On April 26, 2008, a group of about 30 people from 12 different countries toured AVEC’s wind-diesel power generation facility in Kasigluk in conjunction with an International Wind-Diesel Workshop held in Girdwood, Alaska.

These engineers and officials, some of whom hold high-level positions, represent various national and international organizations and large utilities and are all involved in testing, evaluating or building wind generation systems to operate in conjunction with isolated diesel generating systems.

Everybody was extraordinarily impressed with our facilities and amazed we have extremely high-tech facilities in such remote areas with challenging logistical and environmental conditions.

“Kasigluk is one of the best, smoothest wind operations I have seen,” said David Connelly, Principal of Ile Royale Enterprises of Northwest Territories Canada. “The system is highly competent and having the spare energy dumped as heat into the community hall is excellent.”

Up until conference time this tour was estimated to have maybe eight or nine people attend. However, AVEC staff at the conference learned that last minute interest in AVEC efforts was strong and that a surprising 40 people might participate.

Norman Miller, an AVEC employee on duty in Kasigluk, had been delegated the task of being chauffeur and host and expressed genuine concern. He, Brent Petrie, Mark Bryan and sponsors from Northern Power and STG, Inc. worked on logistical arrangements, including chartering airplanes. One issue was how to get all the visitors from the airport to the power plant facilities with one snowmobile, one ATV and one handmade sled as cold temperatures and alternating patches of snow, mud and water made walking difficult.

Victor Keene, one of the local plant operators, and Moses White, a local resident trained in wind turbine maintenance and repair and an employee of STG, Inc., provided assistance chauffeuring the guests and answered numerous questions about the wind-diesel system.

“Victor and Troy White (the other power plant operator) take pride in...”
doing their jobs well,” said Norman Miller. “They understand the generating system and keep the power plant facilities really tidy and well organized. During the tour the floors were so clean you could almost eat off of them. That helped make a good impression on the visitors.”

“I like to always keep the power plant clean,” said Victor. “Spending time with the visitors was interesting. Some of them were from Russia and Denmark and they asked lots of questions, including where I received my training. I answered their questions the best I could. They were impressed that a small, remote village like Kasigluk had such a high-tech power plant.”

Victor attended both the basic and advanced power plant operator training at AVTEC plus he has received a lot of on-the-job training on the automated control panels and engine-generator sets in the new power plant. Victor’s knowledge and understanding of the advanced system was apparent during the tour. Moses received Wind Turbine Certification from Northern Power’s manufacturing facility in Vermont and was also able to answer many questions about the turbines and their operation.

“I listened to engineers and men with PhDs ask technical questions and Victor and Moses were competent at responding,” said David Connelly. “Although they used words with smaller syllables, concepts were clearly exchanged and they clearly understand what they are doing.”

AVEC won the 2007 Wind Cooperative of the Year Award from the U.S. Department of Energy’s Wind
Powering America Program and the visitors to Kasigluk have a clearer understanding of why AVEC deserved to win this prestigious award. AVEC’s staff pioneered the integration of wind into our isolated village diesel systems and it has been a major learning experience. The foremost benefit is the reduction in diesel fuel consumption, which reduces fuel costs for rural Alaskans hit by escalating price increases.

“The trip to Kasigluk was the highlight of the wind-diesel meeting,” said Larry Flowers, of National Renewable Energy Lab, one of the workshop organizers. “Seeing the three turbines spinning and knowing they’re saving 30- to 40,000 gallons of fuel each year and the associated cost was inspiring. AVEC is leading the way to a more sustainable village power future.”

Kasigluk’s diesel power plant, the bulk fuel storage and the wind turbines were all erected in 2006 by STG, Inc. AVEC personnel did the final interior installation and electrical work to get the power plant modules connected and up and running and also did the distribution system upgrades.

Kasigluk has three Northwind 100 100-KW wind turbines with a generating capacity of 300 kW. Total wind-diesel generating capacity is 1,624 kW. Power is also provided to nearby Nunapitchuk through a distribution intertie.

Since commissioning in July 2006 through April 2008 Kasigluk’s wind turbines provided about 23% of all the electricity used in Kasigluk and Nunapitchuk, which has displaced nearly 65,400 gallons of diesel fuel. In 2007 alone diesel worth $72,000 was displaced by wind and at 2008 fuel prices would equal about $150,000.

Installing the wind turbines involved a lot of teamwork from many different organizations, especially our funding partners that provided the initial financial resources necessary to build these projects. Thanks to the dedicated efforts of our talented, determined staff and partners, we have overcome substantial challenges, including building tower foundations in changing permafrost conditions.

“AVEC is leading the way to a more sustainable village power future,” said Larry Flowers of National Renewable Energy Lab.

AVEC’s members should be proud of the advances their cooperative has made towards installing renewable energy in some of our communities and increasing village self-sustainability. We are becoming known as a role model for other remote villages.

“The village residents are very proud of feeling like they are getting back some of their self-sustainability and reducing diesel fuel consumption,” said David Connelly, who took time to randomly speak with some elders. “They are also proud their local plant operators are competent and capable of operating the advanced wind-diesel generating system.”

AVEC would like to thank the following people for making the tour a success: Ian Baring-Gould of NREL, who was in charge of organizing the tour; Dave Myers and Jim St. George of STG, Inc. provided amazing last-minute help with tour logistics; Brett Pingree of Northern Power provided lunch and a substantial financial donation towards the air charter; Norman Miller of AVEC; Moses White and Victor Keene of Kasigluk; Martina Dabo and James Jensen of Alaska Energy Authority; and Chris Rose and Hannah Manser of Renewable Energy Alaska Project.

“The Kasigluk field trip was a smashing success,” said Brett Pingree, a Vice-President of Northern Power, the company that sells the Northwind turbines. “Everything went without a hitch. The tip of the iceberg is just showing the great work we are doing as a team here in Alaska; there are more successful projects on the way.”

Victor Keene summed up the eventful tour this way: “I had fun. Send more visitors! We would be more than happy to answer more questions and show our power plant and wind turbines to other interested people.”

Quyana caqnek to Kasigluk’s residents for welcoming the visitors to their village. The Russian visitors were impressed with the Russian Orthodox Church and were pleasantly surprised to be there during the Easter celebration.