

CASE STUDY: CAISSON DATA CABLE, SUBSEA 7, NORTH SEA

With a proven track record of applications in some of the harshest subsea environments across the globe, Hydro Group plc have over 35 years of experience in designing, constructing and supporting bespoke subsea connectivity solutions for the oil and gas industry.

PROJECT

A global engineering firm enlisted the experience of Hydro Group to supply a power and signal subsea cable for its riser caisson on the Forties Alpha platform, located in the Apache Bacchus Field North Sea development over 110 miles east of Aberdeen, Scotland.

As a mature field generating significant revenue, the client was eager to find a cost-effective, reliable and customisable response to the challenge of supplying power and signal data to and from the caisson.

SOLUTION

As part of a tailored solution, Hydro Group's Hydro Cable Systems designed and manufactured 1500 metres of bespoke subsea power and signal cable. Comprising of twisted screened pairs and braided with galvanised steel wire, the cable was fully protected with a strong yet flexible polyurethane bedding sheath. This gave the cable superior crush resistance as well as affording it better cold impact and cold bend performance.

Ahead of deployment the cable endured rigorous electrical testing in line with Hydro Group's certification approval to ISO 9001:2015. In addition to pressure and tow testing up to 30 bar and 14 bar respectively, further operating temperature testing certified an operating window of +4°C to +50°C; ideal for the real-world usage conditions specified in the project.

BENEFITS

Featuring a design life of over 15 years, the cable has been designed with reliability in mind at depths of over 100 metres. The power on signal cable utilises 10mm² cores and a separate signal cable uses 2.5mm² cores, allowing for rapid and efficient data transfer between the caisson and topside installation or vessel.

A range of electrical and optical connectors, penetrators, glands, cable assemblies and terminations can be created to your exact requirements as part of the complete connectivity package, delivered by two of Hydro Group's business streams Hydro Bond Engineering and Hydro Cable Systems.



Cables can be designed to meet the customer's exact requirements, including armouring



Freshly laid-up cable ready for delivery