

## FPSO, THE MANNING PROBLEM

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It is a fact that traditionally trained Oil staff just do not like FPSOs, which have a reputation for being uncomfortable. With excessive vessel movement, pitching at 5%, Rolling at 10% and commonly a heave of 10m, the facilities can be a challenge to the non seafarer in calm waters without the more interesting effects achieved in storm force conditions. Unsurprisingly most engineers prefer the more stable production facility types. Stories about pioneering vessels like the Banff recording heaves of 27m on the water really don't make the image any better.



*FPSO schematic*

Unfortunately the offshore industry already has a skills shortage problem. The general lack of availability leads to a lack of continuity, a shortage of reliefs and a continuous rise in salaries for the skilled. Add to that general shortage a dislike of the vessels and it is easy to see why FPSO operators have to fight hard to get their share of the resource.

During the mid 90s FPSOs were often conversions of existing tanker stock. However, the ageing hulls that offered a quick conversion opportunity often suffered from weaknesses in the valves, hydraulic pumps and ballast pipe-work and soon it became the norm to build rather than convert.

But fundamentally these are still ships, with all of the attendant need to understand collision, stability, mooring and station keeping.



*Tanker being converted to an FPSO. Courtesy Keppel, Singapore.*

In a recent study of incidents it was found that 'FPSO specific' incidents account for about 20% of the total incidents on FPSO's. These results showed that 33% of these 'FPSO specific' incidents were attributed to risers/swivels or turrets, 22% from offloading systems, 15% to adverse weather including wave loading and motion related incidents, 11% from collision, potential collision and stability incidents, 10% arise from marine systems, and 9% arise from mooring and station keeping incidents. The latter 45% could be more accurately described as 'ship specific'.

FPSOs are not going away. They are, for economic reasons, the world's most popular floating production system. As of year-end 2003, there had been 136 FPSO deployments worldwide – more than all the other floating production systems (FPSSs, TLPs and Spars) put together. The continuing shift to deepwater means that it is likely that over the next five years 70% of the global spend will likely be on floaters moored in water depths of 500 metres or greater. Which brings us back to the issue of manning.

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*FPSO Subsea arrangement showing the risers entering the hull via the turret moonpool.*

Meanwhile, the marine industry has quite a different problem. It is a requirement of the British flag that companies with UK registered ships must train a certain number of cadets - known as the tonnage tax. As the fleet of the British flag has increased in size in recent years the number of cadets in training has risen in parallel. However, job opportunities for the cadets at the end of training are limited as increasingly Ship owners and Managers turn to the cheaper labour markets of central Europe and the Far East.

At the moment approximately 700 marine cadets per year go through one or other of the nautical colleges. Within 3 years only 60% of those cadets will still be at sea. Within 7 years the number left will drop to 30%. The reasons given for the drop out are diverse, but failure to find

suitable postings or a dislike of spending extended periods away will figure large.

The majority of these seafaring 'dropouts' will still look to work in the sector. Some go on to specialise in inspection, naval architecture, law or the more direct occupation of shore based ship management. However, a small percentage have looked toward the Offshore Oil Sector. It has been shown that marine cadets, both engine and deck, are ideally suited to be cross-trained in the process and production activities of the FPSO. But there is an added bonus that these staff also understand fully the dynamics of the vessel, having learnt all of the skills necessary during the early part of their careers. In addition, this is a resource group well versed in the necessity of continuous training and skills upgrading, working in an industry where no two vessels or cargoes are alike and with an ongoing need to be trained and assessed on the seafaring skills that will allow them to reach senior officer status.

It would appear to be an ideal match, but there is no real evidence of the Oil Industry promoting this career path through the nautical colleges at the moment. Perhaps this is the time for the maritime training and manning organisations to open the dialogue?