

Nexen Petroleum Buffalo Field

Operational Offshore Support Services

ICON Engineering provides operational offshore support services to Nexen Petroleum who operates the Buffalo Field in the Timor Sea. The Buffalo field consists of a wellhead platform (originally installed by ICON) and an FPSO, the Buffalo Venture, which is on charter from Modec.

Nexen is responsible for the wellhead platform and the upkeep and all modifications to the FPSO top-sides facilities.



Installation of the Buffalo Platform by ICON in 1998

As the original project life was 3 years, Nexen elected not to invest in its own facilities engineering group and engaged ICON Engineering in conjunction with PCT Engineers to provide a fully outsourced facilities engineering service Joint venture, which operates as the PICTON Joint Venture.

The facilities engineering support role requires buy-in to Nexen's operating strategies and performance drivers. The work scope therefore includes involvement in budget preparation and exposure to appropriate commercial information not normally available to a contractor. The high trust relationship has been particularly successful and has allowed Nexen to implement a drilling campaign, FPSO upgrades, inspections, and abandonment planning in a cost effective manner with a quality technical result. Nexen has also maintained a zero LTI record over the life of this field.

In addition, resources were available to undertake emergency projects such as the recovery of the tanker loading hose using personnel familiar with the facility.



Buffalo Platform as installed



Buffalo Venture FPSO

Key projects have included the 2002/3 drilling programme and abandonment planning for the field.

The field abandonment planning was commenced in 2002 when a budget, schedule and contracting strategy were prepared. Field abandonment was originally planned to occur in 2001, but the field life has been extended by a drilling campaign and sustained high oil prices. The field life is now dependent on quarterly forecasts of production and oil price predictions.

As abandonment could therefore be triggered at relatively short notice, it was necessary to have regulatory approvals as well as technical and commercial strategies in place ready to implement.

A key feature of the abandonment strategy has been to split the process into a number of phases to allow FPSO removal, well abandonment and platform removal to be undertaken by separate parties at mutually convenient times in order to utilise available equipment and minimise mobilisation costs.

A number of innovative techniques were considered. These included rigless well abandonment and removal of the platform using a jackup drilling rig to lift the platform on to a transport barge.