

PROTECTING AMERICA

An Innovative Approach To Updating America's Water Grid

(TVA)—The Blackout of 2003 and the failure of the power grid may have shed some light on another challenge facing this nation.

The power grid failure came without warning and cost the public billions of dollars. Even more disturbing is the fact that America's infrastructure problems don't end with the power grid.

The country's water system—much of it installed 100 years ago—is crumbling, too.

Broken pipes flood subways, sewage systems overflow during rainstorms, in turn contaminating rivers, lakes and underground drinking-water supplies.

And thanks to ancient treatment plants, pesticide runoff, and the thoughtless dumping of home chemicals down storm sewers, our home tap water is murkier than we'd like to believe, too.

The Environmental Protection Agency, or EPA, estimates that taxpayers will need to spend at least \$500 billion over the next 20 years to repair the water grid in America. That breaks down to \$250 billion to replace pipes, tanks, valves and treatment plants in the water infrastructure, and \$250 billion more to upgrade the sewage system. Waste water treatment technology is also reported to have become a major EPA concern.

There are two major considerations that need to be addressed as the massive reconstruction of the U.S. water grid gets underway. Cost is certainly the overriding issue, but the environment figures



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heavily into the picture as well.

Experts say that we can expect municipal water companies to begin raising their rates to pay for reconstructing the water grid.

One of the few companies with proven technology designed to address both the economic and environmental aspects of rebuilding the water grid is called HydroFlo.

This Raleigh, North Carolina-based firm has developed a patented aeration technology that increases the capacity of existing wastewater treatment plants, and eliminates the use of chemicals for odor and corrosion control using the pipeline infrastructure already in place.

The treatment process is described as natural and is said to not damage the environment because no chemicals are involved in the treatment.

For hundreds of years, man has known that oxygen was neces-

sary to help eliminate harmful bacteria and noxious odors from wastewater. However, since water is rather resistant to oxygen absorption under normal circumstances, innovative methods of infusing oxygen into water needed to be developed.

In its broadest sense, aeration is the process by which oxygen from the surrounding air or an oxygen supply is dissolved into the water, either by natural methods or mechanical devices.

The general idea behind aeration is to bring the water into intimate contact with the air, by being discharged directly into free air, or the air being forced into a body of water.

Without oxygen, hydrogen sulfide gases rapidly form in the wastewater, emitting foul odors and hastening pipeline corrosion.

Historically, the aeration process has been attempted by novel systems utilizing gravity, agitation, special membranes, and forced air induction.

HydroFlo's patented treatment process works on the premise that wastewater needs to be infused in a way so as to eliminate the potential for air locks or pump cavitation at either a pre-treatment stage, or at the wastewater basin stage.

For more information about HydroFlo's aeration technology, or how its process is able to improve the current status of America's water grid structure, visit the company's Web site at www.hydroflo-inc.com.