EPA says softener discharge is not harmful

Agency stance will help WQA fight softener bans across the country.

By R.J. DeLuke | Managing Editor

The US Environmental Protection Agency (EPA) stated in a recent document that water softener discharge does not harm septic systems, a position the Water Quality Association (WQA) is lauding as a victory for the industry.

The statement is included in the document entitled Onsite Wastewater Treatment Systems, Special Issues Fact Sheet 3 — Water Softeners.

Peter J. Censky, WQA executive director, said the "extremely positive document" is based on scientific studies from the University of Wisconsin, NSF International, Ohio State University, Virginia Polytechnic Institute and the American Society of Agricultural Engineers.

The Water Quality Research Council funded the Wisconsin and NSF studies.

"These issues will continue to crop up across the country," said Censky in a memo to WQA members. "Recently, we've had a great deal of success in fighting these issues, but an early warning is critical to a successful outcome for the industry."

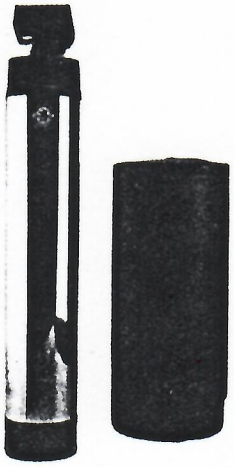
"These issues will continue to crop up across the country."

— Peter J. Censky

Progress in Texas

He pointed to Texas, where the Texas Water Quality Association (TWQA) is fighting a ban on softener discharge into septic systems in that state. (See "Hogtied in Texas," *Water Technology* magazine, May 2002).

A new regulation in Texas bans the discharge of water softener and reverse



osmosis backflush into septic systems. The law hit Texas POU dealers hard, threatening to shut off a large portion of the water softening market.

The WQA and TWQA are being forced to show that popular science disputes claims that softeners harm septic systems. They are asking the state to rescind the regulation.

"The Texas Natural Resources Conservation Commission has indicated they support our petition to rescind the ban," Censky said in his memo.

It may take a while, he said, but "it appears now that our joint efforts will have a very positive outcome."

Solid research

Joe Harrison, WQA technical director, said the conclusions about softener discharge come from solid research.

"The foundation of those conclusions comes out of that Water Quality Research Council-funded work that was done by the University of Wisconsin and also NSF back in the 1970s," he said.

The discharge causes no problems "neither aerobic nor anaerobic" and volumes are not sufficient to cause any harm to wastewater equipment or systems, he said.

Harrison said the studies also showed that softener discharge contains significant amounts of calcium and magnesium, which counteracts the affects of sodium, both in biological action and in soil and drain fields.

The EPA said in its document that the supporting studies conclude:

- High concentrations of calcium and manganese in the softener backwash water have no deleterious effect on the biological functions occurring in the septic tank and may, in some cases, be helpful.
- The additional volume of wastewater generated (about 50 gallons per recharge cycle) is added slowly to the wastewater stream and does not cause any hydraulic overload problems.
- Soil structure in the soil absorption field is positively affected by the calcium and magnesium ions in water softener effluent.

The conclusions about softener discharge come from solid research.

Misconception cleared

"Some people have the misconception that the salt brine that enters the ion exchange tank also exits the tank as wastewater," the EPA document states. "In fact, the influent, with its high concentration of sodium ions, is very different than the effluent, which has a high concentration of calcium and magnesium ions."

"Consequently, the potential for chemical clogging of clayey [sic] soil by sodium ions is reduced," EPA said. "The calcium and magnesium input may even help improve soil percolation." □