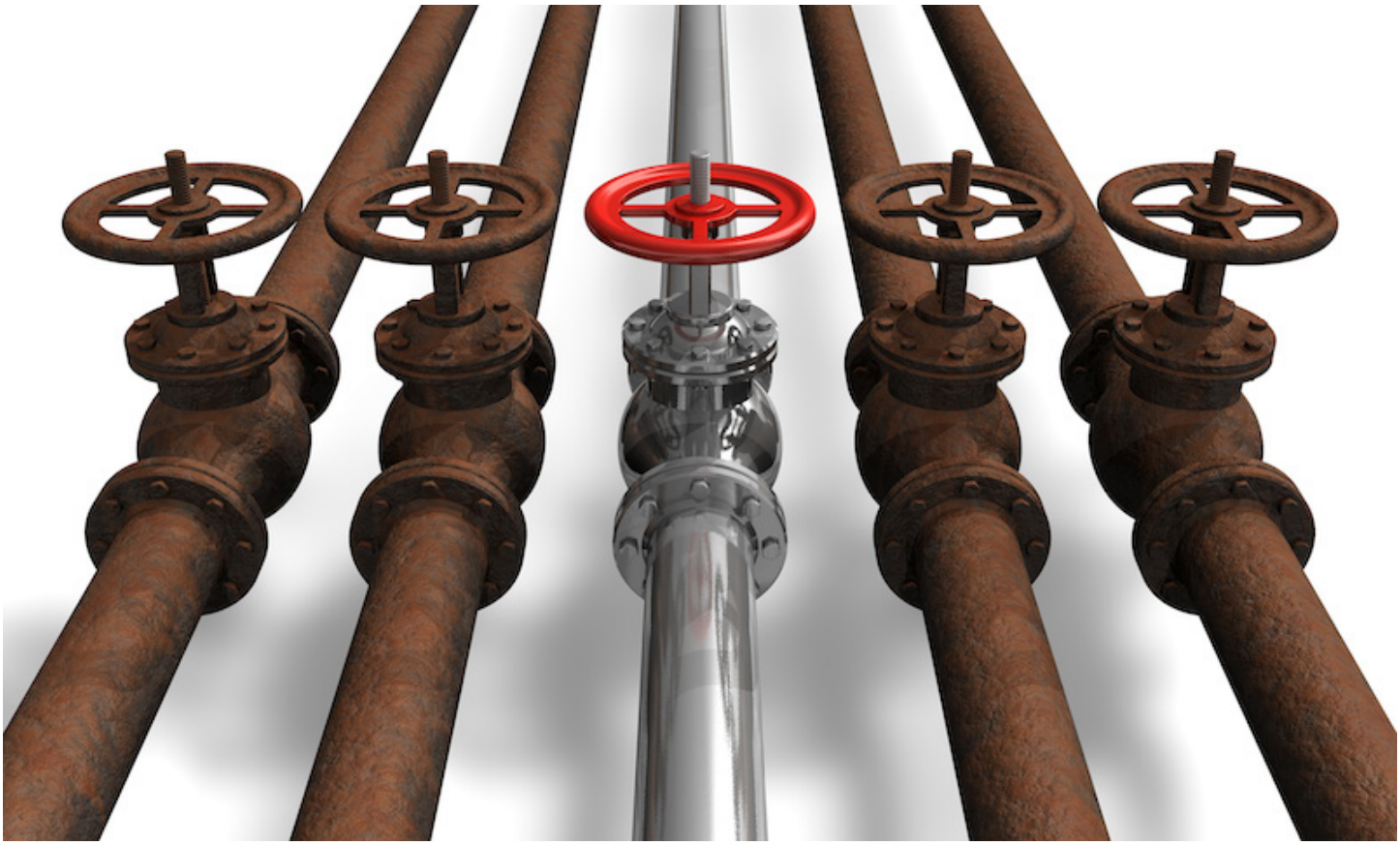
Effective Management of Corrosion and Biofilm in Cooling and Heating Systems with SafeGuard™ H2O



Many industries, hospitals, institutions, and buildings are faced with the inevitable task of managing corrosion and biofilm in their cooling and heating systems. Through the implementation of an intelligent corrosion management program these facilities can extend their useful life, reduce maintenance expenditures and foster sustainability.

With SafeGuard™ H2O, an innovative water treatment solution developed by AMS, non-toxic and environmentally safe reagents are generated on-site using an electrogeneration process and delivered in a tightly controlled dose through a fully automated and optimized system.

SafeGuard H2O is a scalable solution that can be sized according to the treatment requirements based on the volume or the surface area of the system to be protected. The treatment system can be fully controlled, monitored and optimized remotely and is designed to operate unattended for up to several weeks. This unique feature reduces the need of personnel for onsite supervision.

SafeGuard H2O includes an integrated water quality analyzer for online, multi-point, real-time monitoring of corrosion by-products or scale which is used to automatically control the dosing volume and frequency.

As a fully integrated treatment approach, SafeGuard H2O eliminates the pitfalls of conventional corrosion and biofilm management systems and aids in the delivery of an affordable and reliable process.

Challenges of Current Corrosion and Biofilm Management Systems

- Toxicity and fate of some reagents in the environment
- Bulk reagent logistics
- Reagent availability and supply chain issues
- High dosing requirements and associated waste problems
- Supervisory and maintenance requirements
- Difficulty controlling and automating reagent dosing of multiple reagents
- High reagent cost

SafeGuard™ H2O

Advantages of the SafeGuard H2O System

- Inert, non-toxic, and environmentally benign precursor
- Small footprint
- Plentiful long-life precursor
- Low dosing rate with no waste challenges
- Extended reagent replacement cycle
- Automated, on-demand dosing and continuous performance monitoring
- Highly cost-effective

SafeGuard H2O Competitive Cost Analysis

The lifetime costs of SafeGuard H2O are considerably less than that of alternative systems with their attendant challenges of toxic waste disposal, high inertia, large footprints, chemical storage, and handling that make them cost-prohibitive solutions. In a competitive cost analysis of SafeGuard H2O for a 1000 m^3 cooling system, this novel technology was shown to provide a 39 – 60% lifetime cost reduction compared to a treatment approach based on expensive molybdate.

Molybdate Based Treatment (From Institute of Chemical Engineering, UK Data)					SafeGuard™ H2O		
Inhibitor	Control	Labor	Total	Lifetime (10 years)	CAPEX	OPEX	Lifetime (10 years)
$124K	$7K	$1.1K	$132K	$1.32M	$209K*	$60K*	$809K*

* includes online byproduct monitoring

SafeGuard H2O successfully minimizes the costs of managing corrosion and eliminates the use of bulk chemicals and their associated disadvantages. The technology is unique in its ability to integrate a low lifetime cost treatment system with real-time performance controls.

By implementing SafeGuard H2O to effectively manage and control corrosion and biofilm, organizations can achieve affordable and genuine control over water systems throughout their built environment.

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