



Courtesy photo

A team, including students from Tufts University School of Engineering known as "the Nerd Girls," installed a new light in one of the Twin Lights on Thatcher Island in Rockport.

## THACHER: North Tower light shines again

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"The light isn't an official aid to navigation ... but it's something everybody likes to see," St. Germain said. "We pride ourselves on having the last twin lights still lit."

Thacher Island's original twin lights were built in 1771. The present granite towers, rising 160 feet above the sea, have been guiding mariners since 1861. St. Germain said the United States once had eight or nine such twins.

The North Tower went out in November 2004 when heavy surf snapped the battered, often-patched cable.

To relight it, as well as to bring power to other structures on the island, the association turned to a combination of alternative energy sources.

St. Germain said electrical needs were first reduced by switching to bottled propane gas for stoves, refrigerators and hot water and heat in the keepers' houses.

Solar panels were installed to run the light, with sensors that switch the light on from dusk to dawn. The South Tower, which is still an official navigational aid, was already solar-powered.

The North Tower is lit for its historical significance and as a courtesy for local boaters. The towers mark the location of the "Londoner" reef just a few hundred yards east of the island.

St. Germain said two emergency generators have been installed for alternative power, and

### HELPING THE LIGHT

Anyone interested in volunteering time or donating money for the continuing work on the North Tower may call Paul St. Germain, president of the Thacher Island Association, at 978-546-7214 or Sydney Wedmore, chairman of the Thacher Town Committee, at 978-546-3754.

the association plans to add solar power for the keepers' houses.

Help converting the light to solar power came from Karen Panetta, a Rockport resident and associate professor of electrical and computer engineering at Tufts.

"We were looking for help in designing a sophisticated all-solar system for the island about two years ago when we had the feeling that the underwater cable was becoming less reliable as time went on," St. Germain said.

Panetta approached the association, St. Germain said, and said she and the Nerd Girls, would volunteer their services.

The Rockport students got involved through Panetta as well and donated money for one of the solar panels for the tower light through the Rockport Education Foundation.

Katie Farel of Rockport was the student representative who helped install the new solar unit along with Tufts students Valery Thompson, Marianne Stark, Allison Bedwinek, Raeanne Dietz, Sumati Nakarni and Joanna Ruck-

er. Farel put the final touches on the installation, Panetta said.

Rick Columbo of Impact Sciences Corp. and Matthew Heller of Astra Communications Systems served as consulting engineers to Panetta and assisted the students in developing the electrical and engineering plans for the project.

"On Saturday, July 8, at 8:40 p.m., we went to Eden Road to watch the light go off," Panetta said.

Watching the light come back on was the payoff for a year and a half of design work for Panetta's team. Challenges included finding solar panels that would withstand the elements — the team chose panels from Australia that are usually mounted on ocean buoys. The solar panels charge a battery that can light the beacon for five days without direct sunlight.

The team is still working on another challenge: finding a cover for the light that will make it shine the proper color — amber — rather than white.

The department of electrical and computer engineering at Tufts, chaired by Gloucester resident Joseph Noonan, provided grants and equipment for this project. The rest of the money was raised by the association.

"We also plan to use solar power to light the stairway in the North Tower," St. Germain said. "Equipment is ready to be installed this summer. We hope to have the entire system up and running before the island closes for the winter in October."