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# BOP, Diverter & Choke Control System



**MESH**  
GLOBAL



## Duration

20 Weeks

## Scope Overview

- Review of existing hardware & setup.
- Conduct SIL assessments with client, facilitator & certification bodies.
- Develop specification documentation that included hardware requirements, operating system / software, programming environments, functional requirements, data requirements and interfaces to all external systems.
- Complete the following pre-delivery scope, which included:
- Generating all Factory Acceptance Test (FAT) documentation and completing a final integrated test, using simulation when physical devices were not available.

Provided personnel for the following;

- Decommissioning of the existing system.
- Installation and commissioning of the new system, and conducting offshore training covering operation, maintenance and fault finding.

## Achievements

The client now has a fully supportable system. The system is familiar to the crew as it has a similar look and feel to the previous system but with many improvements. Client stated that it is now one of the most advanced systems in the fleet at a fraction of the price.

Going through the SIL assessment has solidified MESH's ability to deliver products at a low margin with reasonable delivery times, whilst meeting the most stringent standards in the industry.

## Background

The client required the existing integrated BOP, Diverter & Choke Control systems replaced due to obsolescence issues. The remit was to replace and replicate functionality as per the existing systems with a view to making improvements. The systems were to be SIL 2 approved for working in the Norwegian sector. The hydraulic and electronic control PODS were to be retained and upgraded as required.

## Requirement

The system comprised of the following main works:

- Removal of existing controls equipment
- Replacement Central Control Unit
- Replacement PLC control system
- Replacement UPS (2-off)
- Replacement instrumentation at the BOP, Diverter, C&K and HPU
- Upgrading of sensor package
- Replacement of the drillers and CCR BOP control panels
- Upgrading of CCU and POD air purge panels
- Upgrading of POD electronics and POD interface J-Box
- Software development for monitoring, control, interlocks / sequences
- Touch screen control panels for BOP, Diverter and Choke Controls
- Refurbishment of existing hydraulics POD
- Modification of existing POD hydraulic lines

## Approach

All SIL requirements were met through an extensive process of validation & design reviews. Our standard remote monitoring & data logging package was also included. The system was DNV certified to ensure compliance to the relevant ISO, API & NORSOK standards.

## Results

The client now has systems that are fully supportable at a fraction of the cost and lead time, whilst also meeting the highest engineering standards. The systems are identical allowing for common spares holding across the vessels. The systems are tied into a secure IT connection that can be accessed when permissions are granted for continued remote support of the system. The client has been able to retain portions of the system that were supportable and met current standards. The client still has one OEM as point of contact for the whole system as well as having a new set of documentation, drawings and certification for the system.

## Benefits

The delivered System is based on current technologies and is fully supported by MESH. MESH was also able to provide the offshore support to complete the installation and commissioning. The system itself is now supported by our 24/7 onshore support Engineers.

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