

RECORDED BENEFITS

- 70 000 €/a savings by replacing softened water with recycled water
- Reduced water consumption through increased cooling tower cycles
- Reduced energy through improved heat transfer
- 20 000 €/a savings by avoiding the need to replace cooling tower fill

Significant Water and Energy Reduction Achieved via Advanced Real-time Monitoring and Treatment Chemistry

OnGuard™ 3H Analyzer and Performax™ Cooling Water Treatment

Customer Challenge

A cooling system was experiencing significant scaling due to poor make-up water conditions including high chlorides, high orthophosphate and high conductivity variation (daily). The system was also stressed due to restricted make-up water availability. These conditions resulted in excessive cooling tower and heat exchanger scaling which had to be annually cleaned with acid or tower fill to be replaced.

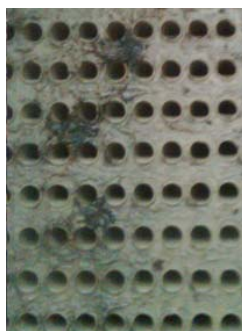
Recommended Solution

Solenis recommended using recycled surface water as an alternative water resource to the limited softened water source. Water samples were tested under laboratory conditions with scale loop testing at 1.6 cycles of concentration and were stabilized with Solenis' Performax cooling water treatment. This chemistry was implemented along with Solenis' OnGuard 3H ultrasonic analyzer to monitor and control cooling water performance in conjunction with Solenis' OnGuard P Controller.

Results Achieved

The optimized cooling water program was checked after 18 months. The use of recycled surface water has proven its economic and environmental advantages. Cooling cycles were increased, chiller surfaces remained clean, heat exchangers remained scale free and annual tower fill cleaning and replacement was eliminated.

Heat-exchanger before



Heat-exchanger after



Tower Fill after 2 years



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