

Cooling Tower Online Cleaning

CASE STUDY:

SYSTEM PROFILE

The cooling tower is a Marley Tower, Model 221-221 and is designed to cool 750 gpm of water from 92 to 82 degrees at a 77-degree design wet bulb temperature, which equates to dissipating 3.75 mil BTU/HR.

Areas served in the plant by this tower include air compressors, process equipment, office heating and cooling units. The tower had previously been adversely impacted by improper treatment.

OPERATIONAL CHALLENGE

When cooling tower systems become contaminated with iron and calcium deposits, it is typical to take the tower system off-line and add concentrated cleaning chemicals to remove the deposits.

The cleaning procedure entails a closed-loop process that rapidly penetrates, disperses and loosens deposits. As a result, more surface area is available to dissolve tuberculation, scale and encrustation from any type of water system and prevent attack on the base metal.

CHEMICAL SOLUTION

Kroff Chemical Company, Inc. successfully engineered a chemical treatment program to remove iron and calcium deposits while the tower remained online, thereby causing no disruption to operations.

For the trial, a new chemical feed pump was installed and product was fed on a continual basis to the chemical manifold along with the other program chemicals. The dosage rates were increased over time as the trial progressed.

BOTTOM-LINE RESULTS

During the online cleaning trial, the tower showed considerably less iron and calcium buildup. Because the tower continued to clean as it functioned and the corrosion rate in the system decreased, the tower operated with increased efficiency and without stoppage.

Based on the trial results, online cleaning is recommended as a corrosion inhibitor to be used as preventative maintenance.



Kroff Chemical Company, Inc. provides custom-blended chemicals and specialty services that improve clients' critical water and process system performance, which helps maximize efficiency of operations and lower costs of operation.

Kroff Chemical's services focus on energy efficiency, regulatory compliance, waste minimization and water reuse, fully automated and integrated chemical applications, and a safety-conscious approach.

With the support of Kroff Chemical Company, Inc., facilities operate with less staff, but they operate safely, efficiently and profitably. Clients focus more on their core competencies and look to Kroff Chemical Company, Inc. to treat, operate and maintain their critical water and process systems.