

NEW PROJECTS

ROCK ISLAND

CONNECTING HISTORY WITH FUTURE

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USA – Located in Washington State, the Rock Island Hydroelectric Power Plant was commissioned in 1933 and was the first dam to span the Columbia River. Sited about 12 miles (19 km) downstream from the city of Wenatchee, units B1–B4 in Powerhouse 1 were the first turbine generator sets installed on the Columbia River. In the 1950s another six generating units were installed in Powerhouse 1 and a second powerhouse with eight Bulb turbine units was subsequently commissioned in 1979.

ANDRITZ HYDRO was awarded a contract by Chelan County PUD to modernize units B5–B10 starting in 2006. Now, ANDRITZ HYDRO has received a new contract to modernize the first four units, B1–B4, at Rock Island Powerhouse 1.

Kaplan runner



"It's a proud moment to move forward with this modernization work and to have the oldest turbines on the Columbia be replaced by the newest turbines."

Randy Smith,
Chelan PUD Commission President

ANDRITZ HYDRO's proposed turbine design increases capacity, at lower heads, and boosts unit efficiency, providing incremental value to Chelan PUD. Another benefit of the new runners is the fish-friendly design, reducing the number of blades from six to four and reducing the risk of blade strike by a factor of 33%. Blade strike is a leading stressor affecting fish survivability. Cavitation is also a key stressor with impact on fish survivability. The design also reduces cavitation so that the runners are essentially cavitation-free over the entire operating range.

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ANDRITZ HYDRO offered an alternate approach to this project by taking three units out of service for simultaneous modernization. This approach will result in the modernization being completed six months earlier than specified. Under the proposed

schedule, Chelan PUD achieves greater flexibility to address any future unplanned outages and will have the units available prior to Chelan PUD's "check in" for its Habitat Conservation Plan (HCP). This plan is a 50-year commitment to ensure that Chelan PUD's hydro projects have no net impact on mid-Columbia salmon and steel-head runs. ANDRITZ HYDRO is proud to support Chelan PUD in meeting its HCP commitment.

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**Rock Island | USA****Technical data:**

Total output:	218 MW
Scope:	4 × 20.7 MW
Voltage:	13.8 kV
Head:	40 ft (12.19 m)
Speed:	100 rpm
Runner diameter:	228 inch (5,791 mm)

Experience
further content

