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BONNEVILLE POWER ADMINISTRATION
FOR IMMEDIATE RELEASE
Thursday, April 23, 2015
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BPA and EnerNOC will test demand response for non-wires and peak load shaving

Project tied to I-5 Corridor Reinforcement and managing peak load during extreme cold events

Portland, Ore. – The Bonneville Power Administration is looking to learn more about the potential for demand response to help it manage transmission congestion during summer heat waves and shave peak energy demand during cold snaps. This is the first non-wires measure BPA will test in association with its I-5 Corridor Reinforcement Project, which it is considering building.

BPA has selected EnerNOC to serve as its commercial aggregator, which means EnerNOC will be responsible for working through Northwest utilities to find commercial participants that are willing to decrease energy consumption when sent an electronic signal.

"This is another important step in our efforts to find flexible capacity from outside the hydro system to deliver value to our customers," said BPA Administrator Elliot Mainzer. "This project is about using innovative technology to help BPA manage infrastructure costs and energy consumption to preserve system reliability."

The demand response activities EnerNOC will implement include a summer initiative to manage transmission congestion and flows in the same area the I-5 Corridor Reinforcement project is focused, and a winter initiative to shave peak energy usage during extreme cold snaps.

Summer non-wires relief

North to south energy flows into the Portland/Vancouver metropolitan area during the summer can approach system operation limits and create the potential for blackouts. In January 2011, BPA commissioned a non-wires screening study that listed demand response as one of several non-wires measures that could help manage transmission congestion in advance of constructing the I-5 Corridor Reinforcement project.

BPA currently projects that it will need the I-5 Corridor Reinforcement in 2021. Under the current project schedule, BPA expects to decide whether or not to build the line in 2016. If BPA

determines it could not build the line in time to meet the electrical need, non-wires measures such as this one would be necessary until the project could be built.

"We know non-wires measures cannot replace the need for the I-5 Corridor Reinforcement project," said Mark Korsness, BPA Transmission Service project manager. "We also know non-wires measures are a valuable tool we may need to employ until we can complete the project if we decide to build it. It is important to test these measures well in advance of the need, and our team has done a good job pulling this demonstration together."

EnerNOC will enlist the participation of large energy consumers that could lower their energy use within 10 minutes of receiving an electronic signal initiated by BPA. The reduction would be available up to four hours during hours of peak energy use up to five consecutive days. EnerNOC is aiming to enlist enough participants to reduce up to 20 megawatts of energy use in summer 2015 and up to 25 megawatts in summer 2016.

Winter peak relief

The Federal Columbia River Power System can be stretched to its limit during certain periods. BPA and its federal partners that own and operate the dams need flexibility for the many important purposes the dams serve, which include fish passage and variable energy integration.

"Demand response provides us a great opportunity to help ourselves and our customers," said Mark Gendron, senior vice president of BPA Power Services. "Testing tools that provide potential system flexibility and save our ratepayers money benefits us all."

EnerNOC will enlist the participation of customers that could lower their energy use within 20 minutes of receiving a signal to do so. The reduction would be available for up to two three-hour periods up to three consecutive days. EnerNOC will begin the winter demonstration in December 2015 seeking up to 13 megawatts of relief in the first year and 25 megawatts in the second year.

Going forward

BPA continues to explore various demand response tools to defer the need for transmission projects, balance variable energy resources, relieve transmission congestion and meet other needs. Demand response is one of several areas in which BPA's Technology Innovation office is funding pilot projects.

BPA's current power contracts include a "demand charge" its public utility customers incur when their aggregate energy consumption exceeds a predetermined level. The charge sends a price signal to customers and encourages the use of tools such as demand response to shave peak energy use. These types of initiatives can be useful to our customers as they search for ways to manage their loads and minimize their demand charge.

More information on demand response and other BPA energy efficiency efforts is available on the BPA website.

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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