

## Challenge

### Issue

Damage from erosion and cavitation required three week's of repairs to address welding and grinding.

### Goals

Reduce the effects of cavitation damage on turbine blades and reduce downtime associated with repairs.

### Root Cause

Vanes of turbine were eroded and impacted due to high suspended solids content in water and cavitation from low flow.



A Francis turbine prior to coating

## Solution

### Preparation

- Abrasive blast surface to Sa 2.5 with 3 mil (75 µm) angular profile

### Application

1. Apply **ARC 858** to the cavitation affected areas, rebuilding any metal loss
2. A subsequent top coat system using two alternating color coats of **ARC 855** applied for a smooth surface finish

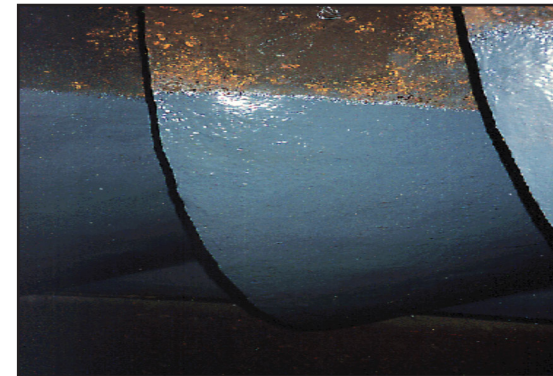


Cavitation damage is evident after proper surface cleaning

## Results

### Client Reported Productivity/Labor Savings

- ARC coating solutions reduced maintenance from 21 days per year to 3 days per year
- While cavitation still occurs, only the coating is being damaged which can be quickly and easily repaired



Top coat of ARC 855 on the cavitation affected blades