

## Challenge

### Issue

Scale associated corrosion causing blockage of tubes required unplanned shut downs to remove debris and clean heat exchanger. Loss of system availability impacted system performance.

### Goals

- Reduce unscheduled maintenance cost
- Restore heat exchanger performance

### Root Cause

High mineral and chloride content of cooling water accelerates scaling corrosion of unprotected metal.



*Shows extensive corrosion of the metal on the tube sheet and the end cover*

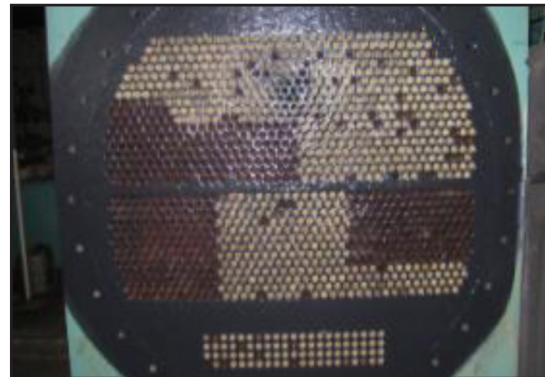
## Solution

### Preparation

- Decontaminate surfaces to remove chlorides
- Grit blast to Sa 2.5 with 3 mil (75 µm) anchor profile

### Application

1. Removable plugs inserted to prevent coating from entering tubes
2. Two coats of **ARC 855** at total DFT of 40-60 mils (1-1.5 mm) to the tube faces and end cover plate



*Tube sheet in process of being coated with ARC 855*

## Results

### Client Reported

- Heat exchanger performance returned to near new level

### Inspection After 2 Years

- Client reported heat exchangers were still in “perfect condition” after 24 months of service with no performance drop
- A total of 16 heat exchangers were restored with **ARC 855** coating



*A regular maintenance check at 24 months showed no sign of corrosion or scale*