

Getting the topside right

FPSOs are complex units that require as much technical expertise above deck as they do below. Ensuring the topside is installed and then operates correctly is crucial to a project's success.

All projects at BW Offshore demand an in-depth knowledge of the field and its operating conditions, and this is especially true when it comes to a unit's topside. One look at an FPSO's deck and the intricate network of pipes and specialist equipment indicates the complexity involved.

At BW Offshore, it is the responsibility of the topside team to ensure everything works correctly. The team is involved in all phases of the total installation lifetime of an FPSO – from tender to project and finally operation – and they ensure the highest level of quality and professionalism at every stage.

Understanding the concept of topside management means understanding the technical aspects that are unique to an FPSO, says BW Offshore topside manager, Tove Bergh.

"In general the topside is what differentiates an FPSO from a tanker, and in a very simplistic way you may say it's all the modules located above the main deck that allow for the processing of the well stream," Bergh explains.

Onboard an FPSO the oil and gas go through a separation process where the water is removed from the oil, treated and routed back to the sea, while the oil is stabilised and stored in the cargo tanks. The gas may be exported, injected back into the reservoir or in the event of an emergency situation, flared.

Getting the topside right is mainly about ensuring the correct balance between flow, pressure and temperature. As all projects are different with regards to these parameters and also client requirements, there will always be new challenges in getting the correct topside. Even if standard, field-proven components are used, the selection of the right components and the way they are combined will not be the same.

The different phases of the total installation lifetime vary and require different levels of resources. In the tender phase, the process system is defined and the need for the support system is established. It is an important phase where it is vital to gain enough knowledge of the field and its operating conditions in order to get the design right.

"The topside is the core of an FPSO and if we don't have enough knowledge of the field, it's difficult to ensure success in the operational phase of the vessel," Bergh says.

The project period is the most labour-intensive phase and requires at least one dedicated resource to follow up on subcontractors and to ensure customer product specifications are met. As the project moves into the operational phase, the topside team is no longer involved on a daily basis and is called upon for support in special situations only. Once an FPSO is operating on its assigned field it typically takes about five production



TOPSIDE TEAM From left: Tove Bergh, Øivin Saanum, Øyvind Hovde and Gudmund Gardsjord.

operators per shift to operate and maintain the topside onboard.

According to Bergh, the FPSO industry is an exciting and professionally challenging place for an engineer to work and compared to the more traditional engineering houses, she is convinced BW Offshore has something unique to offer engineers.

"Here at BW Offshore we allow the topside engineers to be part of the whole process and we can guarantee an exciting workday with varied tasks and professional challenges," Bergh concludes. ●

