

Challenge

Issue

Increase turbine maintenance due to severe corrosion at tube to tube sheet ligament. Frequency of plugging was reducing condenser efficiency.

Goals

- Reduce turbine maintenance costs
- Eliminate corrosion at tube to tube sheet ligament

Root Cause

Galvanic corrosion between copper tubes and carbon steel tube sheet.



Original condition of the tube sheet

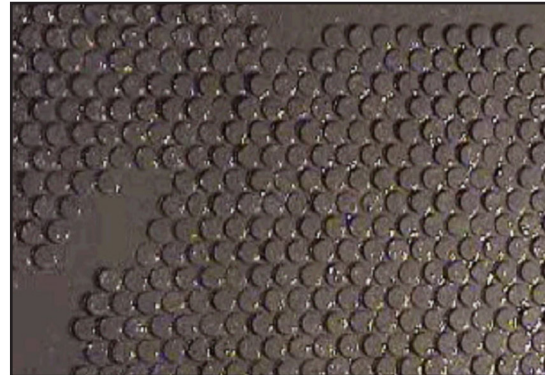
Solution

Preparation

- Plugging ~18,000 tubes to protect from blast cleaning
- Grit blast to Sa 2.5 with 3 mils (75 µm) angular profile

Application

1. Apply 2 coats of **ARC S2** at wft of 8-13 mils (200-325 µm) per coat

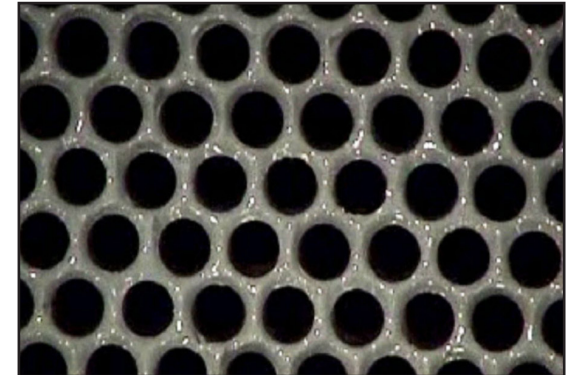


Tube Sheet after S2 application, prior to plug removal

Results

Client Reported

- At 3 year service inspection interval equipment considered in excellent condition
- Client rates condenser at 98% efficiency of new
- Based on results to date and data from similar equipment, client indicates expectation of ARC service life to 12+ years



Completed tube sheet