

Virginia data center saves over \$114,000 annually with SUEZ's cooling water technology

challenge

A data center in Virginia, sought a cost-effective and reliable solution to reduce their water treatment expenditure. The site operates six independent 900-ton chiller loops, each with independent chemical feed equipment. The chillers run on well water with a total hardness of over 400 ppm.

Previously, the data center was utilizing softened well water which contained 36 ppm of silica. The ineffective control of the water softeners and cooling tower cycles of concentration resulted in significant silicate deposition in the chiller tubes and silica precipitation in the cooling tower sumps.

With the two softeners softening over 20 million gallons of well water at a cost of roughly \$160,000 for brine salt and maintenance, the data center set out to employ a new water treatment process.



Image 1: TrueSense RSG Controller

solution

With the goal of decommissioning the water softeners, the data center turned to SUEZ to review the treat-

ment design and chemical program. After evaluation, SUEZ proposed a two-step treatment solution.

First, SUEZ installed a new control system, TrueSense* Ready-Set-GO II (RSG), to eliminate process variability and fix control issues that could lead to costly deposition. The TrueSense RSG controller provided continuous, online monitoring in addition to controlling chemical feed, cooling tower blowdown, and eventually acid addition. While the acid tanks and equipment were being installed, SUEZ used GenGard* chemistry with the softened water to effectively manage the system.

Second, after the installation of the acid tanks, the new TrueSense RSG controller and chemical feed system were adjusted to control the feed of acid to maintain a target pH level, such that the well water would no longer need to be softened. After effective process control was achieved, the expensive water softening process was taken out of service.

results

The comprehensive water treatment solutions developed by SUEZ resulted in consistent control of pH levels and inhibitor residuals and complete control of deposition and corrosion in the system.

In absence of the water softeners, the data center no longer required a softener maintenance program, resulting in manpower savings incurred from loading the salt to each of the brine tanks, complete reduction of salt usage and resin replacement. Altogether, with decommissioning of the water softeners resulted in roughly \$114,000 in associated annual cost savings.

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