CASE HISTORY

Geothermal Power

RECORDED BENEFITS

- Deposits were quickly and safely removed
- Vacuum and cooling capacity was restored
- Downtime due to loss of vacuum and cooling capacity was eliminated
- Significantly less time and resources for cleaning small deposits

Geothermal Power Plant Reduces Sulfur Deposits in Condenser and Cooling Tower

GeoSol™ GS9832 Sulfur Dispersant

Customer Challenge

A Mexican geothermal power plants was experiencing sulfur deposits in its condenser and cooling tower. The deposition in the condenser made it difficult to sustain proper vacuum and the deposition in the cooling tower reduced heat transfer efficiency, both of which negatively affected energy production. Unexpected plant downtime was required to manually clean the equipment, also negatively affecting revenue from production. After performing an online clean to remove the sulfur deposits and biofouling in the condenser and cooling tower fill, the challenge was to maintain a clean system.

Recommended Solution

Solenis recommended using GeoSol sulfur dispersant, a specially designed product that provides superior dispersion of sulfur and sulfur-based scales throughout a cooling circuit. Continuous dosing of this product delivers cost-effective control of sulfur deposition and provides long-term benefits such as asset protection, reduced downtime and faster maintenance turnarounds.

Results Achieved

With the GeoSol sulfur dispersant, sulfur deposits in the condenser and cooling tower were quickly and safely removed, vacuum and cooling capacity was restored, and plant downtime was significantly reduced. Throughout the year, visual inspections showed no significant alteration of the water flow path inside the fill. After 13 months, a thorough inspection of the condenser took place. It showed virtually no deposits in the sprayers, columns or other surfaces. Additionally, significantly less time and resources were required to clean the few surfaces that had small deposits as compared to previous competitive products.

Inspection of condenser after 13 months of sulfur dispersant trial. Note clean surfaces encountered.