Technology benefits Weitchpec

By Suzanne Zalev
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EUREKA — Under ideal conditions, it's at least a 20-minute drive to the nearest public phone from Weitchpec.

Residents of that area might have to borrow a radio or cellular phone, but those are only about 30 to 40 percent reliable, said Sef Murguia, planning and community development director for the Yurok Tribe.

That's about to change.

The first signal from a new phone system — developed largely at Humboldt State University — is scheduled to be broadcast at the end of March. Initially, there will be public phones and phones at the tribal offices.

There might be a signal to Johnson's Village, north of Weitchpec on the upper Yurok Reservation, by the end of June, Murguia said.

A microcell to be installed around the end of the year will make cellular phones more reliable, he said. Less than a quarter of area residents have cellular or radio phones, he said, and these are mostly tribal employees.

Providing improved phone service to the area requires a series of repeater stations because of the surrounding mountains. A repeater station that will link the system to Eureka is planned for Schoolhouse Peak, located in Redwood National Park between Orick and Weitchpec.

Fuel-cell technology developed at HSU will ensure the repeater station has a backup power source. Its primary power source will be solar and electric panels, but a secondary source is required because of Humboldt County's rainy winters.

The fuel-cell generators are clean, quiet and more effective than motor generators, said Peter Lehman, director of the Schatz Energy Research Center at HSU. The technology has been around for 150 years but was improved thanks to the space program, he said.

Fuel cells differ from batteries in that batteries discharge as they are used and must be recharged or replaced, while these cells will keep running as long as they have fuel.

The fuel is hydrogen. Combined with oxygen, it produces energy. The byproduct: water vapor.

Twelve tanks of hydrogen should keep the repeater station running all winter, Lehman said. The tanks are available through a local oxygen supplier and replacing them is easier than recharging batteries.

Park officials don't want a backup diesel or propane generator in the park, Lehman said, and this meets the fossil-fuel-free requirement.

A $75,000 gift from Louis Schatz, founder and board chairman of General Plastics and longtime HSU benefactor, will enable researchers to design, build and install the generator. The university will operate and maintain the system for three years.

"This real-world application of the fuel cell technology provides a public, and perhaps lifesaving, service to local people," Lehman said. "It will also serve as an important test and validation of the durability of fuel cells."

The cells are scheduled to be installed this summer.

While there are no plans to provide phone service to every home in the area because of the expense, Murguia said he thinks it will have a dramatic impact on public safety and convenience.

"At the very least there will be a place there that people can go to make a call," he said.

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