Penstock

Power-Hydroelectric — Intake
ARC 858 and S2 Coatings
Case Study 047

Challenge

Issue

Failure of previous coating system resulted in advanced corrosion to internals of penstock tubes leading to reduced nominal wall thickness.

Goals

- Client sought extended life of previous over coating system
- Reduced maintenance and extended inspection cycle

Root Cause

High suspended solids in water eroded older coating, leading to accelerated metal loss.

Solution

Preparation

- Pressure wash and decontaminate surfaces
- Grit blast to Sa 2.5 with 3 mil (75 µm) profile

Application

1. ARC 858 used to resurface heavily pitted and corroded area as well as to fare smooth the riveted pipe connections
2. Two coats of ARC S2 applied in alternating color coats

Results

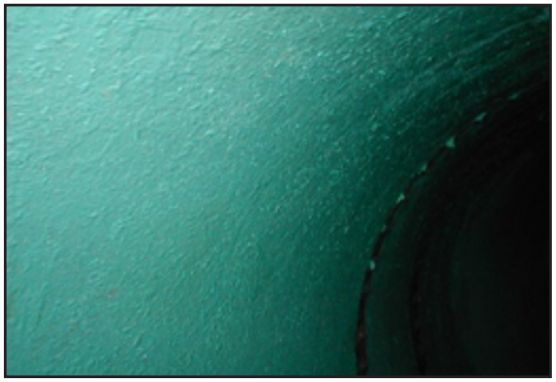
Client Reported

- After 10+ years in service the ARC linings continue to perform without flaws
- Annual inspections have been reduced to once every three years saving over $65K/ inspection cycle
- As a result of this application three additional penstocks have been coated

$=USD

Penstocks viewed from outside

Pitting corrosion on penstock walls



ARC coated surfaces

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