APPLICATION PROFILE

H. J. Heinz Company, Bagel Bites Facility, Fort Myers, Florida

Product / System: Superior Water Conditioner, Manufactured by Superior Manufacturing Corporation Fort Wayne, Indiana

Application: Chemical-Free Water Treatment of (3) Roof-Top Evaporative Condensers and (1) Process Steam Boiler

Manufacturer's Objective: To Control Lime/Scale and Corrosion with minimal use of chemicals

Ft. Myers Historical Treatment Method: Chemicals (various types, such as Sodium Bisulfite, Tetrapotassium Pyrophosphate, Potassium Hydroxide, Neutralized Blends of Scale and Corrosion Inhibitors, Blends of Isothiazolins, etc.)

Annual Chemical Cost for condensers and boiler: $42,000

Date of System Purchase: July 6, 2011

Cost of System: $38,350

Projected Simple Payback: Less Than 11 Months

Project Owner: Victor Herbert

CASE HISTORY

For the past 20+ years, Bagel Bites Division of H. J. Heinz Company in Fort Myers, Florida had been using chemicals to treat their three evaporative condensers for the control of lime/scale, corrosion, and microbiological fouling. Additionally, they were chemically treating their process steam boiler with scale and corrosion inhibitors, and pre-softening all the fresh-water makeup to the boiler with sodium based ion-exchange water softeners as well.

Although chemicals had provided satisfactory results throughout the years, the systems had to continually be monitored, and occasionally the chemical formulas had to be modified due to inconsistencies in the quality of the water supply and varying atmospheric conditions. Additionally, typical with most chemical treatment programs, as a system stabilizes over time, certain organic impurities in the water may eventually become immune to a particular chemical type, therefore rendering the treatment to be less effective, which also makes it necessary to adjust the chemical formulas.

The Ft. Myers factory elected to purchase a permanent magnet water treatment system that would control lime/scale and corrosion without the use of chemicals. The first applications were installed on evaporative condensers #1 and #2 (**Photo's 1 & 2**). After six weeks of being installed, there was clear evidence of the existing scale build-up starting to be removed from the condenser tubes, interior walls and sump basins (**Photo's 3, 4, & 5**). This is as a direct result of the treatment effect of the Superior Water Conditioner, as it also reduces surface tension of water, which causes it to be wetter and more soluble, allowing it to slowly break down existing build-up and creating a suspended solid, which can be easily removed through blow-down and bleed-off procedures.

Photo 3 displays a very distinct difference in scale thickness is evident on a couple of the tubes on the right side of the picture. Notice that the top half of the tubes have less build-up of old scale which is slowly being removed as a result of the magnetically treated water being directly sprayed onto them from overhead. It can be expected that the bottom half of the tubes will also eventually get cleaner as the treated water continues to be sprayed onto them and runs off around the outer diameter, carrying the loose scale and mud into the basin below.

Photo's 6 & 7 demonstrate larger pieces of scale and mud that had broken loose from the tubes and interior walls, as a result of the effects of the treated water. This debris had to be physically removed from the basins.

Evaporative condenser # 3 is the smallest and oldest one on site. The damaging effects of harsh chemical treatment over the years can be observed in **Photo's 8 & 9**.

Photo 10 shows the installation of the Superior Water Conditioner on the process steam boiler feed water line.

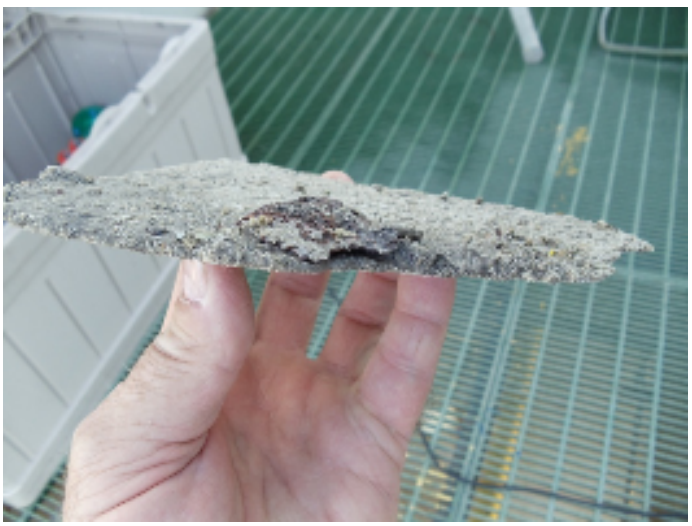
(photo 1)

(photo 2)

(photo 3)

(photo 4)

(photo 5)



(photo 6)

(photo 7)

(photo 8)

(photo 9)

(photo 10)