

Advanced Cooling Water Solution

The right product, in the right amount, at the right time – all the time

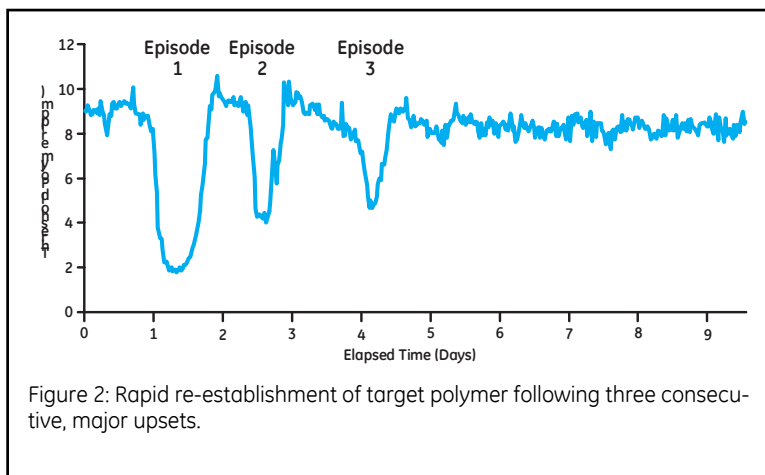
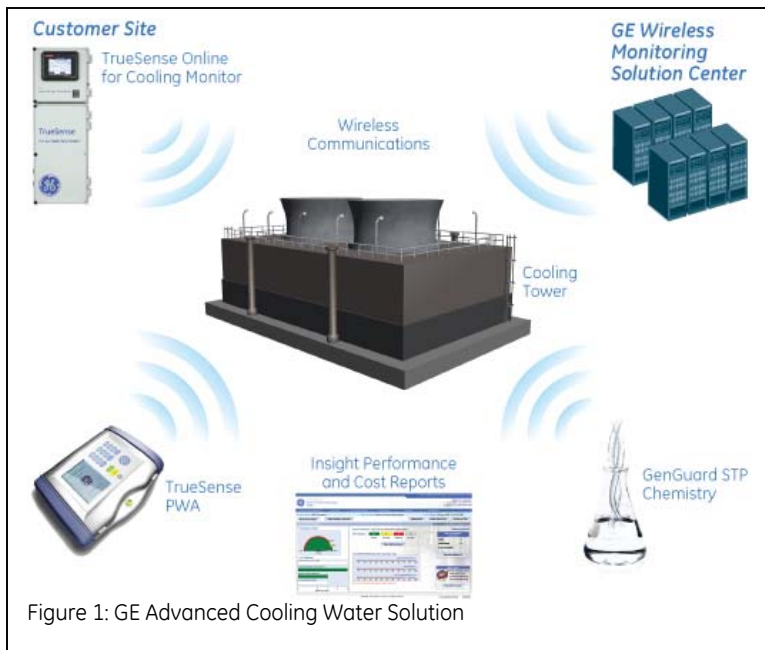
Everyday our manufacturing customers tell us that they are tasked “to do more with less.” The current environment includes fewer people, longer run-lengths, shorter turnarounds, reduced maintenance budgets, more production, and increased regulatory scrutiny and reporting. Equipment pushed beyond its original design capacity often causes utility systems to become unpredictable with unscheduled heat exchanger cleanings, reduced production rates and unplanned outages.

Solution

The GE Advanced Cooling Solution is an innovative offering that can help you monitor, control and maintain your cooling systems with greater efficiency, reliability, and predictability. The Advanced Cooling Solution combines the revolutionary monitoring and control capabilities of TrueSense* with the unparalleled, patented chemistry of GenGard*, wireless data monitoring and analysis along with the most complete portfolio of filtration and membrane products for sidestream softening, filtering, and wastewater reuse. (Figure 1)

Control

TrueSense is the first on-line monitor and control package that directly measures polymer levels. The polymer is the workhorse of your cooling treatment program and maintaining proper levels is critical to your system’s protection and keeping your energy costs down. By measuring the polymer directly, TrueSense reacts to system upsets in *real time*, keeping your system in balance. Figure 2 shows the rapid re-establishment of target polymer levels after three consecutive, major upsets.



Find a contact near you by visiting www.ge.com/water and clicking on “Contact Us”.

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Chemistry

GenGard combines GE's new, patented Stress Tolerant Polymer (STP) with other halogen resistant inhibitors creating a complete program for corrosion and scale inhibition. Unparalleled in the industry, this technology prevents deposition under even the most severe conditions and upsets. Figure 3 demonstrates the superior performance of the STP during a high pH excursion, which is indicative of its deposit prevention abilities.

Membrane and Filtration Technology

Advanced Cooling Solutions go beyond feed and control. Our trained engineers can help determine the best membrane and filtration to meet your plant's water needs. We can analyze sidestream treatment options, blowdown recovery and help you identify alternative makeup streams.

Unique Features

Compared to the competition, GE's Advanced Cooling Solution offers several added features, which improve cooling system performance. Table 1 details these features.

Table 1: Comparative Features

Feature	GE	Competitor
Active polymer Measurement?	YES	NO
Water reuse?	Yes	NO
Corrosion monitoring?	YES	YES
Microbiological monitoring?	YES	YES
pH/acid feed	YES	YES
Conductivity/blowdown Control	YES	YES
Low installation costs?	YES	NO
SPC Graphs?	YES	YES
Management Summary Reports?	YES	YES
KPI Scorecard?	YES	YES
Cost Reports?	YES	NO
On-line Inventory Reporting?	YES	YES
Flexible solution?	YES	NO

Meeting Your Needs

The GE Advanced Cooling Solution addresses the issues that you have told us are important to you:

Lower Total Cost of Ownership – Less water consumption, less downtime, less energy consumption all adds up to a better cost position for your business.

pH Upset (7.9)

STP



Polymer¹ – uniform CaPO₄ deposit



¹Industry standard – sulfonated acrylic acid co-, ter- and quad- polymer

Figure 3: Comparison of STP vs. the industry standard polymer

Predictable – The Advanced Cooling Solution tightens control without operator intervention. The TrueSense monitor senses and responds immediately to system upsets.

Less Environmental Impact – Heavy metal discharge is reduced by eliminating the typical molybdate tracer and by minimizing the by-products of system corrosion. Water consumption is reduced by the chemistry's ability keep system water usable longer before it needs to be sent to drain. Lastly, total chemical consumption is optimized through the use of the TrueSense monitor.

Efficient Manpower Use – More automation, less operator intervention and an 80% time decrease in control testing. The automated management summary reports reduce the amount of operator oversight needed.

Simple and Easily Maintained – Features a simple plug-n-play, robust design for easy, low-cost installation into the toughest applications. The wireless communication package also significantly reduces costly wire and cable runs.

Better Safety Net – The GE Advanced Cooling Solution responds more effectively to system upsets and the chemistry provides a stress tolerant safeguard to handle your most common and uncommon issues.

Swings in pH, hydrocarbon leaks, high iron levels, clarifier carryover and increased suspended solids loadings are all detected and resolved with the Advanced Cooling Solution.

For more information on the Advanced Cooling Water Solution, contact your GE representative today.