

## RECORDED BENEFITS

- \$250,000 per year total savings
- Eliminated sodium hypochlorite and sulfuric acid dosage to the cooling tower
- Reduction in sulfate/chloride residual
- Excellent microbiological control
- 50% lower stainless steel corrosion rates
- 25% reduction in makeup water consumption

## Power Plant Saves \$250,000 per Year on Cooling Water Treatment Program and Reduces Water Consumption 25%

### Biosperse™ XD3899 Microbiocide

#### Customer Challenge

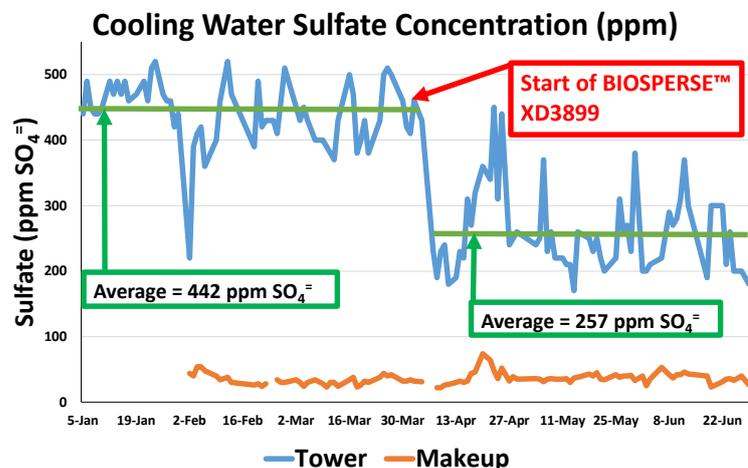
A natural gas fired power plant in Brazil was facing significant challenges including; grey water makeup (clarified municipal sewage), high consumption of both sodium hypochlorite ( $\text{NaOCl}^-$ ) and sulfuric acid, and chlorides and sulfates limitations for 304 stainless steel metallurgy. High water costs and a severe drought were also driving the plant to seek ways to reduce water consumption. The customer required that these challenges be overcome without losing biological control performance.

#### Recommended Solution

With clarified municipal sewage for makeup water,  $\text{NaOCl}^-$  and acid consumption were very high. Solenis recommended the complete substitution of  $\text{NaOCl}^-$  with Biosperse XD3899, a highly selective, activated chloramine. The application of this technology was set to eliminate sodium hypochlorite and acid consumption, achieve higher cooling tower cycles and reduce water consumption, improve microbiological control and meet the chloride/sulfate desired residuals.

#### Results Achieved

The application of Biosperse XD3899 immediately allowed the plant to shut off  $\text{NaOCl}^-$  and acid pumps which resulted in savings of \$80,000 per year. Elimination of acid and  $\text{NaOCl}^-$  reduced the sulfate and chlorides levels, allowing cooling water cycles to be increased from 4 to 6.5. With higher cycles, the plant was able to reduce makeup water by 690,000  $\text{m}^3/\text{year}$ . Microbiological control improved and lower corrosion rates for stainless steel were also observed. These outstanding results allowed the plant to save a total of \$250,000 per year.



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