



BLAKEMERE

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CLIENT

Leading IOC

LOCATION

Western Australia

PROJECT BACKGROUND

The operator's FPSO is stationed off the North West Australia coast. This region, while rich in oil, is also prolific in cyclones averaging five per year. This has created significant problems for production as each time a cyclone comes through, the FPSO would have to disconnect from the DTM (Disconnectable Turret Mooring). In previous years, before disconnecting completely from the DTM, personnel would install caps (Grayloc Blinds) on the DTM riser flanges. This process was deemed to be one of the highest risk activities within the business, since it required personnel to be directly adjacent to an open production bore in a confined space. The installation of the blind flanges add a further barrier to the risers in case of a valve failure on the DTM, thereby avoiding release of product to the environment. While this successfully mitigated the environmental risk, it posed a significant risk to personnel and potential production downtime during the installation and removal of the caps.

INNOVATION, BENEFITS, ADVANTAGES

- Human exposure to risk was mitigated entirely.
- Manual handling was drastically reduced.
- Provide off-line secondary barrier in the event of a leak or failure.
- Maintained elements of the exiting design qualification.
- Scalable solution that can be offered to other operators.

DELIVERY

The solution had to be delivered within 8 weeks to be ahead of the onset of the cyclone season.

SOLUTION

The purpose of the tool was to install the blind flange remotely after the DTM had been disconnected and lowered from the FPSO, thereby relieving the requirement for personnel to install the flanges topside. Proserv developed a concept to remediate the above issues, minimizing any human and environmental risks. In order to maintain elements of the existing design qualification, the system used the existing Grayloc half-shells and replaced the studs with an alternative clamping system. Our solution was chosen for its simplicity and robustness and Proserv was awarded the whole turn-key solution, covering design, engineering, manufacturing and testing.

CASE STUDY /// REMOTE GRAYLOC BLIND INSTALLATION



SUBSEA



MINING



ENERGY



BLAKEMERE

The system utilized four major components: the protective cover, guide post, deployment arm and the Grayloc adapter. The protective cover was first used to protect the sealing faces of the flange against damage while the rest of the tool was being installed. The guide post and deployment arm were utilized to guide the Grayloc adapter into place and lower onto the flange in a controlled manner. Once in position the adapter was actuated via ROV to complete the connection.

CONCLUSION

Due to the remote ROV installation, the human exposure to risk was mitigated entirely. There now exists a further ingeniously simple solution to offer other operators with the same issues.

PHOTO



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BLIND INSTALLATION**