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PIONEERING CLEAN ENERGY TECHNOLOGIES IN THE LAST FRONTIER

Prince of Wales Island, AK service personnel, Tony Wise and Fred Peratrovich, exemplify the pride AP&T employee-owners share.



ALASKA POWER & TELEPHONE COMPANY

UTILITY REDUCES CARBON FOOTPRINT THROUGH HYDROPOWER

by Randy Craig

Situated in a state best known for its oil and gas reserves and turn-of-the-century gold rushes, the employee-owners of Alaska Power & Telephone Company live and work in some of the most rugged and unforgiving conditions of any on the planet. AP&T's service areas include

communities that stretch from above the Arctic Circle to the southernmost tip of Southeast Alaska's panhandle. "Alaska attracts adventurous types," says Robert Grimm, president and chief executive officer of AP&T. "They don't mind going to work when it's 50°-below. They are an extraordinarily hearty

and committed group."

That kind of dedication, coupled with strong visionary leadership has fashioned AP&T into what may be seen as a bit of a dichotomy in the Alaskan utility market. Against a backdrop dominated by carbon-based technology headlines, in

The newly built AP&T
network antenna site on
Kasaan Mountain, Prince
of Wales Island, AK.

COVER STORY

ALASKA POWER &
TELEPHONE COMPANY



“We were criticized early on during construction of our first low-impact hydro projects because the hydroelectric power was costing more than the power generated by diesel. But the bigger picture has proven our efforts were well worth it.”

Robert Grimm, President & CEO

13 short years AP&T has shifted its energy generation footprint from 90 percent fossil fuel based production, to over 70 percent renewable resource based generation. “By taking a leadership role in the development of clean energy technologies in Alaska,” notes Grimm, “we’re simply reinforcing the fact that both technologies have a place in securing the future energy needs of Alaskans.”

Customers reap the benefits of AP&T’s investments in non-polluting, renewable energy. From low-impact certified hydro to current investments in wind and river-turbine generation, continued development of these technologies help insulate

customers from the wild fluctuations associated with fossil fuel based energy production. According to AP&T, it produced more than 53 million kilowatt-hours of hydroelectric power in 2007. To generate the same amount of power using diesel at \$2.50 a gallon would have cost almost \$5.8 million more.

“We were criticized early on during construction of our first low-impact hydro projects because the hydroelectric power was costing more than the power generated by diesel,” Grimm says. “But the bigger picture has proven our efforts were well worth it. Customers are paying less than in many other areas of

Alaska.” AP&T cites its willingness to develop long-term reliable energy and the expertise of its employees as keys to its success as one of Alaska’s more progressive utilities.

Last year, AP&T celebrated its 50th year in the Alaskan energy and communications business. The company formed when Arthur and Marguerite Garrett partnered with Hector Munn to buy controlling interest in the Skagway electric and telephone utilities in 1957, two years before Alaska achieved statehood.

The company invests in research, design and development of sites conducive to

Advances in Hydro Technology Create Opportunities for AP&T

▶ THE KASIDAYA CREEK HYDROELECTRIC PROJECT

Completed in 2008, the Kasidaya Creek hydro project is helping to offset AP&T's need to use diesel generation in Skagway and Haines, AK. The Kasidaya Creek project will annually generate energy for the equivalent of roughly 1,100 residential homes. One of the greatest benefits of Kasidaya, is that it will provide AP&T the opportunity to "bank" water, which will decrease its use of diesel-based energy during the winter months, when the water levels are decreased due to harsh weather conditions. Without the proper water levels, hydro-production must cease, but "banking" water can help hydro-production last a little longer than normal during cold months.

Right: Foundation work on the Kasidaya Creek Hydro Powerhouse persevered despite frigid winter working conditions for the crew.



▶ THE YUKON RIVER HYDROKINETIC PROJECT

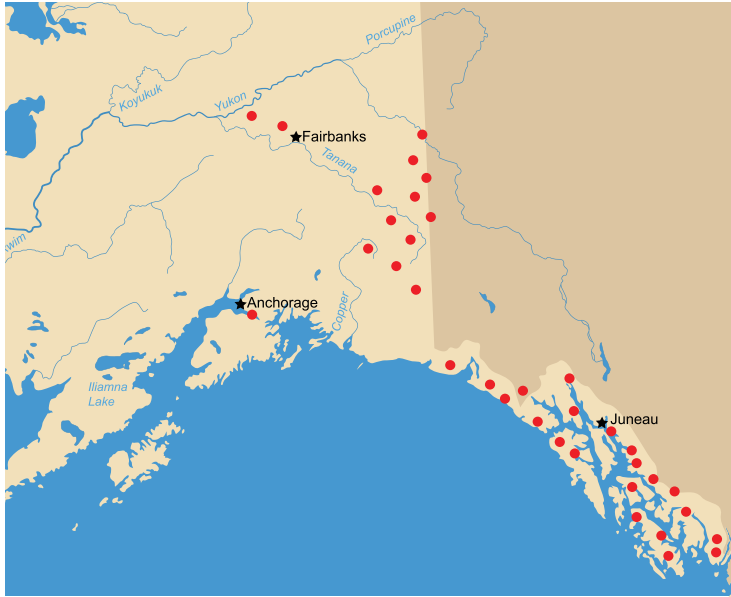
AP&T is on track to complete one of the first hydrokinetic power projects licensed by the Federal Energy Regulatory Commission (FERC) in the spring of 2009. Located in an isolated community along the Yukon River, the hydrokinetic turbines will provide about 100 kilowatts of power during the summer months to Eagle, AK residents. This new energy system will displace up to 57,000 gallons of diesel generation fuel annually for the 200 residents of Eagle. AP&T started researching hydrokinetic energy—energy from natural wave motion, not involving a dam—in the late 1990s, and if all goes well after the first three years of use in Eagle, it hopes to standardize and replicate the turbines in other rural communities along river ways.

For decades, Alaska has been a leader in hydroelectricity as an alternative source of energy, which involves the use of dams, but with finance and environmental impact issues, hydrokinetics open a door for a new way to safely—and in the long run—cheaply create energy.

In 2008, the focus of hydrokinetics shifted from the ocean to rivers, and over the past two years, Alaska has seen a large growth in startup companies and small local utilities rushing to study projects that generate electricity without massive dams. As of October 2008, the FERC had issued 13 preliminary permits for companies to study proposed hydrokinetic projects, one of which was the Eagle turbine.

The Yukon project helps AP&T to further lessen its carbon footprint. Twelve years ago, AP&T was generating 99 percent of its energy using fossil fuels; today, 70 percent of its energy is created using renewable resources.

Left: Hydro turbines lowered into water for experimentation; if all goes well, this new technology would be used in AP&T's new hydro projects.



▶ SERVING ALASKA

AP&T currently provides service to areas around the Arctic Circle, in the Wrangell Mountains and throughout the islands of southeast Alaska. Because Alaska cannot be geographically connected by an electrical grid, each community must generate its own energy—thus why hydro-based projects are most useful and important to isolated communities near water.

“We have complex requirements for attracting and retaining the necessary technological expertise, and we believe our employee ownership has allowed us to achieve our goals in that regard.” *Robert Grimm, President & CEO*

▶ STRATEGIC BENEFITS OF LOW-IMPACT HYDRO

Aside from environmental and customer-service benefits, AP&T received Renewable Energy Credits (REC) for the Goat Lake and South Fork hydropower projects. These RECs, also known as Green tags or Tradable Renewable Certificates, provide production subsidies for electricity generated from renewable sources.

In states that have a REC program, a green energy provider (such as a wind farm) is credited with one REC for every 1,000 kWh or 1 MWh of electricity it produces. For reference, an average residential customer consumes about 800 kWh in a month.

In addition, AP&T has projects qualified for Production Tax Credit for Renewable Energy for each kWh produced for 10 years.

low-impact, renewable-resource energy, Grimm says. This vision and commitment has led to both profits and environmental benefits.

“To take a leadership role in bringing clean energy technologies to our Alaska markets is a natural extension of our vision as an employee-owned company and a practical opportunity to minimize our threshold of energy production-related greenhouse gas emissions in the field,” he adds.

To complement its six fully operational hydropower projects, AP&T has set plans to ensure future growth:

- The company plans to bring its new three-megawatt Kasidaya Creek Hydropower Project online in late 2008 (at time of press).
- Eight other hydropower projects are in various stages of development, including

the Yukon River Hydrokinetic Project, which will use one of the world’s first hydrokinetic in-river turbines.

- AP&T hopes to diversify its energy profile further with the addition of two wind power projects run by newly formed subsidiaries, Alaska Wind Energy LLC and Village Windpower, LLC.
- A new microwave communications network spanning the length of southeast Alaska is scheduled to be operational by mid-2009. The project is poised to provide much-needed additional voice and data transport capacity in the region.

Like many of AP&T’s projects, the above-mentioned hydrokinetic project is helped by grant funding. Pursuing grants along with strategic partnerships has helped expedite these kinds of projects. “One such project under consideration is the 75-megawatt Soule River Hydro site. Solo it is too large an undertaking, so we reach



Generation technician, Tim Roseburg, helps keep some of the "back-up iron" ready for service in Skagway, AK.

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Robert Grimm, President & CEO

out to others, form consortiums, spreading the risk and responsibility over partnerships,” Grimm says.

This strategy has helped make the company profitable. Net income last year totaled more than \$3 million, down slightly from 2006 but still representing the company’s fifth consecutive year of profitability. AP&T generated \$37.6 million in revenues last year, with energy accounting for \$18 million.

Profits matter, but environmental impact is always a consideration, too. “I don’t believe that any of our competitors, let alone many utilities in the

nation, can state that they have shifted their energy generation carbon footprint from 90 percent fossil fuel to over 70 percent clean renewable resource-based generation in just over a 13-year time frame,” Grimm says.

Another factor working in AP&T’s favor: its 144 employees share in the ownership of the company, which creates an internal culture that has proven good for business. Grimm says employees are tuned in to the day-to-day business. Multilayered management and service structures don’t hamper decision-making. Ultimately, the company culture enables AP&T to make quality

decisions on a relatively short timeline so as to capitalize on emerging opportunities and technologies.

Employee ownership also aids in employee retention, which contributes to the company’s success. “We have complex requirements for attracting and retaining the necessary technological expertise, and we believe our employee ownership has allowed us to achieve our goals in that regard,” Grimm says. “You have to balance what you’d like with what you can afford to have.” And in today’s volatile economic climate it’s a balancing act that AP&T seems to be performing exceptionally well. *EIQ*

Our Primary Approach To
Alaska's Increasing Energy
Needs Is Perfectly...

CLEAR.

As the leading developer of Low Impact renewable resource hydro projects in Alaska, Alaska Power & Telephone Company generates more than 70% of our customers electrical energy needs via Sustainable Clean Energy Technologies.



With Wind and River Turbine projects in the works, we're not just talking the talk... we're walking toward our energy future.



Kasidaya Creek Hydro Project, coming online in Q4 of 2008

www.APTalaska.com