

Offshore Energy Project Eyes Submerged Turbines Near the Middle Ground

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A development company has quietly filed plans to build a large underwater tidal hydroelectric farm with up to 150 submerged propeller units between Martha's Vineyard and the Elizabeth Islands in Vineyard Sound.

The applicant is Massachusetts Tidal Energy Co. of Washington, D.C., whose backers are largely unknown.

The company has applied for a preliminary permit from the Federal Energy Regulatory Commission to build the experimental underwater energy farm between the southwestern corner of Naushon Island, Nobska Point in Falmouth and an area west of Lake Tashmoo in Vineyard Haven.

Notice of the permit application was recently published in the Vineyard Gazette. A copy of the application is available at the energy commission's web site, www.ferc.gov. The tidal energy farm is listed as Project 12670.

The application states that each propeller unit, described in the filing as a tidal in-stream energy conversion device, will generate from 500 kilowatts to 2 megawatts through harnessing tidal flow through the sound. The company claims each device can provide power to about 750 homes.

The devices, whose rotating propellers would range in diameter from 20 to 50 feet, would be anchored to the sea bottom in navigable waters between 40 and 75 feet.

The company wants to place the devices in two areas on either side of Lucas Shoal and Middle Ground. The tidal farm area would extend to an existing underwater cable crossing between Vineyard Haven and Falmouth.

Based on figures included in the filing, the built-out tidal farm could generate between 25 and 300 megawatts at any given moment.

That puts the potential generation capacity of the farm at about two-thirds of the estimated maximum output of the 130-turbine wind farm proposed for Horseshore Shoal in Nantucket Sound. Cape Wind Associates, the development company that has proposed the project, estimates its maximum output at about 450 megawatts.

Cape Wind has identified the average combined power demand of Martha's Vineyard, Nantucket and Cape Cod at 230 megawatts.

Little information is available about Massachusetts Tidal Energy Co. In its permit application,

the company lists its agents as Joseph A. Cannon of the Washington law firm of Pillsbury Winthrop Shaw Pittman LLP, and Charles B. Cooper, director of environmental permitting and planning at TRC Environmental Corp. in Lowell.

Neither Mr. Cannon nor Mr. Cooper could be reached for comment yesterday. A telephone message left at the company's listed telephone number was not returned.

Cape Wind, which proposed a wind farm in Nantucket Sound five years ago, now has been joined in recent weeks by two other proponents of alternative energy facilities in Cape and Islands waters.

In addition to Massachusetts Tidal, Quincy developer Jay Cashman also has stepped forward to propose building 90 to 120 turbines in Buzzards Bay. Mr. Cashman filed an application last week with the Massachusetts Environmental Policy Act office, which coordinates responses from state agencies that regulate the proposal.

Cape Wind, meanwhile, has found itself in the role of a federal political football. A conference committee had approved an amendment on a \$8.7 billion Coast Guard spending that would have given the Massachusetts governor veto power over such projects.

But the amendment ran into opposition in the House and Senate, hanging up the Coast Guard bill in the process. Lawmakers now are considering an amendment that would give the Coast Guard commandant the final word on such projects.

Massachusetts Tidal has proposed its underwater energy farm in response to a growing demand for energy in New England, the anticipated market for the farm's output.

Across the United States, the company claims, the residential demand for electricity is estimated to rise by 1.8 per cent per year between 2000 and 2020.

"This is an increase in demand of 52 per cent over current capacity over the next 20 years, representing a market increase of \$17 billion per year," the company states in its application. "This means that due to increased demand, approximately 14 gigawatts of new generating capacity will have to be developed just to keep pace each year."

If the plan is approved, transmission lines for the tidal energy farm would intersect an existing underwater cable crossing and come ashore on the north shore of Vineyard Haven, or in Falmouth, or both.

In its filing, Massachusetts Tidal said the propeller devices and the transmission lines mostly will be placed on submerged state land in Vineyard Sound.

In filing for a preliminary permit, the company is launching a regulatory journey. While the company anticipates a series of project reviews by federal, state and local agencies and committees, the full extent of the potential regulatory review is not known.

Massachusetts Tidal depicts the proposed underwater energy farm as environmentally friendly.

According to the application, the devices generate power from natural marine tidal currents

and therefore are not dependent on fuel. "Removing the fuel component, such as the cost of coal in a traditional power plant, decreases environmental impacts and production costs tremendously. This form of energy production is essentially emission-free with no adverse impacts on air quality and minimal foreseeable adverse environmental impacts overall," the application states.

The company also states that unlike coastal wind farms that have drawn criticism for their appearance, the tidal farm is expected to be placed mostly underwater. Massachusetts Tidal said the designers of the devices will seek to reduce and avoid potential harm to aquatic organisms.

The company anticipates spending between \$1 million and \$4 million on studies in the first three years of the project.

The company describes the technology for the proposed tidal farm as emerging and not yet commercially available.