

BPA NEWS

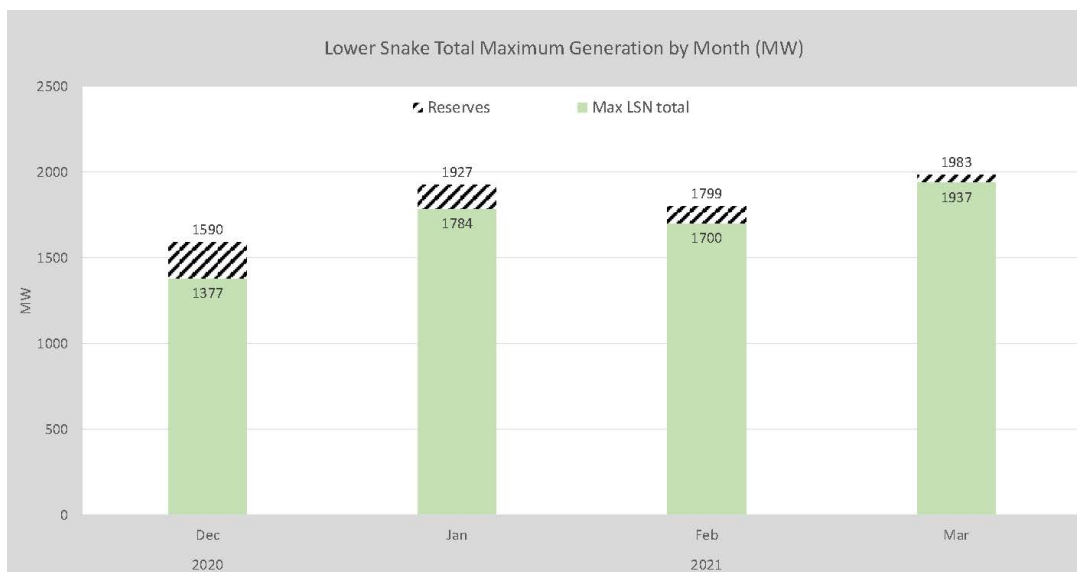
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BONNEVILLE POWER ADMINISTRATION
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Lower Snake River Dams provided crucial energy and reserves in winter 2021

Portland, Oregon – From December to March and particularly during the deep freeze of early 2021, the four dams on the lower Snake River were once again winter workhorses, according to a recent assessment by the Bonneville Power Administration. These four facilities not only provided important real-time electricity and critical power reserves, they also picked up slack when there was an equipment failure at Chief Joseph Dam – one of the largest dams in the Columbia River power system.

“Year after year, the Pacific Northwest can count on service from these projects in the winter when electricity consumption is highest,” said BPA Administrator John Hairston. “As we feel the impacts of climate change and the region builds more intermittent energy resources like wind and solar, we’re seeing more evidence that these dispatchable hydroelectric facilities are vital to public safety and electric reliability for the region.”



This recent assessment by BPA provides a clearer picture of how each dam performed during the storm. While federal agencies operate the 31 dams of the Federal Columbia River Power System as whole, this more granular data is helpful for power planners who are evaluating the potential impacts of climate change, including extreme-cold weather scenarios, and how the federal system can respond.

As Northwest residents turned up thermostats to keep warm and businesses maintained operations during the February storm, the four dams on the lower Snake River revved up on numerous occasions to meet the demand. In addition to generating more than 1,700 MW of electricity at times this winter, these facilities also accounted for important back-up reserves BPA could use to pick up slack when other hydro units experienced unplanned outages.

These reserves played an important role during the winter storm that battered parts of the Pacific Northwest in February. During that storm, technical issues at Chief Joseph Dam on the upper Columbia River impacted generation at the facility. Some of the electricity production and reserve requirements were transferred to the four lower Snake River dams, which are equipped to provide valuable operational agility and flexibility. Operators were able to bring the lower Snake River dams' energy production down to zero at night when power demand dropped, and then quickly ramped their production up during the day.

“Knowing we can rely on these facilities for steady energy production under normal circumstances should bring great comfort and confidence to residents of the Pacific Northwest,” said Kieran Connolly, BPA Power Services vice president of Generation Asset Management. “Being able to rely on their operational flexibility during extreme weather truly demonstrates the value they provide to the region.”

The chart below shows the flexibility of the hydroelectric plants on the lower Snake River during January and February, each plant at times eclipsed 400 MW of production, with some providing more than 500 MW of electricity. It is important to note that hydropower is more flexible and can ramp up and down more quickly than even the most flexible natural gas plants. On an average annual basis, the plants on the lower Snake River provide about 1,000 average megawatts of electricity, which is about the average annual consumption of the City of Seattle.

