

Control of Silica Scaling in Alkaline Makeup Water Saves Aluminum Caster US\$419,491

Challenge

When this southern United States aluminum casting plant was planning to double in size, the treatment of process cooling water was complicated by emulsified oil and alkaline makeup water that was high in silica. Molds scaled regularly and the cooling tower and sumps required manual cleaning every four to six weeks by dumping the entire system and water blasting. In addition, the city POTW could not handle the volume of untreated discharge.

Solution

GE Water & Process Technologies established control of the system with a Pacesetter* Model E controller, and implemented a treatment program that included Continuum* AEC218, Spectrus* OX109 and NX118, DeposiTrol* PY505 and SF501, and BIO-SCAN* monitoring.

Results

The changes eliminated mold scaling, minimized downtime for cleaning and reduced discharge volume, permitting a smaller lagoon with adequate holding time to meet discharge limits, for a total annual savings of US\$419,491. Based on toxicity data and low chemical feed rates, the company was able to finalize an NPDES permit for direct discharge.



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