

Case History

HullGuard® Diverless Impressed Current Cathodic Protection (Repsol Bleo Holm)

The Challenge

ICCP systems protect the hull as coating breaks down through a Floating Production Unit's (FPU) life, exposing steel to corrosion. Repsol required repair or replacement of the Bleo Holm FPSO ICCP system anodes.

Traditional methods require this to occur either in drydock, or with divers in the water performing the work. This work could be required at frequent intervals, potentially through the expected life of an asset, which could be up to 25 years.



The Solution

Following direction and support from the Hull Inspection Techniques and Strategy Joint Industry Project (HITS JIP), EM&I has focussed on disruptive innovation to develop technology and techniques which reduce or remove the requirement for diver intervention.

HullGuard is such a capability where anodes are deployed from within the hull, whilst the asset is operating. The anodes were deployed through access ports in the hull, which were installed using Class-approved welding procedures, and isolation blocks ensured by Class-approved valves.

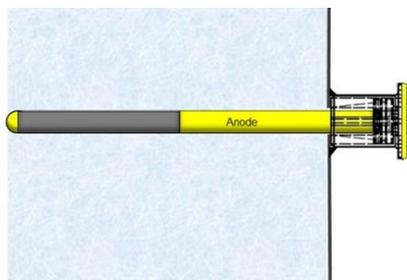
Computer modelling was employed to determine the number of anodes, their optimal locations and power required to provide the required corrosion protection coverage.

Protection of the immediate area of the hull adjacent to the anode is provided, either by fitting a dialectic shield, or by a stand-off for the anode.

The coverage for Bleo Holm is provided by two anodes, fitted through the engine room hull, with a stand-off, as this was a retrofit.

The performance of the system can now be monitored remotely, measured with traditional CP survey, and the anodes are inspected visually using a Remotely Operated Vehicle (ROV).

Should other inspection, repair or replacement be required in the future, the anodes can be withdrawn into the engine room, the work carried out and the anodes re-deployed.



The Outcome

The outcome was that Repsol has active ICCP protection for the hull, through the life of the asset, which requires no diver intervention for inspection, maintenance, or replacement of anodes, should that be required.

Cost saving through life is significant, human safety risk has been effectively mitigated, and the capability of the ICCP system significantly enhanced.