

AMS to Enable Cr6 Compliance for California Water Systems — From Demonstration to Full-Scale Implementation



In December 2024, AMS entered its first contract to provide a California community with its SafeGuard™ H2O advanced treatment system, designed to eliminate carcinogenic, hexavalent chromium (Cr6), from drinking water supplies. Valued at over 1 million USD, this contract represents the first full-scale commercial installation of this innovative in-situ reagent generation technology.

Across California, more than 300 water systems serving a population of over 5 million people have reported elevated levels of Cr6 in their groundwater supplies, exceeding the State's regulatory limit of 10 parts per billion (ppb). Under State regulations, impacted communities must achieve compliance within the next two to four years. To gain state approval for Cr6 removal treatment system, communities must conduct an onsite demonstration to validate the technology's performance. AMS has already completed six of these demonstrations, with more planned in 2025.

"Before the introduction of SafeGuard H2O, Californian communities and the States' important agricultural industries struggled with prohibitively expensive and unsustainable technologies for Cr6 removal from their water supplies," stated Rick Bacon, CEO of AMS. "Now, California taxpayers, ratepayers, fruit and vegetable processors and the environment, can benefit from a technology that ensures affordable and sustainable compliance. The lifetime cost of SafeGuard H2O is 40% lower than that of competing technologies and generates significantly fewer greenhouse gases, ultimately reducing the cost of making water safe."

Why SafeGuard™ H2O

SafeGuard H2O employs a novel reduction/coagulation/filtration (RCF) approach to Cr6 treatment, significantly lowering both capital and lifetime operating costs for water treatment in communities of any size, while minimizing environmental impact. Designated as 'best available technology' (BAT), this system is recognized as the most cost-effective solution for communities addressing Cr6 regulation. SafeGuard H2O satisfies all technology requirements set forth by the State, and its containerized design allows for rapid deployment and further cost savings.



AMS has completed six onsite Cr6 removal demonstrations of the SafeGuard H2O system, validating the technology's performance.

The system utilizes a patented process that generates a powerful yet safe stannous reagent on-site and on-demand by dissolving food-grade tin electrodes using low-power electricity. This in-situ generated stannous reagent reacts with Cr6 to form a harmless, insoluble waste product that can be filtered out and reused in other water treatment processes. SafeGuard H2O is fully automated and features AMS's proprietary continuous Cr6 water quality monitoring technology, ensuring compliance with regulatory standards 24/7/365. The system also includes advanced remote condition monitoring for continuous operational oversight.

To reduce the financial burden on communities, SafeGuard H2O is on a pay-as-you-go basis, where AMS operates the system for a fee based on the volume of water treated.

SafeGuard™ H2O Cr6 Removal Demonstration System

The innovative SafeGuard H2O demonstration system is housed in a fully self-contained trailer, ready to operate upon arrival at the site, making Cr6 removal demonstrations more accessible than ever. The demonstration trailer includes five main components: the stannous reagent generation control module, the electrolytic reagent generator, the contactor, a sand media filter, and the online Cr6 monitor. A 30-day demonstration of this BAT technology highlights the economic, environmental, and operational advantages of this transformative RCF approach to Cr6 removal.

a: 1225 E. Arques Avenue, Sunnyvale, CA 94085 | t: +1 (408) 523-1900
e: info@ams-h2o.com | w: ams-h2o.com

© 2025 AMS 01/25

