

Case Study

Repair service reconditions subsea drilling equipment and saves significant scrappage costs for major oil and gas equipment manufacturer

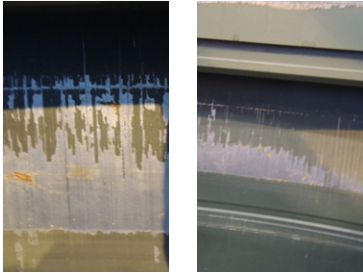
A major oil and gas subsea equipment manufacturer has worked with Surface Technology Aberdeen to refurbish a damaged subsea drilling system.

A critical part of the drilling system; an outer connector sleeve, had a severely damaged sealing bore which had been scored during the manufacturing process.

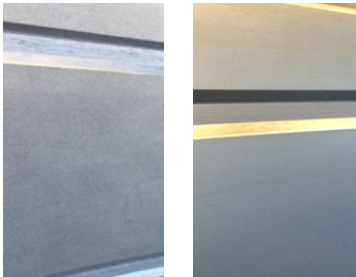
Faced with having to scrap the expensive part, the company required a proven service to recondition the equipment reliably, cost-effectively and to a condition that was as good as new.

As a critical part, required to operate in a subsea environment under high pressures, it was crucial that any potential solution would recondition the component to meet the manufacturer's rigorous specifications. Any doubt in the part's quality would result in the part being scrapped.

Before



After



THE SOLUTION

Surface Technology Aberdeen was approached by the manufacturer to provide a robust solution that would refurbish the outer connector sleeve to meet their specifications.

With an in-house technical team and sites across the UK and in Perth, Australia, Surface Technology recognised not only the refurbishment challenges faced by the manufacturer but also had the proven repair and refurbishment services to meet the specifications required – and importantly ensure the equipment was safe to use in a subsea environment.

Firstly the part was machined to remove surface defects. This involved approximately 508 microns being removed from the sealing diameter.

After machining the outer connector sleeve substrate was ready for high velocity oxy fuel (HVOF) thermal coating. HVOF, using Surface Technology's proven AC3035 coating was recommended due to its wear, corrosion and oxidation-resistant characteristics. The process also required no heat treatment and therefore ensuring the outer connector sleeve was not at risk of distortion or any other metallurgical change.

With a robotic HVOF spray booth, Surface Technology was able to precisely control the thickness of the coating and ensure a consistent, uniform coating was applied across the sealing bore. Once coated, the surface profile of the sealing bore was re-machined to meet the manufacturer's original specification.

Upon completion of coating and machining processes, the team Surface Technology Aberdeen carried out comprehensive inspection and non-destructive testing (NDT) to ensure the part had no microscopic cracks or points of weakness.

THE RESULTS

- Significant cost saving made by saving part from being scrapped
- Technical assistance from Surface Technology saved the manufacturer from having to dedicate resource to find and evaluate potential solutions
- End-to-end service from Surface Technology sped up refurbishment
- Proven coating services and in-house NDT services reassured engineers the end product would meet specifications and be safe for subsea deployment
- Part has not only been refurbished but is also protected from future damage

Contact us now to
discuss your repair
and refurbishment
challenges

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