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Grand Coulee Dam overhaul project ensures another 30 years of clean, renewable hydropower in the Pacific Northwest

GRAND COULEE, Wash. – Today, the Bureau of Reclamation and the Bonneville Power Administration announced the completion of the major overhaul of hydroelectric power generating units 22, 23 and 24 inside the Nathaniel “Nat” Washington Power Plant at Grand Coulee Dam. Located on the Columbia River about 90 miles west of Spokane, Wash., the Grand Coulee Dam is the largest power generating complex in the United States and the hydropower workhorse of the Columbia River. The dam can generate more than 6,800 megawatts and annually supplies more than 20 billion kilowatt hours of clean, renewable electricity to the region.

Project planning began in 2008, and in 2012, the contractor arrived onsite to begin preparatory work on the project. By March 2013, disassembly was underway on G24, taking the first of the three massive units offline to begin the overhaul. G24 and G23 were back online by 2016 and 2019, respectively, with the final unit, G22, returning to service Sept. 30, 2021.

The project involved complete disassembly of each 805-megawatt hydroelectric unit, refurbishing each to ensure all of the mechanical and electrical surfaces were restored and returned to like-new condition. Approximately 6.5 million pounds of steel were removed from each unit once every component down to the turbine runner was fully taken apart. While the units were disassembled, each component was sand blasted, welded, ground, polished, and then repainted before reassembly. Restoring the mechanical and electrical components results in less friction. As a result, the generating units operate with less wear and tear, making them more reliable and efficient.

“Overhauling something of this magnitude does not happen overnight; it takes years of planning and strong partnerships to complete such a milestone,” **said Columbia–Pacific Northwest Regional Director Lorri Gray.** “The overhaul of these units is key to accomplishing Reclamation’s mission and represents one of the most significant infrastructure investments in the region’s recent history. This overhaul enables us to optimize Coulee’s performance as one of the most coveted clean energy assets in the world.”

Known as the crown jewel of the Pacific Northwest, Grand Coulee Dam provides about one-quarter of the total generation of hydroelectric power for the Federal Columbia River Power System.

Grand Coulee Dam is one of 31 federal dams that generate more than half of the hydropower in the Northwest. BPA delivers power generated by the federal dams, one nonfederal nuclear plant and several small nonfederal power plants, 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. Hydropower is a key, renewable resource and is essential to support the region as it moves toward a carbon-free energy future.

“I cannot overstate the value of our ratepayers’ investment in this project,” **said Suzanne Cooper, senior vice president of BPA Power Services.** “Federal hydropower is the region’s original renewable energy resource, and it is critical that we maintain Grand Coulee’s integrity, so it can continue to provide the clean, reliable and sustainable power our region requires.”

The Nathaniel “Nat” Washington Power Plant was built between 1967 and 1975, and is the largest of the four power houses. The plant contains six generating units capable of producing more than 4,200 megawatts, and it contributes to about 2/3 of the total power generated by the dam. Two of the generating units can supply a city the size of Seattle with all its power needs for an entire year.

“As the region’s reliance on clean energy continues to grow, so does the need to maximize hydropower generated by the dam,” **added Gray.** “The successful completion of the overhaul helps ensure we continue to provide clean, renewable, economical and reliable power for another 30 years or more.”

Completed in 1941, Grand Coulee Dam serves as a multipurpose facility, providing water for irrigation, hydroelectric power production, flood control, fish and wildlife conservation, and recreation. The Grand Coulee Power facility is comprised of 33 generators in three power plants, the John W. Keys III Pump-Generating Plant, and three switchyards.

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The Bureau of Reclamation is a federal agency under the U.S. Department of the Interior and is the nation’s largest wholesale water supplier and second largest producer of hydroelectric power. Its facilities also provide substantial flood control, recreation opportunities, and environmental benefits. Visit our website at www.usbr.gov and follow us on Twitter [@USBR](https://twitter.com/USBR).

The Bonneville Power Administration, headquartered in Portland, Ore., 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. www.bpa.gov.