



### TALISMAN GALLEY: FLEXIBLE RISER DAMAGE

The Galley field is a Talisman Energy owned asset in Block 15/23a of the North Sea. The field is exploited via 6 flexible risers and an umbilical tied back to the Northern Producer semi-submersible FPU operated by Petrofac Facilities management.

Routine GVI of the riser system indicated potential damage to the Gas Export riser, observed as a steady stream of gas bubbles emanating from an inverted riser bellmouth guide

With the inability to inspect the riser within the inverted bellmouth the root cause of the damage was unknown. Therefore the riser was isolated and raised to allow inspection of the damaged section. This inspection found structural damage to the outer layers of the flexible pipe caused by mechanical wear against debris in the bellmouth and leading to erosion-corrosion damage of the outer tensile armour wires.

The principal remedial measures comprised the change in riser service from gas export to water injection supporting temporary operations prior to permanent repair of the riser. The permanent repair of the riser involved recovering over 30m to deck without compromising the riser configuration; the cutting of the damaged section from the riser length; reconnecting the cut faces; and reinstallation.

#### SCOPE OF DELIVERY

- Detailed assessment of structural integrity of damage section justifying short term operation without repair in Water Injection Service.
- Verification of the riser cross-section and global response to allow swap of gas export and water injection service between risers.
- Detailed offshore procedures and supporting analysis to allow significant riser lift of 30-40m to enable repair without fully retrieving riser.

#### BENEFITS

- Functional riser system for remaining life of field minimising downtime of gas export and water injection operations.
- MCS offshore support for lift and inspection operations.
- Successful repair and reinstatement January 2006.