



# News from RFS

November 15<sup>th</sup>, 2011

## United Utilities Inc. relies on RFS microwave antennas to bring terrestrial broadband to the people of Southwestern Alaska



Meridien CT, November 15th, 2011 - A new fiber optic and microwave broadband network in Southwest Alaska is literally changing peoples' lives. At the heart of this historic next-generation network is a backbone network based on RFS microwave antennas.

It's hard for most of us to imagine what it's like to live in a community as remote as those in southwestern Alaska. Here, going to the doctor often means an airplane flight, an overnight stay and time away from loved ones. School trips to museums or art galleries outside of the community also require costly flights. Education and training opportunities are limited. Hospitals, schools, businesses and even homes may have Internet access through a satellite connection. But the latency and high cost of satellite connections make them impractical and expensive.

### Terrestrial broadband changes everything

The TERRA-Southwest — or simply TERRA-SW — project changes everything for the people of Southwest Alaska. TERRA is an acronym for “Terrestrial for Every Region of Rural Alaska”. TERRA-SW brings the first high-speed fiber optic and microwave network to the Bristol Bay and Yukon Kuskokwim Delta regions. The network is being built by United Utilities Inc. (UUI), a wholly owned subsidiary of Alaska's largest telecommunications company, GCI. It's funded with a 44 million dollar grant from the USDA Rural Utilities Service and The American Recovery and Reinvestment Act as well as a 44 million dollar loan to UUI. With a 100 Mb/s terrestrial broadband connection to every village in the region, people enjoy a new world of services and opportunities:

- Access to high-quality video conferencing enables telemedicine services such as remote consultations

### TERRA-SW by the numbers

The TERRA-SW project brings terrestrial broadband connectivity to:

- 65 villages
- More than 9000 homes
- Nearly 150 hospitals, clinics and schools

It includes:

- A backbone of 14 microwave sites with RFS microwave antennas
- 9 fiber segments with 290 miles of submarine and land-based cable and 7 cable landing stations



and remote x-ray analysis. Quality of patient care improves. Travel costs for medical services plummet. And people benefit from the support of family and friends when they most need it.

- Access to e-learning opportunities and educational resources lets students further their education without extensive travel. They can visit online libraries and universities. And they can go on virtual field trips to museums and art galleries around the world.
- Access to online professional development and training opportunities lets people expand their knowledge and skills to bring new expertise to their communities.
- Affordable access to world markets and business resources stimulates economic development, encourages entrepreneurship and helps businesses and local industries, such as fishing, mining and oil, grow.
- An expanded communications network improves wireless communications among villages and first responders. It also increases safety for remote workers, hunters and travelers.

#### **RFS microwave antennas play a crucial role**

RFS microwave antennas in 6, 8 and 10 foot diameters form the backbone of the TERRA-SW network. The TERRA-SW team also selected RFS waveguides, connectors and dehydrators for the project. “The RFS antennas are an extremely crucial part of the network,” says GCI Senior Project Engineer, Patrick Goodyear. “The whole network connection back to Anchorage relies on RFS microwave antennas. If we lose a path due to failures among these antennas, it could affect dozens of villages, or potentially the whole network.”

With Alaska’s harsh mountaintop conditions, the TERRA-SW team knew it needed microwave antennas that could combine robust structural design, reliability and high performance. “We were very impressed with the unique combination of ruggedness and technical capabilities delivered in the RFS microwave antennas. We liked the fact that RFS antennas include extra reinforcements to withstand snow and ice. We also liked the fact that RFS offers a single antenna to cover both the lower 6 GHz and upper 6 GHz frequency range and another to cover the 11 GHz band. And they offer very good cross polarization discrimination in a dual-polarized antenna.”

Asad Zoberi, RFS’ Product Manager for Microwave Antenna Systems, says RFS continually innovates to ensure its microwave antennas deliver high performance in the harshest conditions. He describes the structural innovations behind the RFS microwave antennas: “We specifically designed these antennas to perform in high ice and snow conditions such as those found on Alaska’s mountaintops. All of the designs have been structurally analyzed for EIA/TIA 222F-specified wind loads and loading due to ice. They feature an advanced backing and mounting system for increased structural strength as well as strategically located sway bars to support higher ice and wind loads.”

#### **Prompt and personal service set RFS apart**

The high quality of RFS’ microwave antenna products was just one of the factors that set the company apart from the competition. RFS’ fast response times, attention to detail and personal service also strongly influenced the TERRA-SW team’s decision to name the company as its preferred supplier for microwave antennas. “The RFS sales and support staff are a great advantage,” says Goodyear.

The relationship between RFS and the TERRA-SW team got off to a strong start when RFS held a “StayConnected Days” event at the customer’s facility. RFS shared literature and presentations about



its offerings then engaged in open discussions to gain an in-depth understanding of the TERRA-SW team's key challenges and requirements.

RFS' focus on listening to customer needs and quickly responding was an important factor throughout the project. "When we asked a question, being able to get a quick response was pivotal to what we were doing — especially with last-minute questions. RFS has provided the best support we've had on any kind of antenna product," says Goodyear.

"We were really pleased with the outcome of the TERRA-SW project and we really appreciated the opportunity to contribute to this very important network," says Suzanne Kasai, Business Development Manager for Enterprise Markets at RFS. "Because all of the RFS products used in this project are made in and shipped from a single location, we were able to provide tight control of the logistics and the quality. This capability, combined with the fantastic efforts from Matt Grella of our inside sales team, meant we could ensure a very positive customer experience overall."

#### **A long-term partnership**

All RFS antennas in the TERRA-SW project are now operational and are part of multichannel testing across the entire network. But RFS' partnership in TERRA projects does not end here.

RFS will be involved in the next phase of the TERRA project — TERRA Northwest, or TERRA-NW — which also includes a microwave backbone network. "With the experience we've had with RFS in the TERRA-SW project, RFS is the first company I'm going to look to when I need antennas," says Goodyear.

#### **About RFS**

Radio Frequency Systems (RFS) is a global designer and manufacturer of cable, antenna and tower systems, plus active and passive RF conditioning modules, providing total-package solutions for wireless infrastructure.

RFS serves OEMs, distributors, system integrators, operators and installers in the broadcast, wireless communications, land-mobile and microwave market sectors. As an ISO compliant organization with manufacturing and customer service facilities that span the globe, RFS offers cutting-edge engineering capabilities, superior field support and innovative product design. RFS is a leader in wireless infrastructure.

For more information: [www.rfsworld.com](http://www.rfsworld.com). Follow RFS on Twitter ([www.twitter.com/RFSworld](https://www.twitter.com/RFSworld)).

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