

Firewater system on the North Sea's first cylindrical FPSO platform



FPSO Sevan Hummingbird

FPSO Owner: Sevan Marine
FPSO Operator: Sevan Marine
Field: Chestnut, UK CNS
Field Operator: Venture Productions

The problem

Sevan Marine designed the world's first cylindrical floating production storage and offloading unit (FPSO Sevan Piranema) to offer a flexible and economic solution for remote oilfields.

As a company looking for innovative solutions for future offshore challenges, Sevan Marine designed the FPSO Sevan Hummingbird to withstand the harsh environment of the North Sea.

The steel hull of the FPSO was built in China and the topside integration was carried out at Keppel Verolme shipyard in Rotterdam.

For this application in the UK Central North Sea, it was required to meet the recommendation of using corrosion-free materials for deluge systems on offshore installations.

The solution

ELASTOPIPE was chosen for the deluge piping due to more simple engineering and quicker installation when compared with rigid piping materials.

The ease of installation made the flexible ELASTOPIPE system easier and more cost-effective to use during the outfitting process. The option to field-run routing modifications to avoid clashes with other disciplines, proved to be another advantage of using ELASTOPIPE, which was appreciated by Sevan Marine.

No welding or metal cutting was required, which meant that no time consuming hot work precautions needed to be taken to protect against danger from sparks or fumes. This was particularly important due to the amount of people carrying out work at the same time for the various disciplines.

Because ELASTOPIPE is not subject to corrosion, the amount and frequency of functional testing could be reduced. For example, on an ELASTOPIPE installation in the North Sea, the original specification for steel was to test the system every 3 months. After testing and trialling, this was increased to 6, 12 and then 24 months. Testing could have been extended to even greater intervals, but the lifespan of other components became a limiting factor, not the corrosion of the pipe itself.