ChemTreat
Case History

Innovation to Impact System Reliability:

High Turbidity and Grey Water Use in Industrial Cooling Water Systems

Background

A Gulf Coast facility faced potential biological growth formation in its cooling tower system as a result of using gray cooling water makeup. System treatment was further complicated by the need for low halogen levels to protect the wildlife in the ditches, which flow to a saltwater estuary.

Solution

The biocide/biodispersant CL2427 was previously used to aid in biomass removal. ChemTreat proposed switching to CL453, which allowed us to increase dosage in a more controlled manner than using peroxide, and complete the cleaning in stages, ensuring the organic and bio-film release was manageable, with minimal impact on the unit heat exchangers.

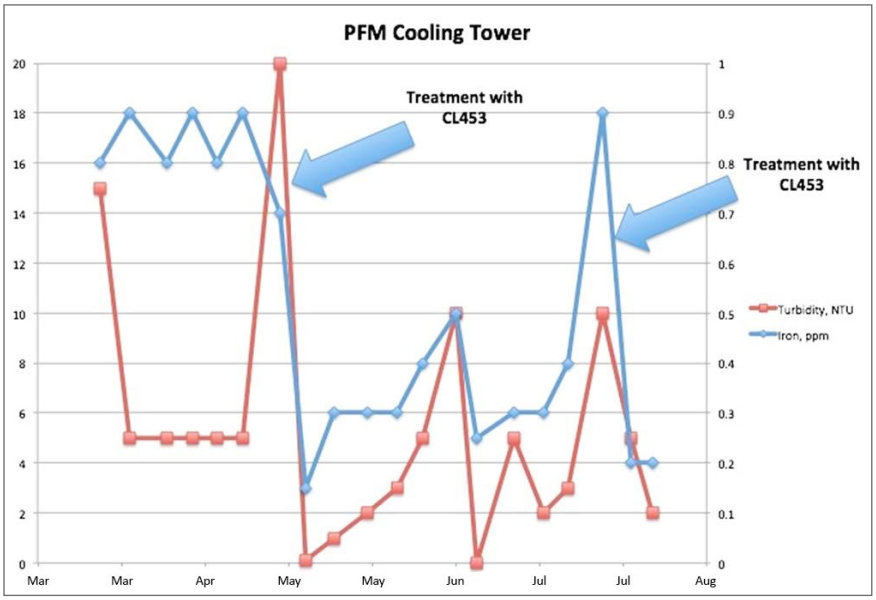
Results

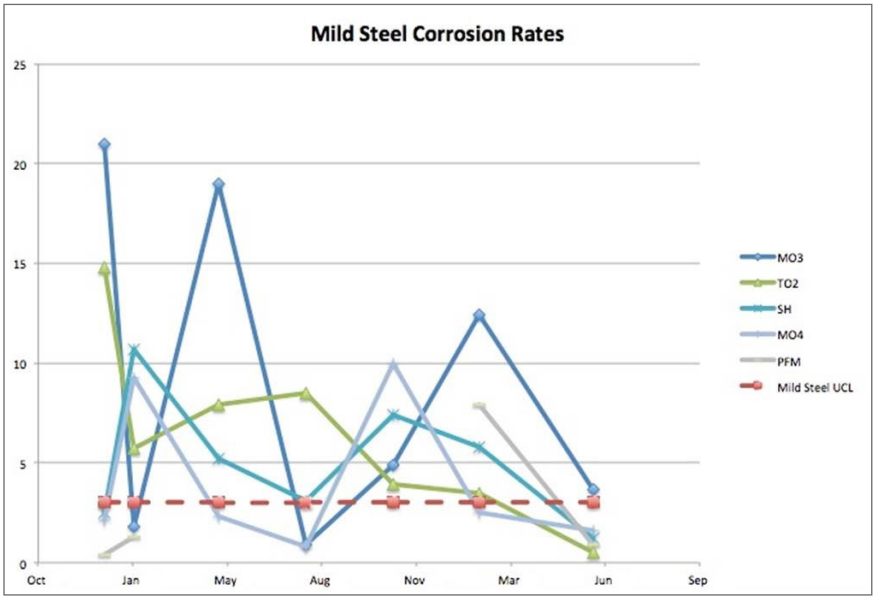
After the initial CL453 treatment, positive results were observed instantly. Iron concentrations were reduced from 0.7 to 0.15 ppm in one week, turbidity was reduced from 20 to 0.12 Ntu, and the delta between the free and total chlorine (the measure of the system's biological load) was reduced from 0.8 to 0.5 ppm. Two months after the first treatment, fire water was used as makeup to the tower because the normal supply line needed repair. Fire water remains stagnant for extended periods of time, and after several weeks, the biological load (along with turbidity and iron) increased again. After a second CL453 treatment, iron and turbidity were reduced once more. Along with the success observed at removing biomass in the cooling towers, the volume of product needed for treatment was reduced by approximately 90 percent.

PARAMETER	BEFORE CL453 TREATMENT	AFTER CL453 TREATMENT
Iron concentration	0.70 ppm	0.15 ppm
Turbidity	20.00 Ntu	0.12 Ntu
Δ Free and Total Chlorine	0.80 ppm	0.50 ppm

Results are examples only. They are not guaranteed. Actual results may vary.

CH10088EN-CL
Sept-17





Results are examples only. They are not guaranteed. Actual results may vary.

CH10088EN-CL
Sept-17