

Long Step-outs - The Challenges and Solutions for Subsea Connections

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Presentation Proposal:

Description of the Proposed Presentation

This Presentation reviews recent projects that push the limits of tie-back technology, and the high power and fiber-optic communication systems that support them. By comparing and contrasting standard tie-back configurations with new innovations in power transmission and noise immune communications, this Presentation will show that reliable wet-mate high power and fiber-optic connection systems are available to support very long step out or even tie-back to shore.

Applications

Reliable wet-mate power connection systems are critical to the installation and future expansion of deepwater and long step-out developments. High voltage systems minimize transmission power loss, while power availability is needed for flow assurance for pipeline heating, ESP's and subsea process systems. Standardized or traceable qualification methodology is critical to initial reliability assessment.

Also, as distances increase and bandwidth requirements grow, noise immune fiber-optic based communication is becoming the preferred medium. This is supported by new, standardized qualification.

Results, Observations and Conclusions

This Presentation comments on operator specifications for wet-mate high power connection systems, and reviews qualification programs and test results. This Presentation also includes recommendations on standardizing optical connection system requirements based on recent operator initiatives, reviews qualification programs and test data and looks at reliability based on nine years of subsea installation.

Significance of the Subject Matter

Recent developments have driven high power connection system development and qualification to comply with land based connection system test and reliability standards as documented in the IEC 60502 specifications. This provides a framework for demonstrating increased reliability through standardized qualification. Also, new operator requirements for qualification of fiber-optic connectors are increasing confidence in this critical communications technology.

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