

# REGULATING SMALL HYDRO

*New incentives have led to a number of proposals to build small hydropower projects in the U.S. The Federal Energy Regulatory Commission is considering reforms aimed at streamlining the licensing process for the developers of those projects.*

By Russell W. Ray

Developers of small hydropower projects are seeking big changes in the way their projects are permitted and licensed by the Federal Energy Regulatory Commission (FERC).

Requests to build small hydro projects, facilities with a capacity of 5 MW or less, have been pouring into FERC, thanks to new tax credits, grants, and initiatives to reduce greenhouse gas emissions.

"There's a definite increase in interest in the industry and FERC is feeling it in the number of preliminary permit applications and development proposals," said Nancy Skancke, an attorney with GKRSE and chair of the National Hydropower Association's (NHA) Small Hydro Council.

Without a simpler, quicker, and more efficient licensing process for small hydro projects, though, the development of new hydropower capacity in the U.S. may be stymied, accord-

ing to NHA. FERC is reevaluating its licensing process for small hydro projects because of the increased activity.

Issues facing the developers of small hydro projects were placed front and center during a technical conference hosted by FERC in December 2009. Written comments were filed in February 2010. The underlying question: Why should a 500-kW project with no significant environmental issues comply with the same regulatory process used for a 500-MW project?

"Projects supplying the smallest amount of generation are paying the most in process costs because the relative scale of those costs is the same regardless of project size," according to written comments filed by NHA. "This situation detracts investor interest in smaller hydro projects and makes finding financing very difficult."

*Russell Ray is associate editor of Hydro Review.*

## Applications for new hydro projects surge 30 percent

The number of proposals to build new hydropower capacity is up about 30 percent from two years ago, said Ed Abrams, deputy director of the Office of Hydro-power Licensing at FERC.

"A lot of these are at existing federal dams," Abrams said. "We have had quite a few 5-MW exemptions for small projects."

But the regulatory process can be difficult to navigate, especially for the developers of small projects, Abrams said.

"They tend to be less sophisticated than the typical relicense applicants, who have professionals at their disposal to prepare the application and do the consultation work," he said. "We're having to kind of hold the hands of a lot of these smaller developers."

## Faster, smarter licensing process sought

Right now, it takes about five years to obtain a license to install hydro capacity at existing non-powered dams. NHA has asked the commission to cut the licensing process down to two years by establishing a more efficient system.

"Only 3 percent of the nation's 80,000 dams currently generate electricity — so the potential for adding electric generation to non-powered dams is enormous," NHA wrote. In addition, the environmental impacts associated with the

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Association's Small Hydro Council

development of hydropower at existing non-powered dams are typically minimal because the most significant environmental impact — the construction and operation of a dam — has already occurred.

"These are dams that have been there a long time," Skancke said. "If you've got minimal environmental issues, it shouldn't even be that long."

Other recommendations by NHA include:

— Increasing the threshold for "non-capacity" amendments to under 10 MW;

— Approving unopposed exemption applications within 45 days after the notice period expires, unless the com-

mission issues an order to the contrary;

— Modifying the definition for conduit exemptions;

— Providing outreach programs to help those with limited experience with FERC's regulatory process;

— Establishing an online application process for permits, licenses, and exemptions.

Meanwhile, FERC is reviewing the public comments that were filed in February 2010. No one knows for sure what FERC will do next.

"We're hoping that they start an expedited rulemaking proceeding to try and fix some of the regulations that would help remove some of these barriers," Skancke said.

## More exemptions could be issued

FERC should be issuing more exemptions to small hydro projects, especially in cases where there is no opposition, Skancke said. But FERC has curtailed its use of such exemptions, fearing lawsuits from environmental groups and the threat of court-ordered decision making.

"FERC has the statutory authority to exempt certain types of projects," Skancke said. "It's just not using the authority to its fullest extent."

"It shouldn't take the 'average Joe's' company nine months to a year to get an exemption where there was no opposition."

Jeanne Hilsinger, of MAVEL Americas Inc., a turbine manufacturer, said Europe has developed 17 percent of its economically feasible small hydro potential, while the U.S. has developed 14 percent. In 1940, hydropower accounted for 40 percent of the electricity produced in the U.S. That figure has plunged to 7 percent today.

"Policy really matters," Hilsinger said. "Europe has 17,571 small hydro plants. That's more than seven times the number in the U.S. (2,346)."

## Navigant Consulting: U.S. has potential to quadruple capacity

The U.S. has about 100,000 MW of hydropower capacity. However, a study by Navigant Consulting Inc. shows



The Federal Energy Regulatory Commission may overhaul the approval process for small hydro projects such as the 8-MW Milford Hydroelectric Project on Maine's Penobscot River.

that the technical potential is around 400,000 MW.

"It's a tremendous opportunity, and I think it is sort of an unknown secret," said Navigant Consulting Managing Director Lisa Frantzis.

The study estimates the industry could add 60,000 MW of new capacity by 2025. But NHA, which commissioned the

study, said an increase of that size "will not occur without a series of changes to the status quo, including improvements in certain aspects of the regulatory process for hydropower development."

Up to 700,000 jobs could be created by 2025 if the potential for new capacity is met, the study shows.

"There is a tremendous opportunity

in the hydropower sector, not only with jobs, but in terms of megawatts of installations," Frantzis said. "And I think the other exciting thing is that the opportunity would create jobs across the U.S., which is also a real benefit."

Interest in the development of small hydropower capacity has surged in the wake of Congress' enactment of the Energy Policy Act of 2005 and the American Recovery and Reinvestment Act of 2009. The 2009 legislation included a 30-percent investment tax credit and grants for building new hydropower capacity at existing plants and non-powered dams.

"We have a great opportunity in North America because we have a lot of infrastructure already in place," said Jay Maher, a senior manager for Kleinschmidt Associates, a consulting company that specializes in energy and water resources. "It's very unlikely that you'll see a great big dam going up, but we have thousands of existing dams that have the potential."

Some of the policy changes recommended by the NHA could be implemented quickly, without a rulemaking proceeding. Such swift action "will enable small hydro developers to take advantage of current incentives for small hydro development," NHA said.

#### State reform also needed

Industry observers say regulatory reforms are needed at the state level as well.

"It is estimated that Vermont has up to 400 MW of undeveloped hydroelectric potential," said Sen. Vincent Illuzzi, chairman of Vermont's Senate Committee on Economic Development, Housing, and General Affairs. "But no new hydro site has been developed or redeveloped in Vermont for 25 years because of the permitting obstacles."

In written comments filed with FERC, Illuzzi said Vermont's Agency of Natural Resources has been reluctant to streamline its procedure for obtaining a 401 water quality certificate for hydroelectric projects, despite a new state law directing the agency to devise a more timely, predictable and affordable procedure.

"This has turned into a multi-year process," Illuzzi wrote. "Perhaps Vermont's largest utilities don't want to

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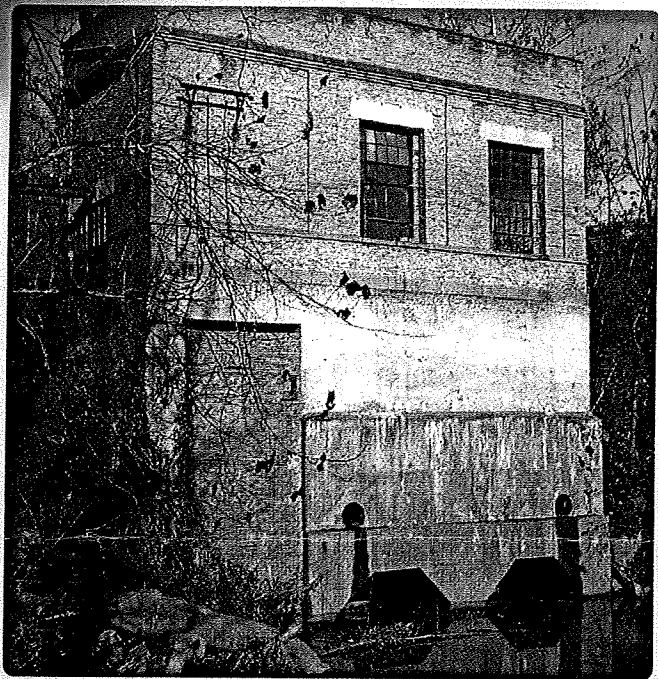
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Requests to build small hydro projects such as the 400-kW Harris Bridge Hydroelectric Project on Virginia's Rockfish River are up 30 percent over the past two years, according to the Federal Energy Regulatory Commission.

deal with small power producers."

Among other things, Illuzzi recommended that FERC devise a process that grants automatic approval to hydro projects within 60 days after filing its application, unless FERC steps in to delay the approval.

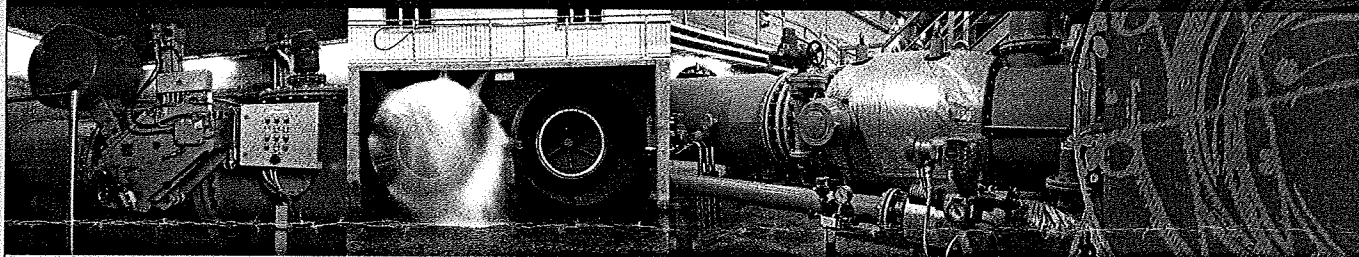
"We have similar processes like this in Vermont," Illuzzi said. "For example, the Vermont Public Service Board issues a Certificate of Public Good for net-metered projects if there are no intervenors within 30 days."

According to the study by Navigant Consulting, there are 5,140 MW of undeveloped hydropower potential in the Northeast. If that potential was met by 2025, it would create more than 159,000 jobs in the region, the study shows.

"We need simplified state and federal permitting processes for small-scale hydroelectric projects," Illuzzi said. "Vermont, like other states, has the opportunity to generate renewable power in our towns, along our rivers, and at the same time address climate change, generate skilled jobs in construction, and protect the environment. These jobs can't be outsourced."

New players, from private utilities to local communities, are looking to develop small hydro projects, and their experience with the FERC's regulatory process is limited, NHA said. An updated Small Hydro Handbook would be a valuable tool for the industry, the association said. ■

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