Hydrocyclones

Oil & Gas — Upstream Offshore Platform
ARC 858 and SD4i Coatings
Case Study 049

Challenge

Issue

A 316 SS, well flow hydrocyclone severely pits and corrodes. Normal life of units is 4-5 years.

Goals

- Improve the efficiency of separation by preventing corrosion and metal loss/damage.
- Avoid equipment replacement with a super duplex stainless steel unit at a cost of >$65K

Root Cause

High chloride and solids concentration of solids and hydrocyclone turbulence.

Solution

Preparation

- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile
- Treat to remove residual chlorides

Application

1. Apply ARC 858 to areas of severe corrosion pitting and rebuild smooth surface
2. Apply 2 coats of ARC SD4i with DFT of 750 to 30-40 mils (1000 µm) per coat for abrasion and corrosion protection and enhanced flow

Results

Client Reported

Unit is operational for 4+ years since ARC solution. Inspection at 3-year point showed no signs of coating failure or pitting.

Savings

Replacement	$65,000
ARC material	-$ 3,200
Labor to install	-$13,000
Total Savings	**$48,800**

Payback vs. Replacement = <3 months

$=USD

After cleaning and decontamination, ARC 858 is applied to fill and smooth surface

After application of ARC 858, ARC SD4i is applied for protection and enhanced flow efficiency

After cleaning and decontamination, ARC 858 is applied to fill and smooth surface

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