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BONNEVILLE POWER ADMINISTRATION
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Smart grid benefits shown to outweigh costs

Regional Business Case to help region make future decisions

Portland, Ore. – Interim results from the Pacific Northwest Smart Grid Regional Business Case show overall promise for smart grid investments, while characterizing the uncertainty and risks. Initial results project $14.5 billion in total benefits and $10 billion in total costs over 30 years. Smart grid is simply the use of information technology to make the power grid more efficient. Even though benefits and costs are uncertain, the business case provides a high degree of confidence that benefits are likely to surpass costs.

"In the past several years, there have been a lot of claims about the value of smart grid," said Lee Hall, BPA Smart Grid and Demand Response manager. "When we looked under the hood, there often wasn't enough information to support actual investment decisions. We needed to get a better handle on the opportunity."

The Bonneville Power Administration sponsored the Navigant Consulting study – a key focus for BPA during the five-year, $178 million Pacific Northwest Smart Grid Demonstration Project. Inputs for the business case – developed by Navigant Consulting, Inc. – include real-world data and demonstration results.

"BPA was asking difficult questions about smart grid benefits and wasn't satisfied with existing analyses," said Erik Gilbert, Navigant project lead. "To answer these questions we had to develop a bottom-up systems approach. The benefits and many of the costs of new technology investments are still uncertain. We knew that point values wouldn't suffice – we needed to show a range of possibilities."

The results show a general low risk and strong benefits for smart grid investments that optimize transmission and distribution, grid reliability and dynamic, responsive demand. While energy efficiency programs in their current state are hugely beneficial, incremental smart grid capabilities may not enhance these programs. Battery storage holds promise as costs continue to decrease.

The case also includes a cost-benefit analysis – an important tool for the power industry nationally, as agencies and utilities make decisions about major investments and create their own business cases. Insights from the interim analyses are now available on BPA's website: http://www.bpa.gov/Projects/Initiatives/SmartGrid.

BPA's $10 million contribution to the Pacific Northwest Smart Grid Demonstration Project is the largest commitment in BPA's Technology Innovation portfolio. Eleven utilities in four states are participating in the project; the nation's largest, now in its final year.

Once the Smart Grid Demonstration Project is complete in January 2015, a final business case will be released.

BPA is a nonprofit federal agency that markets renewable hydropower from federal Columbia Basin dams, operates three-quarters of high-voltage transmission lines in the Northwest and funds one of the largest wildlife protection and restoration programs in the world. BPA and its partners have also saved enough electricity through energy efficiency projects to power four large American cities. For more information, contact us at 503-230-5131 or visit www.bpa.gov.

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