

WATER-to-WATTS: How Our Power is Made

This month's newsletter brought to you by our summer interns

More than 85% of electricity in Jefferson County comes from hydroelectric sources. Our power is generated by utilities, federal agencies and providers such as Energy Northwest (nuclear energy) across the northwest with the power travelling via Bonneville Power Administration (BPA) transmission lines and substations. The vast majority of our power stems from the series of 11 dams along the Columbia River, one of which is the Rocky Reach Dam in East Wenatchee.

Front Row Seats to Power Generation

Each year, Jefferson PUD partners with Energy Northwest's Public Power Internship program to provide college students with an inside look at utility operations. The PUD's summer interns, Max Allworth-Miles (broadband department) and Isaac Gurney (engineering department), along with fellow utility interns from across the state, received an in-depth tour of Chelan PUD's Rocky Reach Dam.

Rocky Reach, which began commercial power generation in late-1961, has undergone notable changes over the decades to keep pace with demand. In 1964 the Columbia River Treaty was ratified to reduce the risk of flooding to cities, to aid regional growth, and to increase hydroelectric power production. To meet this urban growth Chelan PUD added four new generators to Rocky Reach, bringing

its generator count to eleven. Recently, turbines at the dam have seen upgrades that lead to more efficient generation.

Producing your Power

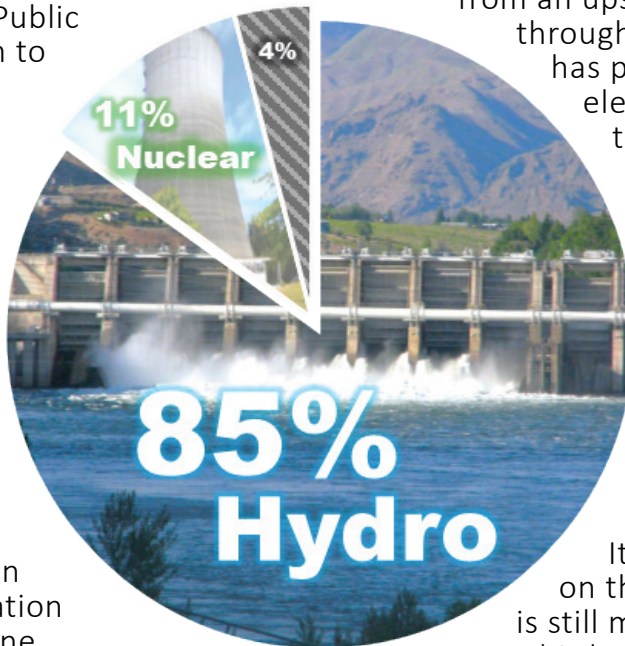
Hydroelectricity is generated by spilling water from an upstream reservoir on the river, through a dam. The water in this reservoir has potential energy because of its elevation relative to the water beyond the dam. When water is released, it flows through the dam, spinning a series of giant turbines, like those of a boat propeller. Each turbine is connected to a generator, so as they spin, so do the rotors of the generators, creating electricity. Once the electricity is generated, it travels from the dam via transmission lines to waiting substations and then to your homes.

It may be one of the smaller dams on the Columbia River, but Rocky Reach is still massive. The dam is nearly one-third of a mile in length and 125 feet high. Fun fact: Just one of its eleven 1,349 megawatt generators can make more than enough power to supply all of Jefferson County with electricity year-round. It's an incredible feat to construct, especially in the 1950s. The total cost of Rocky Reach in 1956 was \$273.1M dollars (\$3.1B in today's cost).

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A view inside the Rocky Reach dam powerhouse.



* BPA has an unspecified 4%

15,000 miles

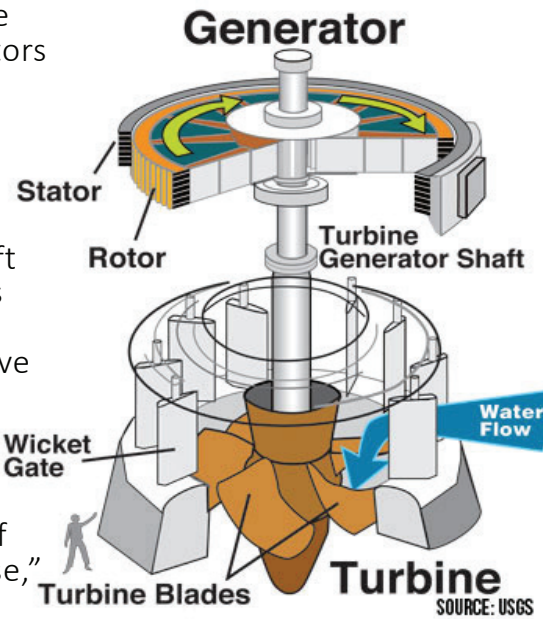
Total length of BPA transmission lines across its service territory.



The PUD team experienced the enormous Rocky Reach generators up close. To maintain a long lifespan, generators undergo regular maintenance. Inside, interns were just feet away from a section of the rapidly spinning turbine generator shaft connecting water-driven blades with the rotor.

A dam powerhouse is a cohesive mix of old and new technology where engineers continually upgrade aging infrastructure for future demand.

“It’s shocking to see the size of some of this equipment up close,” said Gurney. “The scale they’re working at is super impressive.”



A Rocky Reach engineer explains the top of the turbine assembly, known as the Kaplan Head. The Kaplan Head adjusts the pitch of the turbine blades rotating 50 feet below.

Meet Our Summer Interns

Jefferson PUD is proud to provide paid internships for college students to explore the utility field. Interested in careers in the utility field? Visit jeffpud.org/employment for current positions and check back for intern opportunities!



Isaac Gurney
Engineering Dept.

Isaac is a 2023 PT High School grad attending University of Washington on a Data Science track. Isaac worked with the PUD engineering team on Geographical Information Systems (GIS) to create a graphics-based project app for water and electricity system mapping. When he’s not working alongside PUD engineers in the office and field, Isaac enjoys playing soccer, mountain biking, weight training, and thrifting. His work has helped organize and better manage PUD data for easier access by engineering staff.



Max Allworth-Miles
Broadband Dept.

Max Allworth-Miles graduated from PT High School in 2022 and is majoring in Computer Science at Cal Poly. During his internship, Max helped create new customer interfaces for the Broadband department. The software helps improve the broadband customer experience and makes organizing workloads easier for staff. Max is an avid rock climber, making the most of his summer home by scaling the sheer climbing walls along the Elwha River, or traversing ridges while backpacking the Olympics.



JPUD partners with Energy Northwest to provide students with an immersive internship opportunity.

Events Calendar

2025 PUD Budget Hearing

PUD staff and commissioners continue budget discussions as a primer for the upcoming 2025 budget hearing planned for October 7th at 5pm and can be attended in-person or online.

Fiber Kick-off Event: Sept 21st

Join PUD staff, plus local and regional supporters of PUD broadband at the Quilcene Fair & Parade as we celebrate connecting rural customers to our high-speed fiber broadband network!

WIPES: Know before you flush!

Baby wipes do not break down like toilet paper, no matter what the packaging implies. Wipes can clump together, creating blockages in your pipes or larger systemwide backups. These clumps are referred to as “fatbergs” in the sewer industry due to buildup of household waste on the non-biodegrading wipes. Blockages can lead to expensive repairs for the utility and homeowners! **Please dispose of wipes in the trash can!**

Fall is coming!
Insulation rebates are available from the PUD!, more info: jeffpud.org/rebates

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