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Food and Beverage

Novel Technology Improves Cooling Tower Microbiological Control While Reducing Costs

Biosperse™ XD3899 Microbiocide

Customer Overview:

- Segment: Food and Beverage
- Product(s): Food Grade Oils
- Location: Quincy, Illinois, USA

Application Overview:

- Type: Cooling Water Treatment
- Equipment: Cooling Tower, Heat Exhangers
- Capacity: 80,000 gallons with 9,000 gpm recirculation rate

Existing Treatment:

- Sodium bromide and bleach biocide with suplimental Isothiazolin feeds as needed for microbiological control
- Biocide feed controlled by ORP feedback
- Organic phosphate corrosion control

Problem Summary:

The existing microbiological control program was cheaper than the previous program (BCDMH and Iso) but was still relatively costly. Outbreaks of biofilm were common in the summer, resulting in increased treatment costs. The plant's inability to cool water during biofilm outbreaks jeapodized its manufacturing capacity.

Customer Objectives:

- Reduce program costs
- Maintain/improve heat exchanger efficiency
- Maintain/improve microbiological control
- Maintain/improve corrosion control

Solenis Solution:

- Audit cooling system with customer to characterize system volume, flow rates, costs and corrosion rates
- Perform toxicant evaluation to identify suitable biocide treatment programs
- Replace existing microbiological control program with Biosperse XD3899 microbiocide

Customer Benefits:

- Program costs were reduced by more than 20%
- Biofilm in the cooling tower was eliminated
- Microbial fouling of heat exchangers was prevented
- Foaming due to microbial activity was eliminated
- Isothiazolin was eliminated, improving workplace safety

Conclusion:

Solenis' Biosperse XD3899 microbiocide program provided superior microbiological control to the customer at a reduced cost. Corrosion rates were unchanged relative to the previous biocide control programs.

Values < 20 Indicate No Fouling