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Sacred Wind Communications Connects Navajo Lands

By Tennille Shields, NTCA Senior Writer/Editor

On any given day in northwestern New Mexico, in an area surrounding the Navajo lands, one can see the locals standing by the side of the road waving a handkerchief in their hands. To those who are from the area, this is simply an indication that their neighbor could use a ride to a loved one's house or the nearest town—nearly 60 miles away—to use the telephone.

This has been a way of life for hundreds of people living on Navajo lands. "Of the estimated 2,500 remaining homes in our territory without phone service, about one-fifth to one-fourth are off the electric grid due to governmental right-of-way impediments," said John Badal, chief executive officer of **Sacred Wind Communications** (Albuquerque, N.M.).

Searching for a way to provide phone service to those customers without electricity, Sacred Wind Communications began trialing in Spring 2011 two different solar-powered telephone units that would eliminate the need for electricity. The company constructed a hybrid system that uses fixed wireless radio to reach homes. Badal said the radio antenna can reach up to 20 miles from the tower, and fixed wireless minimizes encroachment on tribal lands.

The solar technology provides 7 amps and 20 volts of power with a battery that holds a charge for up to seven days. This has been a welcome change for the elderly and those with ill health who no longer have to worry how they will summon help if the need arises.

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Cordova Telephone Cooperative (Cordova, Alaska) deploys undersea cable from the deck of a 200-foot barge. Two medium-sized tugs provided the power to move along at approximately two knots. The entire deployment took less than three days.

Cordova Telephone Cooperative: Delivering Advanced Communications Services to the End of the Road

By Jonah Arellano, NTCA Communications Coordinator

Cordova Telephone Cooperative (Cordova, Alaska) serves approximately 900 members throughout a 4,000-square-mile area of southcentral Alaska. The area encompasses vast mountainous regions, glaciers and ice, and is surrounded by the Chugach National Forest and Wrangell-Saint Elias National Park, overlooking parts of the Gulf of Alaska and all of Prince William Sound.

Despite being on the mainland, there are no roads to Cordova. Residents and visitors

rely on container shipments, the Alaska Marine Highway Ferry System and Alaska Airlines to reach the community.

"Within our network," said Paul Kelly, general manager of Cordova Telephone Cooperative, "we rely on bush planes, four-wheelers, boats, helicopters and luck to access a great deal of our territory and remote sites. We also rely on bear spray to protect us when we arrive!"

Given the cooperative's unique service territory, access to communications services is imperative. For many years, a satellite connection to the world served its purpose, but with the advent of the Internet and the demand for broadband, satellite quickly became a technology of last resort. So the cooperative recently took on two projects—an undersea fiber optic installation and a cellular buildout—to deliver advanced communications services throughout the community.

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Cordova Telephone Cooperative: Delivering Advanced Communications Services to

An Undersea Adventure

After eight years of planning (and hoping), the cooperative rolled out 100 miles of undersea fiber optics from the deck of a 200-foot barge. The fiber optic cable will allow for more bandwidth capacity at an affordable price, with the ability to grow the bandwidth capacity.

"I believe we now have the distinction of being the smallest member of the North American Zone organization that responds to repair these undersea cables if ever there is a need," Kelly quipped.

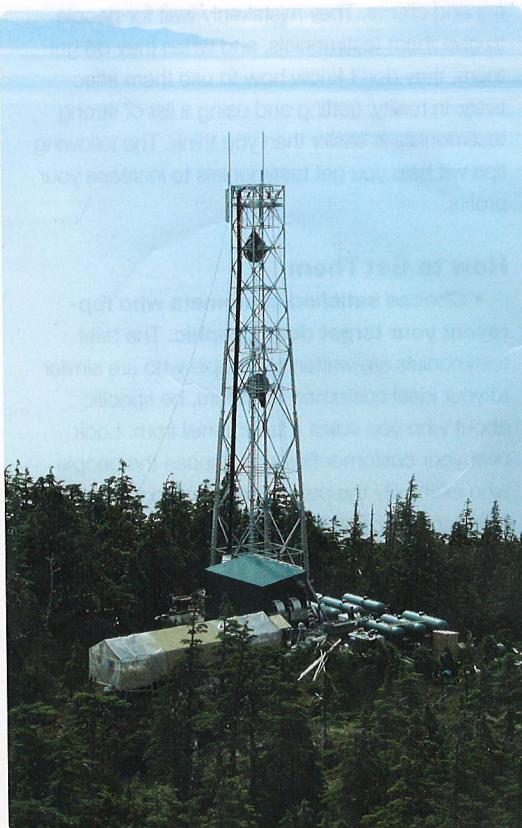
While the entire deployment took less than three days, planning and purchasing the cable proved much more challenging. The first hurdle was obtaining the cable. The cooperative purchased it from China, as the U.S.-based manufacturers had a 12- to 18-month waiting period. Finding a contractor also proved difficult, as many only were interested in larger scale projects.

In addition, obtaining a loan through the Rural Utilities Service (RUS) was difficult. The project represented uncharted territory, so the existing boilerplate contracts did not work for this project, Kelly said.

Given the way U.S. regulations have shifted to where reliable and stable middle mile projects with abundant broadband capacity for the future are in the public interest, he shared, the cooperative received support and encouragement from regulators along the way. "Now, our members enjoy an incredible broadband experience even here where there are no roads," he said.

"This accomplishment now qualifies us for 'the new rules' that the FCC has imposed in the USF [Universal Service Fund] and ICC [intercarrier compensation] reform order, as well as allows us

to deliver the Internet and wireless experiences the modern-day customer has come to expect or take for granted," he continued. "It will also obviously be a wonderful educational tool for the schools, a medical revelation for the local hospital and eventually a tool the native corporations will find useful. Having a fiber optic connection to the world will also change the way people watch video of all kinds and replace TV for many. We are already starting to see that transition taking shape."



The Naked Island cell site in Prince William Sound allows fishermen to remain connected while offshore.

"It [the Internet] will also obviously be a wonderful educational tool for the schools, a medical revelation for the local hospital and eventually a tool the native corporations will find useful."



the End of the Road

A Cellular Buildout

During the winter months, most residents stay in town, so obtaining access to a telephone is not a problem. During warmer seasons, however, residents and visitors tend to venture out into the wilderness, so having the capability to remain connected, especially in case of emergencies, is imperative.

Nine years ago, Cordova Telephone Cooperative filed on and acquired the FCC cellular license from AT&T in its service territory. In the summer of 2011, the cooperative completed a \$2 million cellular buildout in Prince William Sound in six weeks, just in time for the commercial fishing season.

"This completed our wireless network, allowed us to compete in an area where there was only one provider for the past 18 years, and literally will save lives in the future because someone out in the middle of nowhere will be able to complete a GSM call for help in an emergency," Kelly said. "The first day of operations, without anyone knowing it was even up and running, there were 3,000 calls and 4,500 text messages processed on it.

AT&T wouldn't have done it and freely gave up the license to us."

Looking Ahead

Kelly emphasized the critical need for providing advanced communications technologies in Cordova and throughout rural America.

"There is a reason for cooperatives in rural places, and there is a reason for RUS and USF funding as well. It is as important to connect rural America as it is to have 100 Mb speeds in Silicon Valley

and Bellevue, Washington," he said. "These projects represent a tremendous accomplishment for a very small, rural telecommunications cooperative. It represents the future of our business, as well as that of the community of Cordova."

Looking toward the future, Kelly believes that young people are Cordova's most valuable resource. Although many move out of the area to attend college and begin their careers, rural youth bring to the table a unique perspective and an appreciation for nature that needs to be shared.

"Without awesome communications technology placed at their feet, they may not be as informed or competitive," he said. "This [fiber optic] cable, complete with its capacity and speeds, lets them be just as connected and informed as their urban counterparts and helps prepare them for college and their futures. It is precisely what the Telecommunications Act of [19]34 and again of [19]96 hoped to achieve." ■



This tug serves as a support vessel. The cruise vessel in the background was used to house the workers throughout the job.