

BPA NEWS

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BONNEVILLE POWER ADMINISTRATION
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Lower Snake River dams help region power through recent heatwave *Ice Harbor key to relieving transmission congestion in Tri-Cities*

Portland, Oregon – During the late June heatwave, the four dams on the lower Snake River provided much-needed energy, balancing and contingency reserves, and Ice Harbor dam on the lower Snake River played a key role in keeping the lights on in the Tri-Cities area in eastern Washington. Without these four dams, powering through the heatwave could have been much more expensive and operationally challenging.

“This is another example of the value these facilities provide the region from a clean energy perspective,” said Administrator John Hairston. “As the region continues to discuss the future of these facilities, we believe it is important to provide data and information about their performance as a solid foundation for discussions about the future of these four dynamic dams that provide carbon-free electricity and are important assets to mitigating the impacts of climate change.”

Power and Reserves provision

As the entire Northwest experienced record or near-record temperatures and record energy demand in parts of the region between June 25 and 30, BPA was able to meet high summer demand through careful power and transmission planning. BPA also canceled planned transmission maintenance to ensure high electricity flows would not cause congestion, which can lead to cascading outages across the region and the west.

At the four lower Snake River dams, operators ensured river flows were at or above minimum levels for juvenile fish migration. This meant the operation of the dams on the lower Snake River would fill each project overnight so there was enough water for fish and power production during the peak electricity consumption hours of the day.

For the duration of the heatwave, electrical generation on the four Snake River dams ranged between 439 and 1,009 megawatts. For perspective, the average consumption of the City of Seattle is approximately 1,000 MW. However, the four dams did much more. To be prepared for an emergency, BPA must have the ability to call on power reserves to ensure it can keep the lights on. For example, in the event that generators on the grid go out of service unexpectedly, other generators must be available to increase their power output instantaneously to ensure grid stability. The dams also provided balancing reserves to move up and down to adjust for generators that can stray from their energy



schedules. As the region adds more intermittent renewable energy to mitigate climate change, these balancing reserves are becoming even more important.

Over this five-day heatwave, BPA transferred some reserve requirements to the four lower Snake River dams. At times, these four dams held 15% of BPA's total required reserves, peaking at 220 MW. At their highest, these dams provided 1,118 MW of combined energy production and reserve capacity.

Ice Harbor relieves Tri-Cities transmission capacity issue

Ice Harbor dam played a key role in keeping the lights on in the Tri-Cities area during last month's intense heat. Had Ice Harbor not been generating, it is likely BPA would have had to work with local customers to shift loads, which can take time and require some power outages or have rolling blackouts in selected areas in the Tri-Cities to protect the system from wider, cascading outages.

"BPA relies on Ice Harbor to relieve stress on our transmission system in the Tri-Cities area," said Vice President of Transmission Operations Michelle Cathcart. "During the recent heatwave, Ice Harbor provided voltage stabilization and helped increase the amount of energy our system could provide to parts of the Tri-Cities."

Post-heatwave analysis by BPA transmission engineers indicates, if Ice Harbor had not been generating, an unplanned loss of one of the key transformer banks would have caused a System Operating Limit exceedance. Also, the loss of a different key transformer bank would have pushed a facility to 98% of its capacity. While BPA did not have to work with customers to implement rolling blackouts, that may not have been the case if Ice Harbor were offline.

"If not for Ice Harbor, we would have been scrambling with customers to move loads around to avoid putting customers in the dark," said Cathcart. "Given the amount of work done to avoid rotating blackouts with Ice Harbor in service last week, it's hard to imagine getting enough additional relief from moving loads around to keep the lights on everywhere with the plant offline."

BPA markets the power from the lower Snake River dams and 27 other federal dams across the Northwest. The four federal dams on the lower Snake River have long been discussed for breaching or removal to help several runs of salmon and steelhead recover. In addition to delivering affordable and reliable carbon-free renewable, and providing critical support for the region's high-voltage transmission system, these dams feature state-of-the-art fish passage technology, and contribute to the region's economy by supporting irrigation, navigation and recreation.

The Tri-Cities of Kennewick, Pasco, and Richland are at the confluence of the Yakima, Snake, and Columbia rivers.

About BPA

The Bonneville Power Administration, headquartered in Portland, Oregon, is a nonprofit federal power marketer that sells wholesale, carbon-free hydropower from 31 federal dams in the Columbia River Basin. It also markets the output of the region's only nuclear plant. BPA delivers this power to more than 140 Northwest electric utilities, serving millions of consumers and businesses in Washington, Oregon, Idaho, western Montana and parts of California, Nevada, Utah and Wyoming. BPA also owns and operates more than 15,000 circuit miles of high-voltage power lines and 261 substations, and provides transmission service to more than 300 customers. In all, BPA provides nearly a third of the power generated in the Northwest. To mitigate the impacts of the federal dams, BPA implements a fish and wildlife program that includes working with its partners to make the federal dams safer for fish passage. It also pursues cost-effective energy savings and operational solutions that help maintain safe, affordable, reliable electric power for the Northwest.