

**SUBSEA  
ENGINEERING  
NEWS**

**FIRST CELL SPAR TO BE 'REEFED'**

*From Houston (BN):* Anadarko Petroleum which is the biggest operator of spars in the world is decommissioning its 10-year-old *Red Hawk* unit which is moored in 1,615m in Garden Banks 876, which served the *Red Hawk* gas field in neighbouring GB877.

Anadarko filed plans more than a year ago - in March 2013 - calling for using non-explosive severance methods, with abrasive or mechanical cutting the primary approach. The 150m-long spar - 7,200t hull and 3,600t topsides - was historic as the world's first cell spar, a third-generation spar design that featured a bundle of tubular pressure vessels rather than the single big cylinder of the first-generation design.

**Fishy theme park**

*Red Hawk* will be towed to Eugene Island 384 and 'reefed', ie sunk to the seabottom to serve as an attraction for marine life. All wellheads, casing and pilings will be removed to a depth of at least 4.6m below the mud line.

US regulations require removal of structures after lease termination. The lease for GB876, where the platform is located, expired in 2012, but the lease for the field in GB877 expired in 2009.

*Red Hawk* was discovered in 2001 and brought onstream in 2004. Anadarko inherited it in its 2006 takeover of Kerr-McGee. With 7bcm in estimated reserves, *Red Hawk* was always considered a small field, thus the need for a cheaper cell spar to produce it.

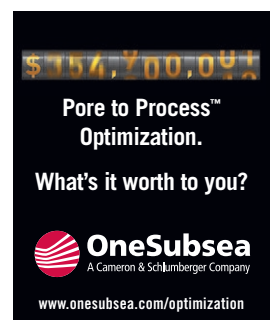
Government records indicate no production at the site since 2008. Hurricane Katrina interrupted output for several months in 2005 and 2006. Production resumed, but was shut again by hurricanes in 2008. By then, it had declined sharply and appears never to have resumed. Only two wells ever produced and production peaked at 3.4mcm/d.

There appears to have been hope for more and the platform was designed for expansion to as much as 8.5mcm/d. In 2009, Anadarko drilled a third



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development well, but it ended up being plugged and abandoned.

The removal of the spar has been delayed from an originally planned September 2013. An Anadarko spokesman told SEN, 'During that time, we explored a number of options for the spar, including selling it, re-using it on other projects, as well as decommissioning.'

This week McDermott announced it has been contracted to supply its crane vessel *DB50* to provide accommodation and decommissioning support services, including removal of mooring lines for the spar. Mobilisation is expected during 3Q14.

The fate of the export pipeline from *Red Hawk* is of note. The southern 75km section of the line was converted from gas to oil and now constitutes the middle section of the three-section, 235km oil export line from Anadarko's *Lucius* (31/10) spar to South Marsh Island 205. The 18in line is operated by the Southeast Keathley Canyon Pipeline Co, a 50-50 partnership of Enterprise and Genesis.

Re-using the pipeline segment required detaching it from the spar and moving the southern end (2.3km) a few hundred yards to the west to link up with southernmost section of SEKCO, which like the northernmost SEKCO segment is new pipeline.

## ECONOMICS AND ANALYSIS

### OIL INDUSTRY CONTINUES FAIL ON PROJECT EXECUTION

The oil industry continues to fail to come to grips with its biggest developments, according to the latest review of 'mega-projects', ie those with budgets over \$1bn.

In the past, it has been US-based Independent Project Analysis (IPA) who have benchmarked the industry (SEN, 31/4) and found it wanting. It is now the turn of EY - the accountancy-cum-financial advisory company formerly known as Ernst & Young - who have looked at the industry, both upstream and downstream, and found it not in control of its projects.

For those concerned about the level of investment to boost production, stop worrying. In the period from now through 2035, the industry will spend \$22.4tn or more than \$1tn/annum. The upstream sector will account for 77% of that spending and 80% of it will be oil-related.

That's the good news. The bad news is that project success is decreasing, notably in areas where complexity is high, such as deepwater.

The numbers are grim: 64% are over-budget and 73% are subject to delays looking at all

projects, but 78% of upstream projects are late or over-budget, a number that is almost identical to an IPA figure presented at OTC two or three years ago (28/4).

On a geographic basis, North America fares best on the three parameters - percentage of projects over-budget (58%), facing delays (55%) and average over-runs (52%) - but only just. The Middle East is the worst for the first two (89% and 87%), but Latin America is worst for the third with average over-runs coming out at 102%.

What all this means is that the cost of 205 projects where capex was provided has had an incremental cost \$500bn. The result is reduced value of projects, poor financial performance and a large number of very unhappy shareholders.

EY says that such results are unsustainable. But are they really? Do project teams ever deliberately under-estimate capital costs to get their developments in motion and worry about the over-runs later? Even more to the point is whether over the life of a project do the over-runs actually impinge on cashflow and overall profitability.



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There are certainly examples that one can refer to - *Durward/Dauntless* in the UK and *Azurite* in the Congo - where the operators, ie Hess and Murphy, got their numbers and reservoirs wrong.

Equally, there are any number of projects - how about if we start with *Åsgard*? - where the capex over-runs were simply swallowed

up by the big earnings over field life.

One view of the offshore sector - maybe it is ours? - is that the industry ran better when less was known on a day-to-day or quarter-by-quarter basis. This is the 'Wizard of Oz' scenario. It doesn't matter what happens behind the black curtain as long as it all comes good in the end.

## PROJECT UPDATES

### BP MOVES TO BOLSTER GOM ACREAGE

*From Houston (BN):* BP led the way in Western Gulf of Mexico Lease Sale 238 this week, submitting apparent winning bids on 27 of 32 blocks it sought, laying out \$22.8mn.

Winning bids remain to be vetted and approved by regulators.

But BP lost out to ConocoPhillips for the tract it wanted most, Alaminos Canyon 431, for which ConocoPhillips bid \$16.8mn and BP \$12.5mn. The battle with BP accounted for the bulk of ConocoPhillips' outlay of \$23.4mn for 10 apparent winners.

AC431 appears to be a hot prospect in the GOM's Lower Tertiary fairway. It is about halfway between Shell's *Perdido* hub in AC857 and BP's 2009 *Tiber* (28/17) discovery in Keathley Canyon 102.

In the same area, just to the northeast, Chevron spent a fair amount of money on four tracts grouped around AC215. Chevron's apparent winners included \$8.5mn for AC 215, \$7.5mn for AC258, and \$3.4mn for

AC260. Sole rival Anadarko bid \$873,760 for each of the three. Chevron also was sole bidder for AC216 at \$5.7mn. Total Chevron outlay for the four: more than \$25mn.

Almost all of Sale 238 interest was in Alaminos Canyon, and a lot of it was right up against the maritime boundary with Mexico, which is not only the last frontier on the US side, but also is becoming more interesting as Mexico tries to reform its energy sector.

BP and BHP battled for six tracts grouped around AC891, west of *Perdido* with BHP winning four of them. BHP had a total of 14 apparent winners totaling \$21.9mn. BP was uncontested for several other blocks in the same vicinity.

As often is the case for western GOM auctions, Sale 238 with 14 companies submitting 93 bids and a total of \$110mn in high bids was small potatoes compared to the last central GOM sale in March. At that auction, 50 companies submitted 380 bids with high bids totaling \$850mn.

### MAERSK MOVES ON ULTRA-HPHT GAS/CONDENSATE PROJECT

*From the North Sea (NT):* Maersk is pushing ahead with development plans for *Culzean* (SEN, 31/5) in the UK's Central North Sea Block 22/25a, which with gas/condensate reserves of 272mboe, looks like the largest of the crop of hpht discoveries in the East Central Graben.

With initial reservoir pressure up to 13,575psi and temperature up to 175°C, this project counts as an ultra-hpht field and should

therefore be eligible for the dedicated allowance which the government is planning to introduce.

Having just issued the environmental statement, Maersk is looking for project approval in 2015 and aims to bring the field onstream in the second half of 2019. Peak production of 13.3mcm/d is expected to be achieved in 2021-23 and 9,950b/d of condensate in 2023.

In a first phase of drilling lasting five years, six producers will be installed, of which three will be online at start-up. In a second phase three replacement wells will be drilled in 2021-23, reflecting the experience that producers have a relatively limited lifetime in such extreme reservoir conditions. There will be 14 well-slots, so there will be ample opportunity to drill more wells if need be. A *Hercules* newbuild heavy-duty jackup has been contracted for drilling.

Not surprisingly, Maersk has opted for a three platform concept – wellhead, processing and utilities/quarters platforms. Ramboll is doing detailed design for the wellhead jacket, which will be tendered soon and is due to be installed in spring 2016. The topside feed has been contracted to KBR.

Maersk is also a partner in BG's *Jackdaw* (31/6) in 30/2a, another ultra-hpht field where BG puts reserves at 125-250mboe. Now in the pre-FEED phase, *Jackdaw* could come onstream in 2018, according to another partner, GDF Suez. Next door, in 30/1a, is GDF's *Faraday* discovery, another ultra, on which an appraisal well may come in 2016.

(From the editor: INTECSEA has picked up the subsea FEED work on this project with the key elements being the export system. There will be a 20-22in gas export line of two possible lengths - 37km or 48km - with both heading for tees on the CATS gas export line.

When the decision is made, INTECSEA will handle detailed design.

The condensate export route also has two options. It could be stored on an fso - either conventional or a Sevan circular unit - and linked to the three-platform complex with a 3.6km 8in-in-14in pipe-in-pipe system. There remains some possibility, according to the *Culzean ES*, of a 100km 10-12in line to *Forties Unity* platform.

The shorter of the gas export routes - to the T2 tee - would run parallel to the condensate line, while the longer route (to T5) goes off to the west.

The scope of work for INTECSEA includes the pipelines, rigid risers at the complex, the subsea isolation valve station, a plem and the riser base structures at the fso. The design of the flexible riser at the storage unit is currently undecided.

The engineering contractor is also reviewing pre-FEED work on the fso being handled by other contractors.

There is also the issue of contaminants in the wellstream which has had an effect on plans for dealing with produced water. Mercury, zinc and lead complicate water disposal and have suggested the need to reinject the producer water rather than simply cleaning it up and dumping it back to sea.)

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## PETROBRAS HITS ANOTHER WHOPPER IN SANTOS PRE-SALT

From Houston (BN): Petrobras' *Apollonia* pre-salt exploratory well has penetrated a huge hydrocarbon column of 313m with good porosity and permeability starting at a depth of 5,166m.

The find confirms extension of the *Jupiter* discovery (Block BM-S-24) in the Santos Basin pre-salt about 296km south of Rio de Janeiro.

The new well- 3-BRSA-1246-RJS (3-RJS-732) - is about 8km southwest of the *Jupiter* discovery well (1-RJS-652-A). Along with a gas and condensate cap, there is an oil column 87m thick.

And Petrobras has not finished drilling the well. Target depth is about 5,700m. Tests

confirm fluids similar to those found at the discovery well, including CO<sub>2</sub> as well as natural gas, condensate and oil. Petrobras operates (80%) for Petrogal Brazil (20%).

Also, the International Energy Agency has described Brazil's second quarter production growth as 'exceptional', but declined to say exactly what that description means. Outstandingly good? Rare, unrepeatable?

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The Petrobras press office sent SEN off to the IEA to explain what it meant by 'exceptional'. IEA's press office declined to elaborate, but sent a copy of the report, which says both: output growth was 'outstanding' (180,000b/d year-on-year).

But Brazil's output growth has since slowed a bit and 2014 should average 135,000b/d more than 2013, or about 2.3mb/d. Second quarter production was boosted by several startups and increasing Petrobras efficiency, IEA said.

## WORKSHOP TO LOOK AT W SCOTLAND RESOURCE POTENTIAL

*From Aberdeen (IF):* The potential for offshore oil and gas discoveries in underexplored offshore areas to the west of Scotland is to be examined.

Locations to come under the spotlight include the Solway Firth, the Firth of Clyde, the North Channel and the Sea of the Hebrides.

The Scottish government has announced it is to co-host a workshop with Heriot Watt University's Institute of Petroleum Engineering to examine the potential for resources in these more remote waters.

Representatives of the industry will attend the autumn event, which will also discuss the requirement for new research to help stimulate exploration off the west coast.

Scottish Energy Minister Fergus Ewing said more activity in this area could create additional employment and further increase the longevity of the industry in the country.

Professor Dorrik Stow, head of HWU/IPE, is looking forward to being part of a collaboration with industry, universities and government to gain a better understanding of the prospects to the west of Scotland.

### Potential

Professor John Howell, chair in geology and petroleum geology at Aberdeen University, added, 'The offshore area to the west of Scotland includes several major basins with hydrocarbon potential.

'While over 3,000 exploration wells have been drilled in the North Sea and west of Shetland, only around 20 exploration wells have been drilled to the west of the Scottish mainland – with many basins totally unexplored.

'This provides significant future potential which can only be appraised with detailed scientific study. This workshop is the first step along the path to unleash that potential.'

## PROJECT BRIEFS

Eni, in partnership with BP, has kicked off production from its **DEKA** shallow water subsea gas development in the Nile Delta, 65km from Port Said, offshore Egypt.

The first well, *Denise South-6*, is producing 1.8mcm/d and 800b/d of condensate. There will eventually be five producers with peak production next year due to reach 6.5mcm/d.

Gas from the 100m location is shipped to shore to the El Gamil plant for processing.

*From Houston (BN):* OneSubsea will supply the subsea xmas trees for BP Trinidad & Tobago's just-sanctioned **JUNIPER** gas project, BP's first ever subsea development in this offshore sector.

Although the water is relatively shallow and the project is relatively near shore, plans call for subsea production infrastructure feeding an unmanned platform.

SEN asked why subsea and a BPTT spokesman said simply, 'This option was selected in 2013 as it best met the business drivers of the project' which is in 110m about 80km southeast of Trinidad.

The development will take gas from the *Carollita* and *Lantana* fields. Five wells are planned with platform production capacity of nearly 17mcm/d. Gas will flow through a new 10km pipeline from *Juniper* to the *Mahogany B* gas hub.

FEED is complete for the platform and fabrication is due to begin this fall. Drilling has been scheduled to start in 2015 followed by platform installation with first gas targeted for 2017. *Juniper* will be BPTT's 14<sup>th</sup> offshore production facility.

Total, as always, is a busy company in the upstream sector, particularly offshore and in deepwater. Having just brought *CLOV* (SEN, 31/6) onstream and launched *Kaombo* (31/9) and *Edradour* (31/9) amongst others, it has no shortage of operator-led opportunities.

Its project personal, though, are busy elsewhere as well. It may be the minority partner in **ICHTHYS** (31/10), but it has the offshore expertise, not operator Inpex. And over in Brazil, the French company - and probably Shell - will be key players providing important personnel on the giant **LIBRA** (31/10) development. Petrobras may be operator, but it has so many hands committed on other pre-salt projects that it is likely that these super-majors will be heavily involved with their 20% stakes.

Here is yet another '**CORRIB** (31/2) is still not onstream' story. Shell has completed the *P6* well on the Irish gas field and flowed it up to production capacity for 24 hours. Europe's most expensive tunnel which will provide a conduit for the pipeline and umbilical from the field to link up with the onshore terminal at Bellanaboy has been completed. First gas is now being planned for mid 2015.

Apparently, though, Shell has not filed an application to begin production. All in good time for the field which was originally due to come onstream a decade ago.

FMC is to supply five additional manifolds with control systems to Petrobras for its **PRESALT** area, offshore Brazil, under an existing frame agreement for 16 such structures, although it has delivered 19 in all. The units, to be designed and fabricated in Brazil, are due for delivery early next year.

IRM specialist Harkand and installation contractor EMAS AMC have been awarded three-year contracts with two one-year options by **APACHE ENERGY** for operations in the UK North Sea.

Harkand's deal also includes some light construction work which will be executed by

*Harkand Atlantis* and *Harkand Da Vinci* which are both North Sea based.

The AMC agreement covers a range of activities including pipelay, umbilical and cable installation and subsea construction including installation of structures. The company is currently developing a new spoolbase at Halsvik, which is 5km north of the oil terminal at Mongstad.

Costain Upstream has secured a three-year extension of its engineering and consultancy services contract with **PREMIER OIL**. The deal is valued at £12mn...**TATA STEEL** has signed a global frame agreement with contractor Subsea 7 off the back of four contracts in the last year valued at £10mn to supply 55km of linepipe and coating...**NCS SURVEY** will provide positioning services to installation contractor CEONA under a five year deal...**AKER SOLUTIONS** and **DNV GL** have inked a global frame agreement with the two companies to work on improved technology collaboration, more efficient project execution and cost savings across AkerSol's business segments.

*From the North Sea (NT):* The Petroleum Safety Authority of Norway has given Statoil permission to drill a new bilateral subsea producer on **VISUND NORTH** (30/16) with the semi *COSLPioneer*.

In fact the well was just completed in mid August. It's not that Statoil was jumping the gun. In fact, the go-ahead was given back in May but only made public last week, the PSA tells SEN. Strange then that the PSA statement says the work was expected to start in August.

## Subsea Production Systems Engineering COURSE

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Next up could be the development of *Titan* (31/5) discovery 34/8-13A to the east, which according to the NPD is planned to be drilled from *Visund*.

Apache which recently announced plans to pull out of several LNG projects to concentrate on its US shale oil assets (31/10) may have to think again. This week it reported what it called an 'exciting' find with its **PHOENIX SOUTH-1** well, its first in the Canning Basin, offshore Western Australia.

It is quite unusual for an operator to give reserves estimates after one well, but Apache's enthusiasm for this find has encouraged it to suggest 300mmbbls of light oil in place, said to be the largest oil find in Australian waters for several decades. This could not have anything to do with keeping its shareholders and the stock market happy!

The drillbit found four separate oil columns ranging from 26m to 46m. Apache plans to revisit the area next year when it might target the undrilled *Roc* prospect.

Strangely enough, a beneficiary of this find may not be a direct licensee. Fugro which has been struggling of late with poor results has an alliance (50% profit sharing) with Finder Exploration which has a 20% in this well.

*From the North Sea (NT):* Statoil's exploration campaign in the Hoop High region of the Barents Sea has ended with more disappointment as **MERCURY** wildcat (7324/9-1) made only an uncommercial gas find (31/10).

The well, drilled by the semi *Transocean Spitsbergen* in 414m, found just 1-2bcm. Previous wells on *Apollo* and *Atlantis* also failed to turn up commercial reserves (31/9). The rig then drilled the tophole of the *Ensis* exploration well (7125/4-3), before making for the *Johan Castberg* area where, according to partner North Energy, it spudded *Pingvin* exploration well (7319/12-1) on 19 August.

It is time to go deep off **GABON** as production sharing contracts have been signed for three blocks with water depths beyond 2,000m.

Noble Energy (60%) in partnership with Woodside has taken up a psc covering Block F15 which is in waters from 2,300m to 3,000m. Marathon has picked up G13 in waters of 900m to 2,500m, while Petronas signed up for F14 in waters of 2,000-3,000m.

Earlier this year, Gabon revised its offshore rights regime giving it slightly higher percentages of psc's plus a bigger tax take and shorter licence periods.

## FLOATER NEWS

### TEEKAY PICKS UP CIRCULAR FAU OPTION

*From the North Sea (NT):* Teekay Offshore Partners, part-owner of Sevan Marine, has exercised the first of six options for the construction a new floating accommodation units (fau) to be built to the Sevan circular design at Cosco's Nantong yard.

The new unit, due for delivery in third quarter 2016, will be the third.

The move follows the completion this month of Teekay's acquisition of Logitel, which took over a couple of half-built Sevan hulls last year for conversion to fau's.

In the process Sevan's exposure to Logitel's debt has been reduced. Sevan's prospects have brightened in other ways. It reports that it is competing to supply an fpso for Premier's

*Bream* (SEN, 31/10) development, where work is now in the FEED phase, and for Shell's *Penguins* (30/12), now in pre-FEED.

On the fso front, it is performing pre-FEED for a bridge-linked unit for Xcite's *Bentley* (31/2) platform development in the UK and has prequalified for Premier's *Sea Lion* (31/9) tlp project, offshore the Falkland Islands.

Conceptual design of the Sevan floating LNG facility has been completed and a constructability study is under way with a Korean yard. The design uses the HiLoad offloading system of which Sevan acquired the LNG version earlier this year (30/22).

Sevan's fourth drilling unit is under construction by Cosco, the first three all

having contracts. Together with North Atlantic Drilling and Seadrill, the company is performing a concept study for an Arctic drilling rig.

Meanwhile the Kanfa process engineering arm has landed new process equipment packages

for Det norske oljeselskap's *Ivar Assen* (31/8) project and Odfjell Drilling and is doing a process package FEED study for JX Nippon's *Layang* fpso. It is also expected to benefit from greater market opportunities following the acquisition of 49% of its shares by Technip in April.

## ENQUEST REPORTS ON FLOATERS: ONE LATE, ONE ON SCHEDULE

*From Aberdeen (IF):* First oil from EnQuest's *Alma/Galia* (SEN, 31/5) fpso development in the UK Central North Sea has been delayed yet again.

Construction work on the production vessel has been slower than expected. Oil is now anticipated to start flowing in the middle of 2015, the company said this week.

The £600mn project had been initially due to come onstream in the final quarter of last year, but the startup date slipped to the second half of 2014.

The development will revitalise the UK North Sea's first producing oil field, *Argyll*. *Alma/Galia* will use the fpso *EnQuest Producer* which will be capable of processing 57,000boe/d and storing 625,000bbls of oil. Finishing work on the vessel is now nearing completion on the Tyne and commissioning has started.

EnQuest said that, due partly to some marine and topside legacy issues associated with earlier work, construction work in the yard has advanced more slowly than expected.

To avoid the worst of the winter weather, sailaway of the vessel is now planned for spring 2015 with first oil by mid-year.

EnQuest has also given an update on the *Kraken* (31/9) development, one of the largest new oil fields in the UK North Sea.

A tanker is being converted into a production vessel for the £4bin project east of Shetland. It arrived in the Keppel shipyard in Singapore earlier this year and the hull conversion and marine system refurbishment is progressing.

EnQuest said pipeline route surveys have been undertaken on the *Kraken* site, boulders removed and preparatory pipeline initiation facilities installed.

In the second half of this year, two integrated template structures will be installed - key elements of the subsea infrastructure.

EnQuest said *Kraken* is proceeding on time and on budget. First oil is targeted for 2017. The *Kraken West* appraisal well *Tyrone* will be drilled in the second half of this year.

*(From the editor: Safety is always meant to be high on the agenda for operators, although one wonders about the truth of that view, considering reported and unreported incidents on various facilities.*

EnQuest, though, seems to be on schedule for some sort of record. It has just reported 11 years without a lost time incident (LTI) on its three North Sea facilities - the ancient *Heather* and *Thistle* platforms and the *Northern Producer* production semi which operates over the *Don* fields.

What is most notable is that it has not simply been 'business as usual' on these facilities, but an increase in activity, mostly focussed on drilling new wells. As the old saw goes, you only make money in the oil business by spinning the drillbit.

During this period, EnQ instigated the R2D2 (return to drilling) project at *Heather* which will keep this ageing facility in production through 2030; the *Thistle Life Extension* programme which has added millions of barrels of additional reserves; and a new drilling schedule on the *Don* fields.)





## FLOATER BRIEFS

*From the North Sea (NT):* Kongsberg Oil & Gas Technologies has been awarded a contract by Statoil for the extended concept study and pre-FEED for infield flowlines and risers for the **JOHAN CASTBERG** (SEN, 31/8) floater development in the Barents Sea.

The work, due to be completed in June 2015, is a continuation of the concept design work completed by KOGT in June this year. It will also be the lead contractor for the project interfaces, it says. Next June is when Statoil is due to reveal the *Castberg* concept, after deciding mid-year that it was not yet ready.

ENI has converted the LOI it signed at the end of March with Bumi Armada for an fpso for its **15/06 EAST HUB**, offshore Angola, into a \$3bn 12-year firm charter. The deal which has options for an additional eight years valued at just under \$1bn covers charter, operations and maintenance.

The unit, which will be a converted vlcc, will have 15,000t topside with a processing capacity of 80,000b/d, 120,000bw/d for injection and 3.4mcm/d. There will be storage for 1.8mmbbls. An external turret will be sized to handle 18 flexible risers and umbilicals. The water depth is 450m.

*From the North Sea (NT):* Statoil's **TROLL C** semi production unit which was shut in last weekend after corrosion damage was found on a pipe connected to the oil export system, is expected to remain out of action for at least a week while the pipe is replaced. Normal

throughput at the floater, including the *Fram* satellite field, is 92,000b/d and 10mmcm/d.

Production through the fpso *Petrojarl Banff* which handles wellstreams from the **BANFF/KYLE** (30/24) complex in the UK sector of the North Sea has resumed after several years of being offline following storm damage. Premier reported that two *Kyle* wells were flowing at 7,000boe/d with two more due to come onstream shortly.

Ithaca Energy has reported that drilling on its **GREATER STELLA AREA** (31/8) project continues to go to plan as its third subsea producer has proven up expected production of 30,000b/d. Installation of the mooring spread for the semi *FPF-1* has now moved onto the anchor chains as 70% of the subsea infrastructure is now in place.

2H Offshore is to design the 18 hybrid risers for Total's **KAOMBO** (31/9) development in Block 32, offshore Angola as a subcontract from Heerema Marine Contractors...Premier has awarded the FEED for the SURF package for its **SEA LION** (31/9) tlp project, offshore The Falkland Islands...The main section of the turret for Shell's **PRELUDE** (31/6) floating LNG vessel is enroute from Dubai to Samsung in South Korea...Inpex has received an environmental permit for the **ABADI** (31/7) floating LNG project...Modec has begun moving the fpso *Cidade de Mangaritiba* out of the BrasFels shipyard in preparation to moving it to the **IRACEMA SOUTH** field in the pre-salt area of Santos Basin.

## TECHNOLOGY

### NEW TECH CENTRE AIMS TO KEEP BSEE UP-TO-DATE

*From Houston (BN):* Brian Salerno, director of the US Bureau of Safety & Environmental Enforcement (BSEE), has been promoting a new technology center in Houston.

The centre's purpose is to keep the agency abreast of technological advances before they become part of formal operations applications speeding up the approval process. Salerno said the office here will start small, but could

eventually employ as many as 30. The hope is that specialists - young, mid-career and retired - could help BSEE keep pace with operators, contractors and manufacturers.

'Part of our challenge as the regulator is we don't create the technology. But we have to keep up with it. We have to really understand what it means in terms of its safety implications,' Salerno told SEN. 'We want to

lean forward into that a little bit, get more on the cutting edge.'

The centre will not focus solely on the Gulf of Mexico - there is a team in New Orleans doing that - but will serve bureauwide needs. Areas of interest include technologies needed to deal with hpht wells and real-time monitoring and how that could improve maintenance and perhaps regulatory inspections.

The center will cooperate with the new Ocean Energy Safety Institute based at Texas A&M. OESI aims to establish collaboration to increase safety and manage risk. At an OESI meeting at the U of Houston - a partner along with the U of Texas - Salerno emphasised the need for more data-sharing to better understand trends in safety and the health of risk management offshore.

An incident during Transocean drilling operations at Chevron's *Moccasin* (SEN, 30/10x) prospect in December 2012 illustrates the need, Salerno said. Broken bolts caused an LMRP to separate from the BOP, spilling more than 400bbls of crude. Investigation found weak oversight of the bolt supplier leading to inadequate coating and hydrogen embrittlement.

Salerno said BSEE received cooperation from bolt provider GE which delivered nearly 11,000 replacement bolts for 461 LMRP connectors worldwide and from operators who replaced bolts where appropriate.

Will this incident lead to more regulation?

'Our preferred approach would be an industry standard. I think that would probably be the quickest to achieve and...make the most sense. It comes down to quality assurance throughout the supply chain, making sure that contractors and subcontractors are aligned and there are checks throughout the system,' Salerno said.

On another front, BSEE expects to launch its 'near-miss' system this fall to encourage the reporting of such events which could have led to reportable incidents.

The Bureau of Transportation Safety will receive the reports and is empowered to withhold the identity of the reporting person even under Freedom of Information Act requests from the media. BTS will build a database of such events and will analyse the data for trends that BSEE and industry can use to improve safety, Salerno said.

## POLICY

### WOOD WEIGHS IN WITH A 'NO' ON SCOTTISH VOTE

*From Aberdeen (IF):* Scotland's most successful oil industry entrepreneur has dealt a massive blow to the Scottish National Party's hopes for an independent Scotland.

Sir Ian Wood, who built the Wood Group into an international energy service giant, said this week he fears for Scotland's future if it votes 'yes' next month to go it alone. He warned it would have just 15 years left before depleting North Sea oil reserves began to hit jobs and the economy.

Sir Ian said he fears the SNP massively over-estimated the amount of oil - and therefore tax revenues - available to an independent Scotland and that the country could be forced to import shale-gas from England.

'I believe the debate should not be about nationalism, but growth and economic

success, and the quality of life for citizens and all that goes with that,' Wood said. 'Against these measures, it's very hard not to conclude the case is heavily weighted towards Scotland remaining in the UK and getting the best of both worlds - I want the best for future generations of Scots.'

Sir Ian was reluctant to come forward with his views, but admitted he was driven by a need to one day tell his grandchildren he did all he could when presented with the chance. He also credited 'wildly inaccurate misquoting' of his historic Wood review from the both the 'no' and 'yes' camps for motivating him to wade into the discussion.

First Minister Alex Salmond's most quoted prediction of a further 24bnbbbls left in the North Sea is 45% to 60% too high, according to Sir Ian.

Scottish Energy Minister Fergus Ewing responded by saying there was a wealth of expert opinion on the huge scale of Scotland's long-term oil and other energy reserves and the opportunities that would offer it as an independent country.

'The estimate of up to 24bn bbls of oil remaining is the industry's own projection,'

Ewing said, adding that the Wood report also used that number meaning there is potentially as much still to be produced as has already been extracted.

Despite Ewing's positive comments, the SNP faces an uphill battle to win the independence vote on 18 September, with bookmaker William Hill making 'no' 1/9 favourite.

## MEXICAN REFORMS COME QUICKER THAN EXPECTED

*From Houston (BN):* Mexico is further along in carrying out reform of its energy sector than analysts believed possible a year ago.

After the House and Senate okayed a package of secondary legislation to carry out previously approved constitutional changes, President Enrique Pena Nieto presided over a ceremony declaring reform a reality less than a year after the effort began.

Pena Nieto kept his foot on the accelerator, calling for immediate announcement of which areas would be set aside for Pemex. His goal is to jump-start the process for foreign investors evaluating opportunities. Several companies, eg Total, Noble and Pacific Rubiales, have already expressed interest.

Ending the 75-year monopoly of state oil company Pemex is a big part of reform, but Pemex has been trying to protect its interest, positioning itself to partner with foreign investors and trying to retain valuable onshore and offshore areas.

Of interest is which deepwater Gulf of Mexico tracts will be available. The Energy Ministry and the Hydrocarbons Commission allowed Pemex to keep its finds in the Perdido foldbelt near the US-Mexico maritime boundary and in the Holok y Han area in the Bay of Campeche. A thin 'panhandle' stretches along the boundary near Shell's *Perdido* development, suggesting a desire by Pemex to have a hand in activity on the American side.

Mexico energy analyst George Baker of [energia.com](http://energia.com) and Rice University's Baker Institute said there are deepwater tracts available for investment, although detailed information is not available.

There are other concerns. Despite the progress in pushing reforms through, details

remain to be worked out, Baker said. There also needs to be a data repository so foreign companies can better understand the geology of prospective areas, information currently under the control of Pemex.

Mexico also does not have an offshore safety regime that synchs well with the US system. The national petroleum fund, intended to resemble Norway's sovereign fund, hasn't been set up nor have details of how it would work been agreed upon.

Brooking Institution analyst Diana Villiers Negroponte wrote that there are issues on which a number of ministries and the newly created HC need to agree on which she said 'could prove challenging.' Three different agencies look after rules on revenue and taxes, protocols for bidding and distribution of income from production.

Baker said he is concerned that a 'tyranny of the majority' is pushing through reform and others remain dissatisfied. Pena Nieto's PRI has allied itself with the conservative PAN to override objections by the leftwing PRD which fears foreign control of Mexican resources.

Seven decades ago, fears led to expropriation of foreign assets here and government control became enshrined in the national political narrative. The leadership needs to spend more political capital to re-educate the public to ensure reform is permanent, Baker said.

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## POLICY BRIEFS

**MOZAMBIQUE** has altered its petroleum legislation to provide more national involvement and will now begin preparing for a new licencing round.

The legislation which comes into effect at the end of the year requires that state oil company ENH must be a partner in all new licences. In addition, 25% of all LNG produced in country must now be designated for domestic consumption.

*From Houston (BN):* API again has urged the **OPENING OF MORE US COASTAL WATERS** to offshore oil and gas development. The new comments are targeted at the Bureau of Ocean Energy Management's planning process for new offshore lease sales in the 2017-22 period after the current five-year leasing programme expires.

Noting that 87% of the coastline here is off limits for drillers, API argues that opening new areas would boost potential energy

resources and strengthen the American ability to shape world events.

'Signaling to the world that the US is serious about discovering new...resources here at home and bringing them into production could give America greater leverage to positively influence events in Ukraine, the Middle East and around the world,' Andy Radford, API senior policy advisor for offshore, said in prepared comments. 'To remain a global energy superpower, the US must continue to explore for and produce new domestic supplies of oil and natural gas.'

The new **IRISH** energy minister is facing calls for a big push to accelerate offshore oil and gas exploration and a get the new proposed regulatory framework (SEN, 31/8) on the books. Alex White who has come to the post in a recent cabinet reshuffle will be watched to see if he can make good on earlier government promises to encourage more offshore activity.

## BUSINESS

### TRAPOIL MANAGEMENT TRIO DEPARTS

*From Aberdeen (IF):* Loss-making UK minnow Trapoil has announced the exit of three top bosses as it moves to cut costs further.

Simon Bragg, who only became non-executive chairman in May, has resigned from the London-based firm with immediate effect. Founder/CEO Mark Groves Gidney and COO Paul Collins are also to step down from the board later this year.

Non-executive director Marcus Stanton has become non-executive chairman.

Trapoil's asset portfolio currently comprises 11 licences and 33 blocks and part blocks, including a 15% stake in the Ithaca Energy-operated *Athena* (SEN, 31/6) field.

The company has made losses of more than £10mn in each of its two last financial years.

Trapoil said in a statement last week that, following a reduction in staffing levels and management pay cuts announced in April, it had continued to monitor expenditure and decided to take immediate short-term measures to significantly reduce the cost base of the business further.

Following the departure of senior personnel, general and administrative expenses are expected to be reduced by £1mn/year. A three-year facility with GE Energy Financial Services has also been cancelled and is expected to save nearly £500,000 annually.

Groves Gidney said, 'It is sad for myself and Paul Collins to be leaving the company which we both started seven years ago. However it has been a struggle for small cap explorers in the North Sea and, in the circumstances, we both feel that the proposed strategy is in the best interest of shareholders.'

The company added that, in light of further potential delays and cost uncertainties associated with Total E&P UK's *Scarinish* (*Alfa*) well, the board had decided not to commit to contributing to the well drilling costs. It said this would be an unquantifiable

and potentially-significant amount of money for the company and Trapoil has allowed its option on *Alfa* with Total to expire. But Trapoil said it would continue to evaluate ways of maximising the value of its interest in the adjacent *Romeo* asset.

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## MAERSK SS BOOSTS FLEET WITH SUBSEA VESSEL ORDER

Maersk Supply Service has increased its visibility in the international SURF and subsea construction market with a newbuild vessel programme contract with the Cosco's Dalian yard in China.

MSS has ordered four subsea support vessel based on a Marin Teknisk MT6027 design under a \$470mn contract. The deal does not cover specialist equipment and includes options for two more units.

This is part of what MSS describes as 'reshaping' its fleet to focus on the field development and IRM market.

### Range of markets

According to a company executive, the vessels will be marketed to IOC's and NOC's and Tier 2&3 contractors looking to charter in units for range of tasks including well stimulation, diving and renewables.

This shift in business strategy was decided upon last year the vessel market dictated a change in focus to subsea vessels rated for 3,000m and anchor handling tugs. MSS continues to aim at chartering vessels and has no plans to move into contracting.



MSS had earlier ordered a DOC8500 deck carrier, a vessel specifically designed to handle a 7,000t cable carousel. This unit, being built by Damen Shipyards in Romania, is already chartered to Deep Ocean UK under a seven year plus options deal.

The four newbuilds are 137m by 27m, rated DP3 with a 400t ahc crane. The design will allow a 3,000t under-deck carousel and a 275t vertical lay tower over its moonpool.

**BUSINESS BRIEF:** Helix Energy Solutions, OneSubsea and Schlumberger have signed a letter of intent to form an alliance in the area of subsea well intervention systems.

Now this is a strange beast. This is definitely Helix's patch, so it must be that Schlumberger and 1-SS have something interesting to offer Helix. Even some of the latter's folks are not exactly sure what will come of this.

Of course, Cameron makes bops and does controls and Schlumberger is big in in-well technology, so maybe something new will come of this. In addition, the alliance might offer some new support services using the Helix fleet including pulling esp's, well commissioning, et al. We wait.

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