

Protecting Our Environment

WHAT OTHERS ARE DOING ❖ HOW YOU CAN HELP

How One Man Makes Waves Where It Matters

(NAPSA)—Water flows through every part of Dick Fisher's life. It is the focus of his work. It is tied into his ethics. It sustains his recreation.

Things didn't start out this way. With a bachelor's degree in physics and master's in engineering mechanics, Fisher first worked as a wind tunnel test and rotor systems engineer at Boeing. His goal was to make a better helicopter rotor.

After a move to Allis Chalmers in York, Pa., he became a hydro-turbine engineer and eventually vice president of technology. Allis Chalmers was acquired by Voith which joined Siemens in 2002 to form Voith Siemens Hydro Power Generation.

For more than three decades, Fisher's goal has been to build a better turbine for the electric power industry, one that takes the environment into consideration.

"Anything I can do to match our equipment to the needs of our customers and the environment is an interesting challenge to me," he said.

One of the greatest improvements in the environmental impact of hydroelectric turbines has been to make them more fish-friendly.

"Environmentalists once viewed turbines as little more than Cuisinarts," said Fisher, "where they envisioned thousands of fish being chopped to bits. Voith Siemens knew it was a bad rap, that turbines—big turbines, in particular—weren't nearly as harmful to fish as some believed."

The company created a public education campaign to clear up such misconceptions and at the same time worked to make turbines even safer for fish.

The studies found that fish



Dick Fisher

mortality problems differed in the southeast and the northwest. In the southeast, where hydroelectric plants are installed in steep-walled river valleys, the problem was a lack of oxygen in the discharge water.

In the northwest, the problem was that fish, in particular salmon, could be injured by turbine parts or by turbulent water. Clever engineering has dramatically reduced both problems. The next challenge is getting rid of the oil and grease lubrication requirement in turbines. A typical turbine may contain several hundred gallons of oil and while leaks are rare, they can occur.

"We'll replace the bushings in the turbine hub with oil-less composite bushings," said Fisher. "We'll also replace the greased wicket gate bushings with grease-less ones. The trick is to design the internal hub and spec the right components to ensure proper lubrication and prevent corrosion."

When Fisher takes a break from work, it's to spend more time around water. An avid swimmer and sailor, Dick Fisher makes waves where it matters.