

Ithaca Anglia retrofit project

Client:

Ithaca Energy

Location:

Anglia Field - North Sea

Equipment:

Subsea controls SEM and surface retrofit

Depth:

Shallow water less than 50 m

Project type:

Proserv ACT SEM retrofit and SCM refurbishment

Control method:

Multiplex electro-hydraulic

Project Background

The Anglia A is a remote unmanned platform in the North Sea which includes two subsea production wells linked to LOGGS offshore system. The subsea control system was installed in the early 90s, and is unsupported from the OEM. The system has suffered from poor system availability, unscheduled shutdowns, and limited remote support.

Originally developed by Ranger Oil the assets for the platform surface and subsea wells were acquired by Ithaca from GDF in 2010. However the continual shutdown and unreliability of the system has restricted the asset uptime and production to the LOGGS system.

Ithaca challenged the engineering team in Proserv to find an alternative subsea controls option and assure reliable subsea production from the Anglia subsea wells.

Solution

Proserv provided a retrofit solution using the existing SCM hydraulic and mechanical hardware but replacing the SEMs and MCS for a more reliable and fully supported system. This provided a replacement solution with the incumbent SCMs and thus an upgrade path to improve availability and support. This retrofit and upgrade path is only possible due to the flexible nature of the Proserv Artemis SEM and the engineering team.

A number of challenges presented themselves during the project, including the use of obsolete inductive subsea connectors. The availability of spare inductive connectors and spare SCM on the project enabled Proserv to conduct upfront testing and solution verification using the Proserv SEM.

The eventual SEM design included project specific power supplies and analogue drivers purpose made and qualified for this project.



Scope

A study was undertaken to consider the implications of SEM replacement within each SCM, including the use of existing inductive couplers which are inherent in the system. The study also incorporated upfront testing and investigations using spare inductive couplers and SCM available on the project.

Once a solution was defined through study and testing, each of the three SCMs were disassembled, pre tested, retrofitted and FAT tested with new Proserv Artemis electronics. The surface control system was also replaced with a new MCS to replace the OEM system and provide communications to the retrofit SCMs.

Proserv provided Ithaca with a full solution. Various different solutions were considered during the concept phase with the engineering team at Proserv. Front end engineering and testing verified the solution prior to retrofit of the SCM. Final system testing and offshore installation and commissioning completed the scope and allowed Ithaca to restart production on these wells.

Conclusion

Proserv converted a failing and unreliable system into a producing asset for Ithaca by retrofitting the OEM SCM with new subsea electronics which is reliable and supported.

Benefits

- Enables production from otherwise unproductive subsea wells
- Higher reliability and availability
- Optimised uptime
- State of the art electronics and connectivity
- Remote connectivity