



CASE STUDY

NEPSYS® DRY UNDERWATER WELDING STRUCTURAL ENHANCEMENT PROJECT

Gulf of Thailand

The operator of a producing platform in the southern Gulf of Thailand required reinforcement of a jacket leg to accommodate an increase in topside loading.

The platform was located in 80 metres of water. The solution involved the fabrication and welding of two high strength EH36 steel sleeves to the platform jacket leg at water depths of between 5 and 12 metres. The sleeving solution was selected over the more conventional method of clamping and grouting due to its greater loading capacity, permanency and reduced hydro-dynamic loading.

Working in partnership with a local diving company, the NEPSYS® team of six diver/welders, one systems technician and one supervisor completed the project in 20 days (14 days of welding) working 24 hour operations.

On completion, the repairs were independently inspected and non-destructive tested (NDT). The results confirmed the application of flawless welds that conformed to the D3.6 Class A standard set by AWS (American Welding Society).

Representing Neptune's largest NEPSYS® undertaking in Asia, the project highlighted the adaptability of the technology to applications of structural enhancement as well as the more common structural repair.



NEPSYS® Summary: Welds are specified as AWS D3.6 Class A welds – with strength equivalent to surface welds. Welds and welders can be qualified up to depths of 24m on a range of different materials in Neptune's Facility in Perth and greater depths at third party facilities. Clients and third party approval bodies are involved throughout the process to ensure welding meets client and industry requirements. Habitats are custom designed and can also be designed to fit nonuniform geometry.

Project Facts:

- 5-12m working depth
- 8 personnel mobilised
- Class approved
- 2 welding procedures
- 6.7m long sleeving installed

NEPSYS® Facts:

- Permanent repair solution
- High quality structural weld
- Minimal operational impact
- Certified & accredited to GL ABS, Lloyds & DNV standards
- Compliant to welding codes:
 - AWS D3.6 Class A
 - Mil Std 1689
 - ISO 15614-10
 - ISO 5817 level B
- Patented internationally

For further information

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