

ENSURING THE INTEGRITY OF FLOATING PRODUCTION OPERATIONS FOR THE OIL AND GAS SECTOR



“Oil and gas companies today are under increasing scrutiny to ensure the integrity and safe and efficient operation of their offshore production assets. Whilst recent focus may have been on drilling rigs in the Gulf of Mexico, this issue affects all offshore assets and it’s an area where there is no room for error.”

Ian Kennedy

Partner, Oil, Gas and Chemicals

Executive Summary

- Integrity and safe and efficient operation of offshore production assets is vital in the industry today
- FPSO’s are becoming increasingly used in exploration in smaller and marginal fields
- The complexity of these asset types makes them harder to operate than typical offshore assets
- EC Harris have established corporate Asset Integrity Management systems that best suit the owner and end clients needs and business drivers. It also acts as a basis for which the supply chain should be structured to ensure objectives are effectively met.

Increasingly, as exploration moves into smaller and more marginal fields, the industry has turned to Floating Production, Storage and Operations (FPSOs) vessels as the solution. However, whilst these vessels offer the industry significant benefits, they also present complex challenges to the Asset Integrity Manager. Part ship, part oil platform and typically managed through a structure of owner, operator, contractor and sub-contractors, it is clear to see why FPSO’s are more complicated to operate than your typical offshore asset.

Currently there are 250 units in service, with 100 more scheduled to be installed over the next 4 years at an estimated Capital Expenditure cost of \$45 billion. Nearly a quarter of all new FPSOs are expected to be located in the APAC region with Malaysia already home to some of the world’s leading FPSO owners and operators. As more FPSOs come online between now and 2015 it will be vitally important to ensure that the technical and commercial expertise for these is developed and that the Asset Integrity is effectively managed for all assets assets.

Asset Integrity Management – Helping to Drive Greater Efficiency Levels on FPSOs

The performance of oil and gas companies’ assets generally stems from the efficiency of their core operational and business processes. Given the complexity of the work that they perform on offshore and on-shore facilities, inefficient processes can easily develop. For example, it is not unusual to find real maintenance cost efficiency rates of 30-40%, and it is possible to identify areas where potential efficiency improvements can be made that will ultimately help improve performance.

Asset Integrity Management (AIM) ensures that the organisation’s assets perform their required functions effectively and efficiently without compromising on health, safety or the impact on the environment. An AIM approach also ensures that the people, systems, processes and resources that help to deliver this integrity are in place, in use and will perform when required over the whole lifecycle of the asset.

Adopting the Asset Integrity Management (AIM) system is bringing many benefits to the operator. As well as reducing the risk of major accidents, it also yields an improved knowledge of the asset condition, therefore reducing the number of 'nasty surprises' for management from both a technical and financial perspective. It is also improving the contractor management process, as it helps to provide clear lines of responsibility which in turn drives up contractor performance and maintenance labour productivity.

As the FPSO business grows, AIM systems will be key in providing a framework to structure future operations and maintenance to best suit the owner's and the end client (operators) needs and business drivers. It will also function as the basis against which contracts for the supply chain contractors will be structured to help guarantee that those client drivers are effectively met.

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