

Nenana may be getting experimental in-river power turbine

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FAIRBANKS, Alaska - Federal regulators are reviewing plans for a submerged, in-river power turbine. It's a pilot project energy researchers and the developer think could help communities across rural Alaska, where electric costs run exponentially higher than in urban hubs.

Two similar projects have been tested in Ruby and Eagle. This one, lined up for use near Nenana, would be bigger — between 50 and 300 kilowatts, via small turbines and an underwater transmission cable in the Tanana River. It would operate a little less than half the year.

Monty Worthington, a project development director for the Anchorage-based ORPC Alaska, said he hopes to have the system up and running in 2012.

Nenana links to the Interior's electric grid and ORPC would sell power to the market, he said.

The firm already holds a Federal Energy Regulatory Commission permit but wants to install the system at a different spot on the river than originally expected, said Jerome Johnson, a University of Alaska Fairbanks professor working with the firm and the city.

Advocates of small-scale hydrokinetic technology — turbines designed to harness kinetic energy from oceans, bays and rivers — say their use could trim rural Alaska's dependence on diesel fuel. The firm says Nenana, "eager to adopt a clean, renewable, and cost-efficient power system," has backed the plan. The Nenana project would be the first that needed FERC approval, Worthington said.

Researchers at the Fairbanks-based Alaska Center for Energy and Power estimated last month that Alaska's vast geography holds about 40 percent of the country's potential river energy. The center said research still needs to pin down the technical implications of in-river turbines and, more specifically, the system designed for Nenana. Worthington said it would be submerged, unlike other in-river pilot projects. He said the company thinks that setup could solve complications presented by floating debris and surface ice.

"We have a lot of technological evolution to go through," he said of the system, originally designed in concept for capturing tidal energy.

The proposal coincides with increases in state aid for renewable and emerging energy research and development.

"Alaska is well positioned to facilitate RMHT" — river and marine hydrokinetic

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technology — “as it transitions from emerging to developed technology over the next five to 10 years by building on current and planned national and state structures,” the energy center wrote in November.

The federal commission is collecting comments through mid-January on the proposal. Worthington said the permit would let his company apply for a more detailed FERC license needed for the project.

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