From Lead to Legislators

The latest on the Flint water crisis, water softener regulations & more

By Kathleen Fultz

The Flint, Mich., water crisis has dominated national news since the beginning of 2016. On Jan. 16, President Barack Obama declared a federal emergency in Flint, providing $5 million in Federal Emergency Management Agency funds for filters, replacement cartridges and water testing kits. The following week, Michigan legislators worked to approve $28 million in additional funding, $15.2 million of which will to go toward additional filters and replacement cartridges and further testing. This issue even found its way into the January Democratic presidential candidate debate.

Flint's pipe corrosion problem began after it switched water supplies in 2014. The corrosive nature of the water from the new supply, the Flint River, caused lead pipe in the city's distribution system to leach lead into the drinking water. It is important to note that, per the U.S. Environmental Protection Agency (EPA), there is no safe amount of lead to consume.

EPA action levels for contaminants require water utilities to take a specific number of samples in specific locations and verify that 90% of them contain contaminants below the given level. If this requirement is not met, an appropriate action must be taken to remediate the situation. The action level for lead is 0.015 mg/L.

EPA also set the maximum contaminant level goal (MCLG) for lead at zero. This is the health-based goal at which no known or anticipated adverse effects on human health occur and for which an adequate margin of safety exists. MCLGs are non-enforceable public health goals.

WQA representatives met with members of Congress and staffers during a Fly-In Day in July 2015.

In September 2015, Dr. Mona Hanna-Attisha of the Hurley Medical Center in Flint released research showing the percentage of Flint children age 5 and younger with elevated lead levels nearly doubled, from 2.1% to 4%, after the switch to water from the Flint River. In light of continued research by the Hurley Medical Center and Virginia Polytechnic Institute and State University

(Virginia Tech), hearings at the state and federal level are planned to address how the problem escalated to this point.

Softeners & Septic Tanks

Elsewhere in the U.S., state and local officials are looking to new scientific research to help update regulations. In 2011, the Water Quality Research Foundation (WQRF) commissioned Virginia Tech to conduct a study on the effects residential ion exchange water softeners may have on the performance of onsite septic tanks. The data from the Environmental Impact Study: Water Softener Effects on Septic Systems indicate that the use of efficiently operated water softeners (at or above approximately 3,000 grains per lb salt efficiency) improves septic tank performance, while the use of inefficient home softeners (at or below approximately 1,000 grains per lb salt efficiency) may have a negative effect on solids discharged to the drain field.

The next logical step was to put this study into practice. Delaware's Department of Natural Resources and Environmental Control has worked with industry members to develop a one-time formal waiver of the requirements in DAC 7101-3.31.4 for the disposal of regeneration water into onsite wastewater treatment and disposal systems. This formal waiver is an approval for the use of NSF/ANSI Standard 44-certified demand-initiated regeneration (DIR) water softeners. The new waiver process replaces decades of strict requirements to divert softener discharge. Illinois also updated its regulations, and other states and local communities are following suit in accepting DIR water softeners that are compliant with NSF/ANSI 44 to reflect the Environmental Impact Study findings.

Throughout 2015, WQRF partnered with the Madison (Wis.) Metropolitan Sewerage District (MMSD) to study a potential alternative to softener bans for use in areas with high chloride levels. Part of the final conclusions from the Reduction of Influent Chloride to Wastewater Treatment Plants by the Optimization of Residential Water Softeners study reported that, on average, optimization could reduce chlorides by 27% while replacement could reduce chlorides by 47%. There were instances in which there were higher or lower savings. This study provides local leaders across the country with an option backed by research to address chloride reduction without compromising the availability of additional water treatment serving homes or offices. MMSD is using the results of the study to develop a softener efficiency optimization and replacement program that may serve as a national model for other utilities facing similar challenges.

Meeting With Legislators

In a continued effort to encourage strong relationships with government officials, legislators and their staff, the Water Quality Assn. (WQA) hosts a Fly-In Day to Washington, D.C. In July 2015, WQA members met with more than 35 legislative assistants, directors and members of Congress.

Representatives of WQA member companies are invited to participate in the Day on the Hill on April 20, 2016, with advance events and preparation activities in the afternoon and evening of April 19. It is an opportunity for WQA leadership and members to meet with key members of Congress and their staffs. **WQP**

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