methodology with the Northwest Wind Integration Action Plan (NWIAP) Peer Review Committee of which we are participants. Unfortunately, due to perceived urgency felt by Idaho Power, the Study was filed with the Idaho Commission prior to completing the NWIAP peer review process. Taking extra time would allow parties on the Peer Review Committee to have confidence in the results.

We believe this report is premature and we *urge the Commission not to accept it until the peer review process is complete.* We also feel it is critical not to base any other decisions, such as those proposed in Idaho's filing on PURPA rules, on the study results until the report has been fully vetted. Allowing Idaho Power extra time, and extra funding for their consultant if needed, is important to this process. We also hope the Commission will encourage Idaho Power to continue to share complete details of their wind data and analysis methodology with regional stakeholders.

The timing was particularly unfortunate because the peer review group identified some areas of concern in the calculations and methodology that had the effect of systematically overestimating the reserve requirements. The peer review committee wished to investigate further. Some of the concerns identified include:

Inflated Market Price Data. We appreciate that Idaho Power was interested in understanding the differences in system operations under low, average, and high water years. However, the market prices that corresponded to the average water year are inflated because of the 2000-2001 energy crisis. These high prices result in integration costs for those years that are unreasonably high.

Underestimating the effects of diversity. The study methodology was mathematically equivalent to representing the growing wind fleet as one large, and unrealistically uniform, wind plant. This lack of diversity is improbable and vastly overstates the need to hold reserves.

Underestimating wind forecasting capability. The generation schedule was based on an over-simplified forecast of wind generation. This potentially adds a significant amount of needless uncertainty for which the Study determined to hold reserves.

Potential double counting of forecast error. Another concern not clearly addressed in the Study regards the possible double counting of reserves needed for the combination of wind and load volatility within the hour, and the uncertainty of wind/load forecast for the hour.

Although these technical issues may seem relatively minor, in total they could represent an overestimate of integration costs by about a factor of two. The wind integration costs Idaho Power Company suggests are indeed twice as high as other utilities' estimates of wind integration costs. Attached is a summary of recent utility wind integration cost studies. It is unclear what, if anything, is sufficiently different about Idaho's power system to warrant a cost twice as high as those estimated by other utilities in the Northwest, throughout the United States, and in Europe.

Given the above concerns, we strongly recommend that no action be taken based on the results of the Study that Idaho Power filed on February 6, 2007. We request that the Commission require Idaho Power to take the time to discuss and revise this study to the mutual satisfaction of participants of the NWIAP Peer Review Group, and then re-file it.

Sincerely,

Rachel Shimshak
Director
Renewable Northwest Project

Brendan Kirby
Senior Researcher
Oak Ridge National Laboratory

cc: Rick Gale, Idaho Power
Jim Miller, Idaho Power
Karl Bokencamp, Idaho Power
Steve Wright, Bonneville Power Administration
Elliot Mainzer, Bonneville Power Administration
Tom Karier, Northwest Power and Conservation Council
Jeff King, Northwest Power and Conservation Council
Walt Pollack

Attachment

Recent Wind Integration Studies Summary

Date	Study	Penetration %	Operating Cost Impact ($/MWh)
2005	PacifiCorp	20	4.6
Mar 2005	Puget Sound Energy	10	4.05
May 2003	Xcel-UWIG	3.5	1.85
Sep 2004	Xcel-MNDOC	15	4.6
Jun 2003	WE Energies	4	1.9
Jun 2003	WE Energies	29	2.92
Apr 2006	Xcel-PSCo	10	3.72
Apr 2006	Xcel-PSCo	15	4.97
Nov 2006	Enernex- MN	15*	2.11
Nov 2006	Enernex- MN	25*	4.41
Dec 2004	VTT- Scandinavia	10*	1.29**
Dec 2004	VTT- Scandinavia	20*	2.58**

Notes

*Penetration based on MWh generation / MWh load

**Euros/MWh converted to dollars @ 1.29 Euro/dollar

Sources:

"Grid Impacts of Wind Power Variability: Recent Assessments froma Variety of Utilities in the United States," Parsons/Milligan et al, NREL, July 2006

"Final Report- Minnesota Wind Integration Study," Minnesota Public Utility Commission, November 30, 2006

"The Impact of Large Scale Wind Power Production on the Nordic System," Holtinen, VTT Processes, December 2004

"Short-term Operational Impacts of Wind Generation on the Puget Sound Energy Power System", Golden Energy Services, Inc., March 3, 2005.