

Challenge

Issue

Turbine metal loss by cavitation and microbiologically induced corrosion (MIC).

Goal

Reduce metal loss on pump shaft and protect pump housing and impellor.

Root Cause

Biological corrosion to shaft; and cavitation damage to housing. Significant metal loss in both areas.

Solution

Preparation

Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile.

Application

1. Rebuild eroded volute and shaft using **ARC 858**
2. Apply 2 coats **ARC 855** total DFT of 1000 µm

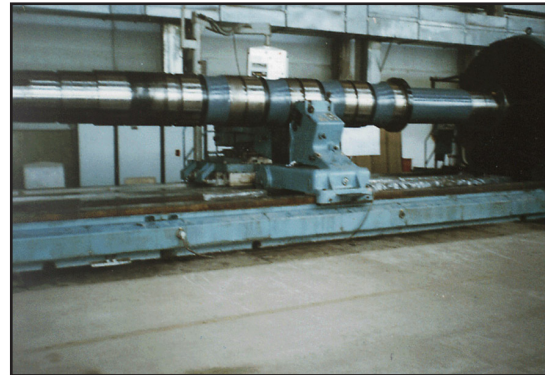
Results

Client Assessment

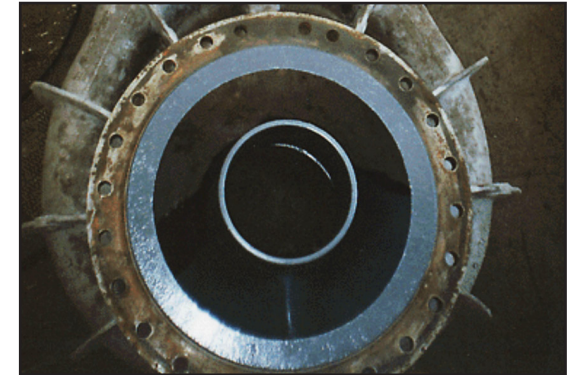
- No metal or coating loss after 6 months
- Flow demands met and exceeded
- Energy reduction by 9.4%
- ARC coatings applied in all remaining turbines with similar results



Reduce equipment reliability



ARC 855 being applied to the bottom cover



Shaft of multi stage pump after ARC 858 and ARC 855 application