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TOP STORY

## Pumped storage hydro project eyed for Tucker County

By Rick Steelhammer Staff writer 20 hrs ago

A plan to study the feasibility of building a \$1.2 billion pumped storage hydroelectric plant capable of generating a constant flow of 500 megawatts of power, using wind power to operate its pumps, has been presented to the Tucker County Commission.

The proposed Big Run Pump Storage Hydro Project would be located on land owned by Western Pocahontas Properties and the Monongahela National Forest, to the south of Tucker County High School, straddling U.S. 219.

Under current plans, “we will have an upper reservoir on Backbone Mountain on Western Pocahontas property, adjacent to Forest Service land,” said Tim Williamson, CEO of FreedomWorks LLC, of Harpers Ferry, the company planning the project.

A cylinder-shaped earth and rock-fill dike would contain the upper reservoir, connected by 12-foot diameter, 7,000-foot-long penstock pipes to a second reservoir to be built near the Cheat River in the vicinity of St. George. Water falling through nearly 1,000 feet of vertical drop in the penstocks would power electricity-generating turbines.

Each reservoir would hold about 3.75 billion gallons of water and cover about 1,200 surface acres. The pipes would follow the general path of Mill Run from the upper lake, at an elevation of about 3,250 feet, to the lower lake at 2,250 feet.

After pumping an initial charge of water from the Cheat River into the lower reservoir, the project would operate as a closed-loop system, using power bought from nearby wind farms to pump water back to the upper lake after passing downward through the project’s penstocks, according to Williamson.

“We will be contracting with wind and possibly solar power producers for long-term power agreements to get their off-take and turn it into 100 percent renewable energy,” Williamson said. “There’s a lot of demand for that.”

Power produced by the plant would be carried by a 7-mile connector line to tie into an existing 500-Kilovolt transmission line near Fairfax Stone State Park.

The Big Run Pump Storage Hydro Project “has a double configuration design that allows us to operate in pumping and generation modes simultaneously,” Williamson said.

While older pumped storage plants were designed to generate power for only about 10 hours daily during peak-use hours, the Big Run project is “capable of generating 500 megawatts of power at all times,” Williamson said.

Two closed-loop pumped storage plants built with similar designs are operating in India and Switzerland, with a second Swiss plant nearing completion, according to Williamson. “This would be the first of its kind to be built in North America,” he said.

Although most of the 24 pumped storage facilities now operating under licenses issued by the Federal Energy Regulatory Commission were built more than 30 years ago, there has been renewed interest in building them in recent years. FERC has licensed three pumped storage projects since 2014, and more than 20 applications for preliminary permits have been filed during the past two years, including one from Big Run.

A pumped storage project was licensed in the late 1970s, but never built, on the Blackwater River in Tucker County’s Canaan Valley. Construction of that project would have flooded much of Canaan Valley’s 8,000-acre wetland complex. The U.S. Army Corps of Engineers denied the project’s backers a permit to place fill in the wetlands for a dam, and after years of legal wrangling that went all the way to the U.S. Supreme Court, the permit was withdrawn in 1988.

Williamson said his company has been involved in \$3 billion worth of construction activity since he joined it after retiring from the U.S. Department of State, where he served as deputy director for renewable energy from 2012 to 2017, and as manager of the agency’s Washington, D.C., area construction program from 1990 to 2012.

For the project to move forward, a series of regulatory hurdles must be cleared, including receiving permits from FERC, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers and more than a dozen other state and federal entities.

Williamson said the project would produce numerous construction jobs and would employ nearly 50 people once complete. Work on the project would not affect the Blackwater River or Blackwater Canyon, he said, while it would prevent some leaching from old strip mines from entering the watershed. “There will be less mineral runoff, which will improve water quality,” he said.

“A big pump storage project has been rejected here once before, but I think there may be more acceptance for one now,” Williamson said. “The key to this project succeeding is not engineering or science or even money. Local support is the key. With the will of the people, it will happen. Without it, it won’t.”

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