



Going Deep

IP systems offer physical and cyber security to water supply

By Frank Madren

The United States has been blessed with a utilities infrastructure that, prior to 9/11, seemed to require minimal security provisions. The unrealized threats of the hippie era to dump LSD into the New York City reservoirs notwithstanding, the nation's water supply has been remarkably free from contamination—accidental or intended—and from physical attack.

How safe is the nation's water supply? According to a news article in "US Water News Online," in October 2001, the FBI has said U.S.

water supplies can be considered a "logical target for a possible terrorist attack," although authorities know of no credible threat to poison the nation's drinking water, and carrying out such an attack would be harder than it sounds.

Nonetheless, according to an article written by Jennifer B. Nuzzo for the Center for Biosecurity at the University of Pittsburgh Medical Center, since 2001, there has been an increased investment in water security efforts. In fiscal 2002, the Environmental Protection Agency gave \$51 million in

grants to help large community water utilities complete vulnerability assessments. Since then, the EPA has provided more than \$150 million for development of water security—tools, training and technical assistance to the water sector, states and other groups.

The EPA has been designated the sector-specific agency for infrastructure protection of the nation's water supply and wastewater by the Homeland Security Act. It's better to be safe than sorry.

Security for national water supplies, as for most other criti-

cal infrastructure, boils down to two broad categories—physical and cyber. In both of these areas, the plant communications network can be a powerful ally in security strategies.

PHYSICAL SECURITY

Water utilities are adopting high-speed industrial networks as a means of managing, monitoring and collecting data about plant operations. As hardened network switches and routers are deployed in water facilities, their high bandwidths support multiple streams of data, supporting a variety of applications—one of

