

# New Technology Transforms The Economics for Clair Oil Field

Submitted by: Ainsworth Maguire

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A project on BP's Clair field, using coupling technology from Hawke International, has contributed to start-up savings in the offshore hook-up of the BP Clair deck to drilling and accommodation modules.

Until this new development, the nature of the Clair reservoir with a difficult geology of fractured sandstone meant the costs of recovery made the field unviable. However, a review by Mustang Engineering, on behalf of the Clair partners, revealed that Phase 1 of the field could be made an economic proposition. This could be achieved by applying best North Sea practices and Gulf of Mexico packaging methods. This was good news for licence holders BP and their partners ConocoPhillips, ChevronTexaco, Amerada Hess and Enterprise Oil.

As part of the initiative to reduce offshore man-hours, the Clair project reviewed the scope of work involved in making the cable connections required to connect modules to deck once the heavy lift vessel had completed installation. Traditionally, topside modules are hard wired and spliced using terminal boxes and long cable runs. This work is normally done offshore by large teams of electricians who must be accommodated for extended periods in hired accommodation modules. The project sought an alternative approach using robust hazardous area connectors.

Wellhead Electrical of Aberdeen was asked to produce a specification for the connector. This called for connectors suitable for both control and power cabling and fit for purpose over the 25-year design life of the platform. Connectors were required to handle many different cable diameters, core sizes, voltages and currents.

After careful evaluation of connectors from several manufacturers, these requirements were best met by Hawke International who supplied over 200 BASEEFA certified ATEX IP66 EExd IIC T5 connectors. These are made in grade 316 stainless steel, a material proven to withstand the affects of the harshest environments.

The connectors were installed onshore at the AMEC site in Wallsend, Heerema yard in Hartlepool and Leirvik Module Technology site in Norway, by engineers from Wellheads Electrical who supplied technical back-up for Hawke International. The team assembled the Hawke connectors onto the cabling, tested and certified them, before modules for accommodation, living quarters, utilities, helideck and drilling were transferred to the platform.

As a result of using these connectors, most of the cable connections in the offshore hook-up became simply 'plug-and-operate' - considerably reducing the time required to achieve certain offshore milestones.

Clair Phase 1 has an estimated recoverable yield of 250 million barrels, with oil export to Sullom Voe on Shetland starting soon. The lessons learned from the BP Clair project and the use of Hawke International coupling technology will help make the economics of exploitation viable in other cases.

More information:

Phil O'Connor  
Hawke International  
Tel. +44 (0)161 830 6698  
Fax. +44 (0)161 830 6648  
Email: phil.oconnor@ehawke.com  
Web: www.ehawke.com

Advertising and other commercial enquiries:

Gill Bancroft  
Hawke International  
Tel. +44 (0)161 830 6698  
Fax. +44 (0)161 830 6648  
E-mail: gill.bancroft@ehawke.com

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