

# Challenge

#### Issue

Impaired pump efficiency diminished steam condenser cooling capacity, reducing power output.

#### Goal

To restore the pump capacity back to original point, allowing increased power production.

#### **Root Cause**

Pumping seawater with entrained sand at a high flow rate caused corrosion erosion damage to impeller, impeller vanes and leading edges.

# Solution

### Preparation

- Pressure wash and decontaminate surfaces to eliminate soluble salts
- Machine leading edges back by 1,5 mm (0.060")
- $\bullet\,$  Grit blast to Sa 2.5 with 3 mils (75  $\mu m)$  profile

### Application

- 1. Rebuild leading edges flush with ARC 858
- Apply 2 coats of ARC 855 ~DFT: 60 mils (1.5 mm) alternating colors to monitor wear rates

### **Results**

#### **Inspection Results**

- Goals of improving operating efficiency and increasing power production were achieved
- Impeller has remained in perfect condition
- NOTE: After 9 years of pumping salt water and sand, the "brush marks" are still evident and pump is performing required duty point



Worn leading edge of impellor



Leading edge rebuilt with ARC 858



Follow up inspection after nine years shows no wear

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Technical data reflects results of laboratory tests and is intended to indicate general characteristics only

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