



## Case History

### Subsea Valve Inspection & Replacement – Pacific Drilling

#### The Challenge

Drillships and other offshore vessels are required to inspect their critical seaside valves every 5 years as part of their Underwater Hull Inspection In lieu of Drydocking (UWILD) to ensure seaworthiness. The industry standard for performing this inspection is to hire a diving company to plug discharges with a mechanical plug, whilst ship personnel remove each valve to be internally inspected by the attending class surveyor. If the valve is found to be defective, the vessel will have to remobilize the diving company to isolate the valve for replacement when a replacement valve becomes available (if not already onboard).

This traditional industry practice can require drillships that use dynamic positioning (DP) to cease drilling operations whilst the inspection and valve replacements proceed, which leads to operational downtime and loss of revenue for the vessel.

#### The Solution

EM&I proposed a solution to a Pacific Drilling asset in the Gulf of Mexico whereby an EM&I ODIN® Installation & Inspection team would perform remote camera inspections of each critical seaside valve via the installation of ODIN ports. On this same asset, EM&I was informed that a seaside valve on a discharge line needed to be isolated for replacement. EM&I proposed using a small inspection class ROV to deploy an inflatable ODIN plug to isolate the valve whilst the ship's crew completed the replacement. Both proposals were class society approved and validated on several production and drilling assets prior to this project.

EM&I developed an ODIN valve inspection plan that was approved by the class society, and a 4-person team installed ODIN ports on 21 lines for critical valve inspection. All inspections were accepted by the attending surveyor.



Valve Inspection with ODIN Camera

Once the valve inspections were completed, an EM&I ODIN inspection class ROV was launched with an inflatable ODIN plug to isolate the valve. The ship's crew completed the valve changeout and the plug was removed from the discharge port. All tasks above were completed whilst the drillship remained on location and operational, without any operational downtime incurred by the vessel. The safety, cost and uptime benefits for the client was significant resulting in many more projects with this and other drilling companies.



Valve Isolation with ROV Deployed ODIN Plug