



CASE STUDY

Manufactured Since 1942 by: Apex Engineering Products Corporation



1200MW POWER PLANT CONDENSER

Although preventative maintenance had been satisfactory in the past, after inspecting the previous shutdown's mechanical cleaning results, the natural gas fired power plant wanted to achieve a pristine outcome on one of their power blocks. Two years before, mechanical cleaning had left streaks of stubborn scale deposit in a considerable number of tubes. There was still bare metal exposed in those tubes which indicated that little to no new scale had deposited from the cleaning prior. Being over 40' in length, reaching the scale and inspecting every square inch of the tubes was difficult. Analysis of the tube scale detailed calcium phosphate composition and other samples from the water boxes were analyzed to be amorphous phosphates.

In order to achieve their goal, **RYDLYME** was discussed with their contractor and Apex technical support to estimate the current condition of over 13,000 SS316 tubes. Based on past cleanings, prior year inspection photographs and historical scale analysis, **RYDLYME** scheduled to be utilized at a 10% solution with clean water and circulated through the condenser's water boxes and tubes for at least 12 hours. The total volume of the condenser was calculated to be over 50,000 gallons which necessitated the extended cleaning duration for **RYDLYME**.

The final inspection was performed directly after cleaning and the supervisor described the tube condition as 'like new' with all tubes showing bare metal surface for optimum heat transfer! It was also noted that the **RYDLYME** still showed effectiveness when tested and subsequent cleanings could utilize an even lower concentration. Once environmental variables cycle, accurate and comparable historic data can be evaluated to calculate performance gains.



CHALLENGE

Stubborn mineral deposits remaining in stainless steel tubes after prior shutdown's mechanical cleaning.

SOLUTION

Factory recommended 12 hour circulation of 10% **RYDLYME** solution.

RESULTS

Prior to achieving 12 hour duration, tubes were inspected and declared clean down to bare metal surface.

