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Hydro projects clear final hurdle before licensing

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TOWNSHEND -- The U.S. Federal Energy Regulatory Commission issued a draft environmental assessment last month on two proposed hydroelectric facilities along the West River, providing a straightforward construction path for the renewable energy projects.

Plainfield-based developer Blue Heron Hydro LLC received federal clearance on Dec. 20 for hydroelectric generation facilities near the Townshend Dam and Ball Mountain Dam in Jamaica. The two sites are the first new riverine hydro projects since 1987 to receive 401 Water Quality Certificates from the Vermont Agency of Natural Resources.

Both dams along the river currently exist for flood control, but the sites could also bring renewable energy power to approximately 3,000 Vermont homes with Blue Heron's proposal to install on-site turbines to produce slightly more than three megawatts. Doing so will offset more than 10,000 tons of carbon annually.

The proposed hydro units, in the works for roughly four years, achieved their latest licensing milestone with a favorable FERC environmental assessment, but are still awaiting final licensing approval from the federal energy commission. The projects did receive certification from the Vermont Public Service Board as a qualifying Sustainably Priced Energy Enterprise Development (SPEED) resource.

Approval from the state's PSB on Dec. 21 as part of the SPEED program provides a guaranteed price for power generated from renewable sources.

However, the company must have the turbines online and generating power by the end of 2013 to remain eligible for SPEED and to receive federal tax incentives that are critical to the projects' overall financing.

Blue Heron President Lori Barg is optimistic the turbines will be operational within two years.

"It has been almost 25 years since new hydroelectric facilities were permitted on a river in Vermont. I am pleased that we are one-step closer to seeing these projects come to life to help Vermont meet its renewable energy goals," she said. "Once we have our FERC licenses in hand, I have no doubt that we can construct the projects and bring them online by the end of 2013."

FERC spokeswoman Celeste Miller said the agency analyzed the environmental effects on the natural surroundings and determined licensing these projects would not result in any major repercussions.

"Obviously this is part of our process and we issued the environmental assessment. The environmental assessment is a staff document ... it's made part of the record that the commission looks at when they are making their determination on the licensing application," Miller said.

There is currently no statutory timeframe, but the public has 30 days from the assessment's draft approval to comment on the document before the FERC makes a decision.

Tom Willard, Blue Heron's regulatory manager for the hydro projects, expects the FERC to issue a license soon after the comment period ends on Jan.

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20. He said the projects have received considerable support within the Green Mountain State from Democratic Gov. Peter Shumlin to Vermont's left-leaning congressional delegation, as well as from municipal selectboards.

"This technology is submersible turbine generator units, so the generator and the turbines (which are what the water spins) and they are hooked up to a generator which spins the electricity," Willard said.

The main hydroelectric equipment appears like a "six-pack of soda" that slides into existing stop logs at the dams. The silent apparatus will reside at the bottom of the lake set upstream of the control towers of each dam.

"It's a matrix of six turbines arranged in a metal frame that drops right down in the existing stop log structure," Willard said.

"Right now, the system passes water through these slide gates, the slide gates put up at the bottom of both lakes (Townshend and Ball Mountain) and the water sluices underneath this gate that slides up a nd down. And as the gate raises, the water goes underneath it and enters this tunnel that goes down through the dam and exits downstream," he continued. "What this technology essentially does is instead of that water being released underneath this slide gate, it gets put through a turbine and we generate electricity with it."

Attorney Jeanne Blackmore of Gravel & Shea in Burlington completed the Section 1603 applications that provides federal incentives for renewables for Blue Heron's project. She said the federal program started around the beginning of the recession and is designed to provide a cash grant in-lieu of tax credits.

If the turbines are in service within the proper timeframe, the project should receive the funding, which is a great economic development vehicle for Vermont as well, according to Blackmore.

"It's nice for Vermont's energy independence, it's nice for Vermont's workforce and it's nice for Vermonters to be able to participate in an emerging technology field," she said. "I love alternative renewable projects in Vermont. I'm a 16-year tax attorney and renewable energy is my personal passion so when the 1603 program came out, I was really excited to be able to help the projects that were struggling to get off the ground in the state."

The state's largest electric utility, Central Vermont Public Service Corp., advocates for the projects, providing two $30,000 grants to help with the initial engineering studies.

Brian Keefe, CVPS Vice President of Government and Public Affairs, said the Ball Mountain and Townshend hydro projects are an efficient use of existing civil infrastructure on the West River.

"These flood control dams, when retrofitted with new high efficiency hydro turbine generators, will provide the Southern Loop with the right sized generation in the right place," Keefe said.

"This new generation in conjunction with the Geo-Targeted energy efficiency efforts of Efficiency Vermont may help forestall $70 million in new transmission infrastructure," he added. "CVPS continues to look for additional community-sized, dispatchable, renewable generation resources for the Southern Loop to help defer investments that may be needed to serve future load growth."

According to the FERC assessment, issuing the federal licenses allows Blue Heron to construct the units and generate electricity for sales to CVPS. The power coming from renewable sources like hydro will help meet the long-term need as the North American Electric Reliability Council forecasts a regional peak demand jump of 5.7 percent over the next decade.

Both West River dams, currently owned and operated

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at the federal level by the U.S. Army Corps of Engineers, were built in 1961 for flood control in the Connecticut River Valley and for multiple recreational purposes. The Corps has voiced its full support for the hydro power development.

The Corps, working with Blue Heron and the FERC, have taken steps to reduce the possible risks to the area and have worked on a long-term stabilization strategy, especially after critical problems at the Ball Mountain Dam in early 2010 when extensive geotechnical testing found significant foundation seepage issues which requires crucial repairs for its continued operation.

Of note, dam safety is entirely in the provenance of the Corps of Engineers and is not up to Blue Heron.

Ball Mountain was initially slated for a hydroelectric dam in 1988, but the project was terminated in 1992 before Blue Heron revitalized the proposal. To reduce potential hazards, crews have stepped up surveillance and monitoring at the site and implemented flood operation and maximum pool restrictions.

Barg said Blue Heron has addressed other recreational and environmental concerns through public hearings.

Multiple whitewater organizations filed for party status throughout the proceedings, as did groups worried about fish migration patterns, but the company said it worked with state and federal wildlife agencies to develop an acceptable downstream passage.

"We designed a fish passage for the Connecticut River Atlantic Salmon project," Barg said. "We're not proposing to change anything, the whitewater releases have occurred spring and fall for decades before the Atlantic salmon program came along, and they were occurring through much of the program."

The projects have not effect on the recreation, including the beach within Townshend State Park.

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