



# Neptune Successfully Completes First North Sea NEPSYS® Repair Project

## CHALLENGE

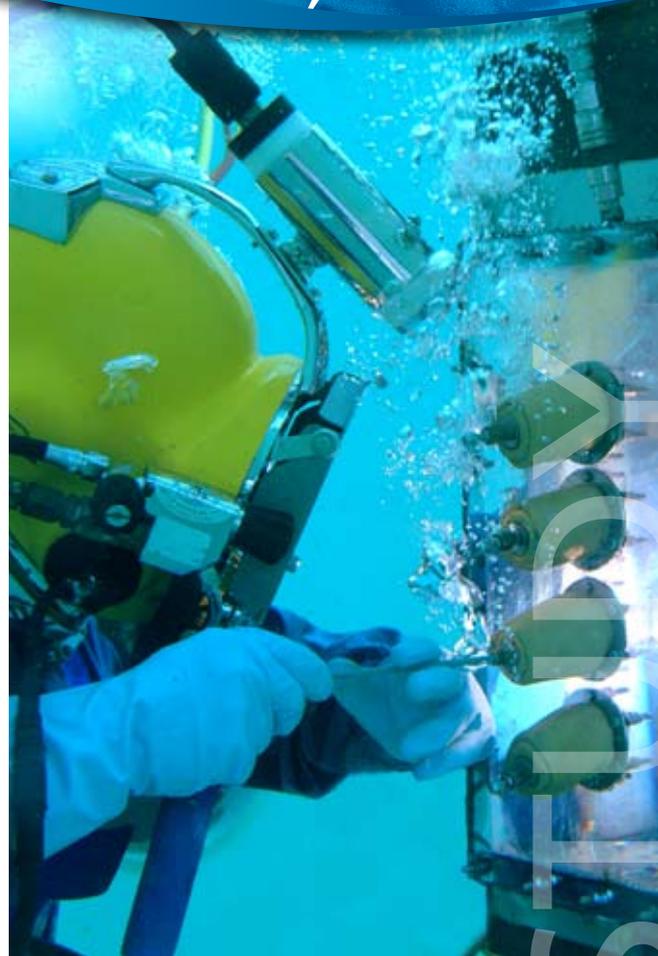
A defective weld in the structure of a floating production unit (FPU) in the North Sea was identified as needing repair. After consultation with the asset operator, Neptune recommended a timely and cost effective engineering, design, fabrication and repair solution using the American Bureau of Shipping (ABS) approved NEPSYS® dry underwater welding technology.

## OVERVIEW

The full penetration crack was located in a column to sponson joint configuration at a water depth of -15 metres. The solution involved grinding out the defective weld and welding the joint externally using a NEPSYS® habitat, as well as internally via rope access. The principal challenges were access to the repair area and the complex habitat designs required.

The NEPSYS® team devised a fully engineered and integrated solution involving three of Neptune's business units and incorporating the group's expertise in subsea design, engineering, fabrication, commercial diving and welding.

Working in partnership with a major international diving services



CASE STUDY



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company, the NEPSYS® team comprised five diver/welders, two of whom worked via rope access inside the structure, one systems technician and one project manager. Facing adverse weather conditions, the internal and external welding took a total of 12 hours.

A mock-up of the joint configuration was manufactured in Perth, WA. Prior to mobilisation in the North Sea, all aspects of habitat design, fabrication and testing; welding procedure preparation; international class approval; diver/welder and rope access welder qualification and testing were carried out at the NEPSYS® training and testing facility in Perth. Mobilisation for the project was conducted from Neptune Offshore Services in Aberdeen, Scotland.

## OUTCOME

The repair was completed to the client's entire satisfaction and complied with the D1.1 standard set by AWS (American Welding Society). The project, Neptune's first NEPSYS® undertaking in Europe, highlighted the NEPSYS® team's ability to meet the rigorous standards imposed on offshore operations in the North Sea.

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