



Ideas man: ETLP originator John Chianis's company Houston Offshore Engineering is in an alliance with FloaTec to carry out hull and mooring engineering for the design

Photo: HOUSTON OFFSHORE

FloaTec

Contractor joint venture chomping at the bit to prove quick-fire deep water field development concept

THE DEEP-water Gulf of Mexico has emerged as a focus of interest for major operators seeking big oil deposits.

While that has led some companies to step into what is termed the ultra-deep, it turns out the majority of discoveries and prospects for development are in more 'conventional' depths.

Many fields are in less than 6000 feet, says FloaTec director of business development Chris Barton. This is well within the range of the company's Extended Tension-Leg Platform.

The 50:50 Keppel-J Ray McDermott joint venture is pushing the concept as a solution to reducing project cycle time.

The ETLP is part of FloaTec's Project Blue Ocean. Details have been scarce but the ultimate objective is to secure a field development project.

With the bulk of front-end engineering and design work complete and yard space assured between Keppel and J Ray, all that is needed is a project, FloaTec officials say.

Barton adds that potential engineering, procurement and construction contracts could be let within the next 18 to 24 months.

According to Barton, the ETLP is "design-ready" for construction once an operator pulls the trigger on a field development. He says the attraction of the unit is that it can potentially cut two years off the time to first oil.

The idea was conceived back in 1996 by John Chianis and his group at Han-Padron Associates. HPA had done the design for five consecutive TLPs ordered by Shell for US Gulf installation in the 1990s.

The ETLP incorporates lessons learned from those units.

By moving the columns in towards the centre and extending the pontoons out beyond the columns to the tendon porch, overall weight can be reduced by as much as 40% thanks to steel savings in both the deck and the hull.

It also reduces the number of tendons needed. At the same time, the water depth and range of payload can be extended.

ABB acquired HPA in 1998. The ETLP was then built for ExxonMobil for the Kizomba A

ANTHONY GUEGEL
Houston

and B projects off Angola, and also by Conoco for the Magnolia field in the Gulf of Mexico.

FloaTec's parent companies, Keppel and McDermott, acquired the patents to the ETLP from ABB in 2005.

John Chianis still provides work for the ETLP through his company Houston Offshore Engineering, which is in an alliance with FloaTec to carry out hull and mooring engineering for the design.

The hull would likely be built in Asia and transported to a fabrication yard on the Gulf coast for deck integration and final outfitting.

The strongest candidates in the region for building the topsides are Kiewit Offshore Services and Gulf Marine Fabricators, a subsidiary of Houma, Louisiana-based Gulf Island Fabrication.

Both yards are the only facilities along the Gulf coast capable of performing the 2000 to 3000 short-ton lifts that would be needed to raise the various topsides packages onto the hull.

The maximum topsides payload envisaged for the ETLP is around 35,000 short tons. With a rig on-board, the unit is billed as having a total depth drilling capability in excess of 30,000 feet.

Quayside integration is considered to be preferable to hiring a heavylift crane vessel and paying its hefty dayrate. It also eliminates the need for offshore hook-up.

However, FloaTec also sees J Ray's facilities in Morgan City, Louisiana, and Atlamira, Mexico, as also being suitable in some construction capacity, along with Keppel's AmFels yard in Brownsville, Texas.

Elsewhere in the world, "high in-country participation" is possible when building the ETLP, FloaTec claims.

The contractor may have little flexibility in this regard as nations with offshore field developments are keen to land as much of the construction work as possible for their own labourers.

Available in both wet and dry-tree configuration, the ETLP makes the most sense for dry-tree

Dry-tree semisub for ultra deep

FLOATEC is planning to unveil a dry-tree semi-submersible unit that can be used to develop fields in 10,000 feet of water and beyond in six months or so.

This variation of the semisub concept is designed to take the spar head on for operators that wish to have drilling and well intervention capability from a platform in ultra-deep water.

One of the biggest knocks

against the spar is the need for the deck to be installed offshore, which can require several lifts, as well as offshore hook-up and commissioning.

The semisub, on the other hand, can accommodate quayside or near-shore deck integration. It can also provide greater deck space.

"If you can do it dockside and reduce the hull motions you reduce the risk of your

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First run-out in Gulf: Conoco used the ETL design, then owned by ABB, for its Magnolia oil production platform (above) Photo: NOAA

applications because of its reduced motion.

In general, well production and oil recovery rates are higher for dry wells versus subsea completions. In addition, the capacity for well intervention at the surface meets an increasing desire on the part of operators for direct vertical access to the well bore.

Reservoir complexity, mobile rig costs and lack of rig availability are also drivers for the dry-tree ETL.

The hull design is also resilient enough to remain afloat even if one or more of the tendons fail,

the designers claim. This has become a concern among some operators regarding TLPs after the catastrophic tendon failure and capsizing of Chevron's single-column Typhoon TLP during Hurricane Rita in 2005.

The extensions provide better stability, according to FloaTec, and free-floating stability is inherent with the design.

Ultimately, FloaTec believes the significant reduction in delivery time, offshore risk and cost will make the ETL an attractive option for operators looking for a drilling and production facility.

'just needs a first customer'

project," says FloaTec director of technology development John Murray.

The approach FloaTec took with the design, according to Murray, was to start by using as much proven technology as possible. In essence, it was "let's take a semi-submersible and see what we can do to reduce the motions", Murray says.

In order to dampen the

heave motions, FloaTec is evaluating putting a truss or heave plates on the hull. The concept would use "off-the-shelf" tensioners for the risers. Moorings would be some sort of conventional spread configuration.

According to Murray, the only real hurdle to building the dry-tree semisub is not in the engineering but rather "getting somebody to buy the first one".

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