



**BPA Wind Integration Team Initiatives
Update to WIT E-mail List
August 2010**

This is the monthly update on BPA's Wind Integration Team initiatives for August 2010. If you have questions about any of these initiatives, contact Eric King, WIT project manager, at 503-230-5236.

Customer Supplied Generation Imbalance Pilot debuts: Customer Supplied Generation

Imbalance Pilot debuts Sept. 1: BPA, Iberdrola and Constellation Energy have successfully tested all systems that will be used in BPA's Customer Supplied Generation Imbalance Pilot. As of Sept. 1, Iberdrola will rely for its generation imbalance reserves on energy from specific non-federal resources, which will be dispatched through Constellation. This is the last of the [Wind Integration Team projects](#) BPA committed to in June 2009. It is going into effect a month ahead of schedule.

The pilot will test the effectiveness of wind generators providing their own generation imbalance reserves as well as netting their wind facilities. The pilot will last at least one year and may be expanded and/or extended if results warrant. We appreciate Iberdrola's willingness to invest in the communications and control equipment to participate in this pilot project.

BPA and Iberdrola will meet regularly over the next year to monitor and evaluate performance under this pilot. Early performance information will be used in the 2012-13 BPA rate case. This information may help define BPA's future approach to customer supplied generation imbalance, for example, whether a specific rate for this transmission service would be appropriate to add to BPA's transmission tariff.

Dynamic Transfer Capability request period delayed: On July 29, BPA asked its customers whether they would be affected if BPA delayed its second request period for dynamic transfer capability, which had been scheduled for Aug. 16. Responding [comments](#) generally supported delaying this second DTC evaluation window until 2011 and extending the current awards by three months through the end of fiscal year 2011.

Accordingly, BPA has postponed the next evaluation window for the Requesting Access to Dynamic Transfer Capability Pilot Business Practice until early in calendar 2011. BPA will hold a Dynamic Transfer Technical Review Session ("DTC 101") this fall. Parties who wish to receive a notice of this session should be sure they are on BPA's [Tech Forum](#) electronic mailing list. To sign up, send an e-mail to techforum@bpa.gov. Include your name, company and e-mail address. For more information on the DTC Study Pilot, please visit: <http://www.bpa.gov/corporate/WindPower/wit.cfm>

BPA, Calpine pilot goes beyond federal hydro for decremental reserves: On Sept. 1, BPA is launching a three-month pilot purchase of light load hour decremental balancing reserves from Calpine Energy Services. Calpine will supply 75 megawatts of decremental reserves from its natural gas-fired combined-cycle combustion turbine in Hermiston, Ore. BPA normally supplies decremental reserves by reducing federal hydro generation. In this pilot, BPA would rely on its ability to reduce Calpine's natural gas-fired output instead, and will pay Calpine a capacity fee for this service. When decremental reserves are required, Calpine will reduce its generation. BPA will in turn sell energy from the federal hydropower system to fulfill Calpine's energy obligations, and Calpine will pay BPA for this energy.



The net effect should be to increase the efficient use of hydropower resources and displace some natural gas with hydropower. Wind projects will see no difference.

BPA originally proposed a similar third-party supply pilot project in its draft Wind Integration Team Work Plan in 2009, but tabled the project in favor of customers' higher priorities. As part of this process BPA issued a Request for Information from prospective suppliers that stated BPA might enter into unilateral negotiations with one or more of those submitting proposals to do a pilot project. Calpine was one of the entities that submitted a proposal. Because the Hermiston plant is located directly between the majority of the wind fleet and two of BPA's major load centers, no power system flow studies were needed, significantly reducing the cost and time required to launch the pilot.

Wind fleet capacity in BPA grid tops 3,000 MW: It's official. On Aug. 11, with the addition of 175 megawatts of wind capacity from Biglow Canyon phase 2 additional turbines and Biglow Canyon phase 3, the amount of wind generating capacity interconnected into the BPA balancing authority rose to **3,011 MW**, besting the 3,000 MW mark. Wind capacity in BPA's balancing authority reached 1,000 MW in 2007 and 2,000 MW in 2009.

Wind fleet capacity factor up again in July: July marked the fourth month in a row where the capacity factor for the wind power fleet in BPA's balancing authority was above 33 percent.

Open season nets almost 2,500 MW of wind generation commitments: BPA recently completed the Preliminary Transmission Service Agreement phase of its 2010 Network Open Season for requests for new transmission service. In response to this year's open season, BPA offered 121 PTSAs totaling 7,304 MW. Customers signed 76 PTSAs totaling 3,759 MW, of which two thirds, 2,493 MW are for wind generation. In the three years since BPA began offering an annual transmission Network Open Season, BPA has signed PTSAs for 11,722 megawatts of new transmission service, of which 7,080 MW are wind generation. For more on [Network Open Season](http://www.transmission.bpa.gov/Customer_Forum/open_season_2010/), go to http://www.transmission.bpa.gov/Customer_Forum/open_season_2010/

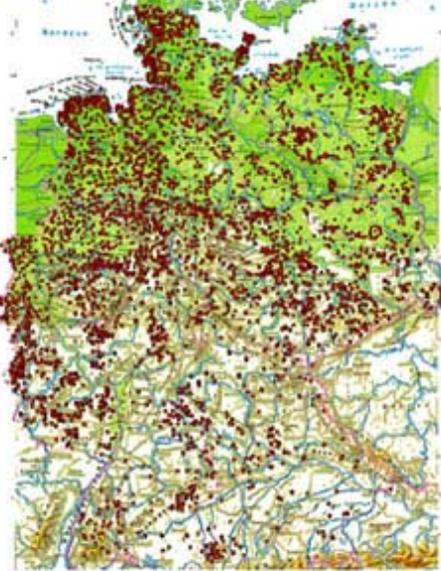
Storing wind energy in water heaters, a smart grid pilot: BPA and Mason County PUD Number 3 in western Washington are launching a pilot project in which 100 home water heaters will be put to use storing excess wind energy as well as reducing the utility's peak power demand. The concept is to have the water heaters turn on when wind power surges and turn off when power use peaks. The PUD will install special devices on water heaters that will communicate with the electrical grid and tell the appliances to turn on or off, based on conditions of the regional electrical system and the amount of wind energy available. Homeowners can override the water heater device at any time. Read more at <http://www.bpa.gov/corporate/BPAnews/ArticleTemplate.cfm?ArticleId=article-20100812-01>

World wind leaders share lessons with Northwest: Wind energy experts from Spain, Germany and Denmark – three of the world's leaders in wind energy – explained how their nations are managing large amounts of wind power in their transmission systems at an [international forum](#) in late July sponsored by BPA and the Northwest Power and Conservation Council.



"We wanted to know what their experiences with wind have been like. As it turns out, they are grappling with many of the same issues we are," said Elliot Mainzer, BPA executive vice president of Corporate Strategy.

Wind Power in Germany



location of installed wind turbines

Among other things, attendees learned that wind power meets 33 percent of Germany's peak load. Spain has more than 700 wind farms with a total capacity of more than 19,000 megawatts of power. Denmark has over 3,500 megawatts of wind capacity, and Danish wind power output sometimes exceeds the country's total electricity load. Transmission connectivity, wide area power markets and negative prices are all issues on the agenda in these countries.

For a complete recap of the conference, go to:

<http://www.bpa.gov/corporate/BPAnews/ArticleTemplate.cfm?ArticleId=article-20100806-01>

Conference presentations are posted on the Council's [Wind Integration Forum](#) page.

See NREL's video on [wind turbine testing](#): The Department of Energy's National Renewable Energy Laboratory in Colorado tests wind turbine designs in ways those crash dummies in car safety tests never dreamed of, as they shake, rattle and roll turbine components through 20 years of operating stress in a few months. Take a look at NREL's 6-minute video at <http://www.windenergypower.info/712/wind-energy-basics-from-nrels-national-wind-technology-center/>

See WIT slides from July customer forum: BPA updated its transmission customers on a wide range of issues at a Customer Technical Forum July 29, including updates on all five Wind Integration Team projects. The WIT presentation is posted at: http://www.transmission.bpa.gov/customer_forums/tx_customer_forum/documents/6_wind_integration_update.pdf