

Hawaii Marine

Historic house nets 'ZERO' power

Kristen Wong
Photojournalist

A historic home made more history Wednesday as Col. Robert Rice, the base commanding officer, opened his newly-converted Net Zero Energy Home to guests during the Heleloa Neighborhood Blessing Ceremony. Guests included personnel from the Installations, Environment and Logistics Directorate, Base Facilities and Forest City Military Communities.

"It was eye-opening to me how much electricity we spend on this base," Rice said. "We need to get energy self-sufficient in the islands."

Rice decided to make his own home an example.

"A Net Zero Energy home is designed to be energy neutral over a one-year period," said Will Boudra, vice president of Development at Forest City Military Communities Hawaii. "In the case of the Eisenhower House, this means that the energy produced by the solar photovoltaic system that is mounted on the roof will equal the amount of energy the home will consume throughout the course of the year."

The house on Nimitz Road will collect and store energy from the sun

during the day, and use that stored energy in the evening. The photovoltaic system also has a meter on the side of the house indicating how much energy has been collected.

In his research into energy consumption aboard the base, Rice said he found that Marine Corps Base Hawaii spends more than Marine Corps Base Camp Lejeune or Marine Corps Air Station Miramar, though this could be partially attributed to the higher cost of electricity in Hawaii.

To upgrade the home, in addition to receiving funds from the U.S. Department of Energy, Forest City worked with ConSol, a California company specializing in energy consulting, to help them with the project. ConSol analyzed the historical houses, trying to find a cost-effective way to convert them while maintaining its historical appearance. The historic Eisenhower House, built in 1941, is a one-story ranch house with four bedrooms, and once hosted President Dwight D. Eisenhower in 1960.

"It's been great to work with Forest City," said Rob Hammon, principal, ConSol. "They've been very accommodating and interested

See ZERO, A-3

ZERO, from A-1

in trying to jointly work together to come up with the solutions that would improve the efficiency of the homes and work for them and the community."

Forest City worked with historical preservation professionals to maintain the original appearance of the house while installing the new features. The photovoltaic roofing, for instance, does not require direct sunlight to work, and it was installed on the roof facing away from the street.

The windows of the house were a challenge, because they could not be replaced. Instead, in keeping with historic preservation goals, the windows were tinted using a specialized window film. The design of the older windows on the Eisenhower house were prone to air leaks that wasted energy.

"One of the important things to do is seal the home and keep out the humidity and heat," Hammon said.

The house has energy saving features including radiant energy barriers to keep out heat, solar tubes that provide natural light for rooms, Energy Star certified appliances, and spray-foam insulation.

Forest City plans to open two more Net Zero Energy Homes in the near future. These houses are timely considering the base's goal of reducing its energy consumption by 10 percent in 2011. At the blessing, Rice said the base community has become more conscious of their consumption since the implementation of the Resident Energy Conservation Program.



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Tom Henneberry, president, Forest City Military Communities, and Col. Robert Rice, base commanding officer, ceremoniously break the maile lei during a Hawaiian blessing of the Heleloa neighborhood project. Guests attended a small ceremony and toured Rice's residence, which was outfitted with several energy saving features.

Through RECP, families living in Forest City homes have been given mock bills since September detailing how much energy is actually used in their household. In January, Forest City will be distributing actual bills to residents. Residents used 15 percent less energy in September and October of this year than

during the same two months last year, according to Rice.

"We are moving definitely toward energy efficiency, energy saving," said Jim Ramirez, the vice president of construction at Forest City Military Communities Hawaii. "Everybody's aware it's very, very important."