

RECORDED BENEFITS

- Reduced frequency of biocide dosing
- Reduced pH excursion frequency
- Improved overall cooling capacity
- Reduced health hazards for workers

Geothermal Plant Reduces Cooling Water Costs While Minimizing pH Excursions

GeoSol™ Sulfur Dispersant and Online Clean Application Methodology

Customer Challenge

A geothermal power plant operating in Mexico had difficulty maintaining bacterial control in its cooling tower, which led to low pH and required higher caustic dosing to protect system equipment from corrosion. Previous efforts controlled the pH temporarily but could not effectively address bacteria in the fill. Several chemical companies attempted to solve the bacterial control issue without success.

Recommended Solution

Solenis evaluated the bacterial control strategy of the plant and recommended focusing the biocide action on the fill, where there was a high load of bacteria and slime preventing full bacterial control. Solenis' GeoSol GS9832 sulfur dispersant was also recommended due to the adherence of sulfur to the fill and pipework of the system.

Results Achieved

Upon employing the sulfur dispersant and Solenis' online clean application methodology, an unprecedented amount of slime and bacteria was removed from the fill and eliminated via blowdown. By addressing the root cause of bacterial presence, the plant was able to reduce biocide dosing to once a week, about 50% less than before. Routinely performing this procedure every two weeks has proved successful in maintaining microbial control, enabling the plant to reduce the frequency of biocide dosage, reduce pH excursion frequency, improve overall cooling capacity, and reduce exposure of workers to bacteria in the water.



First treatment (left) and fourth treatment right).

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