

Subsea Control Module Brownfield Upgrade



Client:

Equinor

Location:

Visund, North Sea

Equipment:

Subsea control module upgrade

Project Background

Equinor had a requirement to refurbish some OEM subsea control modules that were in excess of 20 years old. The modules had been experiencing repeated fault issues, particularly with the internal electronics. Because the modules were obsolete, the OEM was no able to support the system or deliver spare parts, leaving Equinor with an unreliable, faulty subsea controls system. In the past, the only option would have been a costly, time intensive full system replacement. Proserv was able to offer an alternative solution.

Solution

Proserv was selected as the partner to refurbish the used Aker 4G SCM module by installing a Proserv A2G SEM with redundant power and communication and IWIS option three downhole instrumentation interface.

The old system was a single SEM SCM with only single power and communication and no downhole interface. In line with Proserv's commitment to augment and refurbish before replacement, the solution allowed all hydraulic parts and sensors to be re-used with only faulty parts being replaced.

Scope

Proserv used qualified electronics used within A2G SEM to fulfil the functional requirements on the SEM. All electronics were changed out on the SCM, with the new communication platform exceeding the original bandwidth. Proserv only changed components that were worn out or broken - for example, the DCVs were in good

condition, with testing showed same leakage rates as new equipment. Integration with DCS vendor Siemens was smooth, as Proserv used the existing MODBUS map. All integration and testing was done during a three days workshop at our subsea controls centre of excellence in Great Yarmouth.

Results

The module was successfully installed on Visund, with all functionality was approved and tested. The new communication speed enabled faster DCS update rate, improving on the previous system's capabilities. With Proserv's brownfield solution, we have proven that refurbishment is now a truly viable, profitable and sustainable solution.

Benefits

- Market leading SCM reliability
- Fully flexible system
- Carbon footprint reduced
- Redundant power and supply communication
- Cost effective solution since using most SCM parts
- Short lead time compared to traditional SCMs
- High bandwidth and open topside interface

