
Summary

The last decade there has been an increase in the number of subsea completed wells. Like all oil and gas wells, they need some servicing or workover at certain points in their lifetime. There can be many different reasons for this, and there are a lot of tools to perform all kind of jobs. To operate the tools downhole, different workover systems have been developed.

The wellheads of subsea completed wells are very different from most other wellheads. They do not provide permanent vertical access to the wellbore, and they have no fixed structure above. Workovers on subsea wells can be performed from a temporary surface support, while a form of conduit to the subsea wellhead is necessary. Essentially, there are two concepts for this conduit: the rigid workover riser, in many ways similar way to a drilling riser, that has strong requirements for the surface equipment and for the support vessel, and the flexible workover riser, that allows vessel movements by its own flexibility. The latter has many advantages, but is not commonly used yet.

Analysis of workover risers has as main features the vessel movements, hydrodynamic wave loads and hydrostatic pressures inside and outside the riser. For rigid risers, the analysis is known from drilling risers. The analysis of flexible risers is a complicated process where finite element modelling with non-linearities and large displacements is applied in both time and frequency domain analysis.