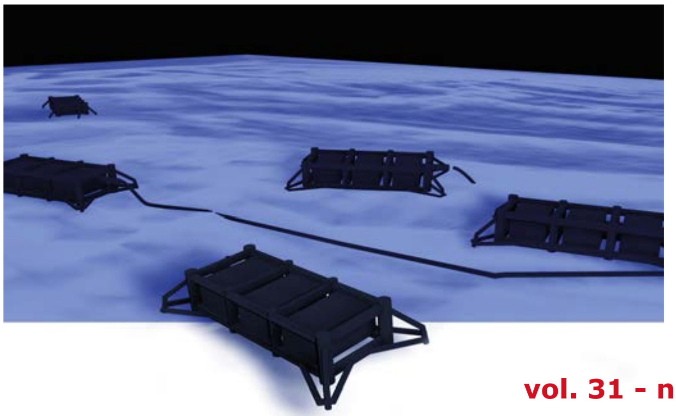

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HARTENERGY

SEN

SUBSEA ENGINEERING NEWS

TALISMAN READIES TLWP TENDER

Talisman Energy is due to go out to tender this week for what is believed to be Asia's first tension leg wellhead platform (tlwp) for its upcoming *Ca Rong Do* development, offshore Vietnam.

Talisman which took over the operatorship of this project in Block 07/03 about 18 months ago from Premier Oil found itself in a quandary over what type of facility would be needed for this moderate, but not shallow water depth (320m) with no nearby infrastructure.

An fpso is also part of the development scheme and partner Petrovietnam has already agreed to install a 75km link to an existing gas pipeline system to shore.

There originally had been some consideration to installing a bottom founded jacket. The most recent structure of such size was the compliant tower installed in 366m on Chevron's *Tombua Landana* (SEN, 23/16) development in Angola eight years ago. It is not clear why such a structure was not considered, but the development team opted for tension leg technology using a design said to be similar to the ones employed by Hess in Equatorial Guinea at *Okume* and *Oveng*.

What makes this interesting as well will be the use of steel catenary risers (scr) here. This is definitely the shallowest water depth application of scr technology anywhere and might prompt their wider use as they are distinctly less expensive than the alternatives - flexibles and riser towers.

Olé!

The fabrication tender is taking place in the shadow of the takeover of Talisman by Repsol which was first announced back in December in a deal valued at $8.3bn plus the assumption of debt.

Although Repsol is the bigger entity, Talisman is a strong hydrocarbon producing company and its acquisition will boost the Spanish company's daily production by 76% to 680,000boe/d and total reserves by 55% to 2.3bnboe.

This week Talisman is to issue documents to its shareholders concerning the takeover in advance of a special meeting of shareholders scheduled for 20 February. Talisman management has recommended the deal, but still requires the approval of shareholders and the regulatory authorities. The expectation is that the deal will be finalised before the end of June.

WHAT'S INSIDE

FOCUS ON NORWAY

NORWEGIAN POT COMES OFF THE BOIL

From the North Sea (NT): After recording good exploration and production results in 2014, Norway is now moving into a much leaner period.

According to UK-based analyst Wood Mackenzie, '…cuts in exploration, deals and development spend will be unavoidable for the Norwegian sector in 2015.'

WoodMac acknowledges high levels of exploration activity last year with 59 exploration and appraisal wells drilled and 817mmboe discovered.

That is a volume of new reserves which many other countries would be happy to achieve, but, according to the analyst, it was a lacklustre year for exploration in Norway. Despite 44 wildcats being drilled, only four discoveries were made which it classes as commercial and likely to be developed.

Two of them, though, - VNG's *Pil-Bue* (SEN, 31/9) and Lundin's *Alta* (31/15) - WoodMac called among the top 30 finds of 2014.

According to the Norwegian Petroleum Directorate 22 discoveries were made. However, many of these were small and are unlikely to prove commercial. It is notable that nine of the finds were made in the frontier waters of the Barents Sea compared with eight in the North Sea and five in the Norwegian Sea.

The approval of new developments has slowed to a snail's pace. Last year, only one new plan for development and operation (PDO) was approved - *Flyndre* (31/14) which is essentially a UK project, and only one new PDO was filed, for the small *Rutil* find near *Gullfaks South*.

Unusually, the NPD does not predict how many PDOs are likely to be submitted this year, although there will certainly be one for the giant *Johan Sverdrup* (31/18) field.

Five fields came onstream. There was one platform development, *Gudrun*, and four small subsea tiebacks – *Brynhild* (31/20), *Fram H North* (31/13), *Svalin* (31/13) and *Vilje South* (28/21). *Goliat* (31/16) and *Knarr* (31/19) were due to achieve start-up but failed to, as did *Valemon* (31/20) which made it a few days late in early January.

Altogether a record 11 fields were under development at the turn of the year.

Move on up

After declining since 2001, oil production increased last year, rising 3% to 1.51mmb/d. The main reason was that new wells had produced more than expected, said NPD head Bente Nyland, although NPD had also predicted a small recovery a year ago. Gas sales, at 109bcm, were marginally up. This year oil output is expected to drop back to 1.49mmb/d.

Meanwhile the steady rise in investments over recent years appears to have ended last year. NPD's provisional figures indicate spending of NOK172bn ($22.6bn), down from NOK173bn in 2013.

Investments are expected to fall another 15% this year, to around NOK147bn, and to continue declining until 2017. Exploration spending, which is not included in these figures, is expected to follow a similar path.

The plunge in oil prices provides the industry with an opportunity to get to grips with high cost levels and create the basis for profitable activities in the future, NPD says. But if prices keep falling without costs levels being tackled, this could have a serious negative effect on activities in the long term, it warns.

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APA AWARDS FOCUS ON NORTH SEA

From the North Sea (NT): The Norwegian government has awarded 54 new offshore licences to 43 companies in the Awards in Pre-defined Areas 2014 round compared with last year's record award of 65 licences to 48 companies (SEN, 30/21).

As APA licensing focuses on mature areas served by infrastructure, it is no surprise that 34 of the new licences are in the North Sea, 16 in the Norwegian Sea and only four in the Barents Sea.

Statoil has the largest number of new licences with eight operatorships and seven partnerships. They include operated acreage near *Balder*; *King Lear* (29/8), where a well is currently drilling; *Njord* (31/9); *Mikkel* and *Skarv* (31/17).

Lundin has also done well, with six operatorships and two partnerships, including operated acreage close to its *Alta* (31/15) and *Gohta* (31/9) finds in the Barents.

Among foreign veterans on the NCS, Total has five operatorships and four partnerships, including acreage near its *Alve North* (31/x) discovery in the Norwegian Sea; ConocoPhillips, two operatorships; Eni, one and one; ExxonMobil, two partnerships and Shell, one operatorship.

Of more recent arrivals in this sector, Tullow Oil has been very successful coming out with five operatorships – three in the middle section of Quad 16, south of *Johan Sverdrup* (31/18) – and seven partnerships, while Wintershall has eight new licences, three of them operated.

Smaller companies in the mix include Faroe Petroleum which received one operatorship plus has stakes in five other licences, including one operated by Centrica just south of last year's *Pil-Bue* (31/9) finds, and two near *Njord*, one of its core areas.

While most of the licences only call for G&G studies and/or seismic acquisition-reprocessing, three require a well to be drilled, all in the North Sea: Statoil in 16/7, Lundin in 33/5 and Total in 25/6, near to its *Trell* find.

SE BARENTS IS A NEW FOCUS FOR NORWEGIAN ACTIVITY

From the North Sea (NT): Norway's major exploration hotspot, the southeast Barents Sea, is firmly in the sights in the 23rd frontier licensing round.

Nearly 60% of acreage - 34 of the 57 blocks and half-blocks - offered by the Oil & Energy Ministry is located here. Another 20 blocks are elsewhere in the Barents and just three in the Norwegian Sea.

'By opening the SE Barents to oil activities we are reaching a milestone in Norwegian oil activities,' said O&E Minister Tord Lien. 'For the first time since 1994 we shall be exploring an entirely new area of the Norwegian continental shelf.'

Several of the SE Barents blocks are right up against the maritime border with Russia, while others are at the northern edge of the area currently available to the oil industry, north of latitude 74°.

Of the other Barents blocks, several are in northerly parts such as the Hoop High region. In areas near the ice-front, there will be times of the year when drilling will not be permitted.

But the ice-front appears to be retreating. According to Climate & Environment Minister Tine Sundtoft, new data shows that it has shifted northwards by up to 70km, presumably in response to global warming.

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The coalition government, whose constituent parties agreed that there would be no drilling up against the ice-front during its term of office, is preparing a policy shift. Following revised calculations of the movement of the ice-front by the Norwegian Polar Institute, this spring a white paper on the matter will be submitted to the Storting.

Proposals will also be drawn up for amending the ice data in the integrated management plan for the entire Barents Sea, although this will not take place until 2020. An expert group will be set up to study the issue and the Norwegian Petroleum Directorate has been tasked with investigating whether oil activities can be responsibly carried out in the presence of sea ice.

Oil companies have until 2 December to apply for licences, which the government aims to award in the first half of 2016.

PROJECT UPDATES

MARATHON MAKES A RETURN TO GOM EXPLORATION

From Houston (BN): Regulators have approved more exploration plans in the Gulf of Mexico, most filed before the recent oil price decline but all clearly based on operators' long-term outlook.

Marathon, which hasn't been all that active in the GoM in recent years, had two plans conditionally approved by the Bureau of Ocean Energy Management (BOEM).

The plan for its *Colonial* prospect in Keathley Canyon 340-384, about 430km south-southwest of New Orleans in 2,030m calls for four 200-day exploration wells, two in each block. The wells are to be drilled at the rate of one a year starting this year and running through 2018. The *Colonial* wells are to be mudline suspended after drilling.

Marathon also won conditional approval of an exploration plan for its *Solomon* prospect in Walker Ridge 225-226-269, about 390km south-southwest of New Orleans in 2,065m. Here seven wells are to be drilled and mudline suspended, four in WR225, two in WR269 and one in WR226. The wells are due to take 265 days to drill and are to be drilled at the rate of one a year starting this year through 2021.

Marathon plans to use managed pressure drilling (MPD) at both prospects, a technology that is classed in the same family as dual-gradient drilling (DGD) and described as 'new and unusual' by BOEM. As with DGD, MPD aims to keep the bottomhole pressure in the 'window' between fracturing the formation and suffering back pressure into the hole, while minimising the total number of casing strings required.

At both prospects, Marathon and partners paid a lot for the leases involved. For the two leases involved in *Colonial*, Marathon and Statoil bid more than $93mn in lease sales in 2012 and 2013. For the three leases involved in *Solomon*, Marathon and Hess forked over more than $189mn in 2008.

Tempting fate

BP is tempting fate again with plans for another unusual name for a prospect. *Mazama*, according to the Internet, is the name geologists gave a volcano that exploded and collapsed eons ago, creating Oregon's Crater Lake.

NB: The ill-fated *Macondo* field was named for a doomed village in a Gabriel Garcia Marquez novel (SEN, 31/20).

The conditionally approved *Mazama* plan calls two wells targeting in Green Canyon 321, about 280km south-southwest of New Orleans in 828m. The wells are expected to take 255 days each and are to be drilled and temporarily abandoned this year and next. BP acquired the tract in 2009 for $7.9mn.

Apache Deepwater has won conditional approval for its *Malcolm* project, three 100-day exploratory wells to be drilled in Viosca Knoll 992 and Mississippi Canyon 30, about 190km southeast of New Orleans in 738m.

This plans calls for the first well this year in VK992, a second well in 2016 and a well in MC30 in 2017. The wells are positioned along and on opposite ends of a depression that extends about 5km.

The lease on VK992 is about to expire. It dates from 2004 when Mariner, Houston Energy and Helis paid $1.1mn for the tract. Apache, Venari and Energy XXI are the current owners. The lease on GC30 dates from 2013, and Apache and Venari went 50-50 on a $10.3mn bid for it.

Elsewhere in the GOM, three new injection wells and a subsea manifold are planned for the *Southwest Cluster* and *Frio* fields of the *Great White* unit which will feed into Shell's deepwater hub based around the spar on its *Perdido* field.

The work is in Alaminos Canyon 856-857-900 in 2,446m about 320km east of the Texas coast, in the far southwestern GoM. The plan calls for installation of a manifold, jumpers, a subsea xmas tree and a flying lead for well GB006 to be drilled this year. Well GB007 is to be drilled and tied back in 2018 and well GB008 in 2019.

In Mississippi Canyon 563, Deep Gulf Energy plans two new wells. MC563 is part of a unit that has been in production since 2009. The wells are in 1,995m about 244km southeast of New Orleans.

DETNOR GETS *ALVHEIM* SATELLITES FLOWING

From the North Sea (NT): Production through the *Alvheim* (SEN, 31/12) fpso hub in the Norwegian North Sea has grown with the start of production from the *Bøyla* (31/20) field this week and is set to increase further with the development of the *Viper* and *Kobra* finds.

Alvheim and its satellites are operated by Det norske oljeselskap following its take-over of Marathon's Norwegian assets (31/6) last year.

Bøyla achieved start-up through one subsea production well. Later this year, in the summer, when the second is due to be completed by semi *Transocean Winner*, output will peak briefly at above 20,000boe/d.

The wells, which also include one water injector, are tied into a manifold which is connected to the *Alvheim* floater by a 28km pipe-in-pipe production pipeline, a water injection line and a lift-gas line.

Reserves are 23mmboe and the development cost some NOK5.3bn ($700mn). Aker Subsea supplied the subsea production equipment and Technip performed pipelay and subsea construction work.

Meanwhile Detnor has revealed plans to develop *Viper* and *Kobra*, two more small neighbouring finds in block 24/9 some 8km south of *Alvheim*, as subsea tiebacks at a cost of NOK1.8bn.

They are expected to produce a combined 7,500b/d when they come onstream in late 2016-early 2017. One well will be drilled on each field through a four-slot template.

The two prospects hold combined reserves of 9mmboe - 8mmbbl of oil plus 1bcm - but the reservoirs are possibly connected, according to Detnor. The first contracts are due to be awarded shortly.

PETROBRAS TAKES 'T-O-W' TO THE PRE-SALT

Petrobras has carried out its its first ever 'tree -on-wire' (TOW) installation job in the ultra-deepwaters of its pre-salt area.

The Brazilian operator which has often used its fleet of rigs in the sector for handling tree installation used Akastor's subsea support vessel *Skandi Santos* for installing a xmas tree on the *Sapinhoá* field in 2,130m last month.

The company suggested that it saved 10 rig days, or $5mn, on the job. It has estimated that a rig would require 40 hours to handle a tree installation in 2,400m, while the support vessel could do it in 4 hours.

This type of TOW installation has been done before in Brazil, but not in such deep water. Engineering work is being carried out now to expand the capability of these types of operations to 2,300m and eventually 2,500m.

Major cost savings have also been achieved in Brazilian waters under Petrobras' PRC-Poco well cost reduction programme.

The first year of the programme was 2013 when costs were reduced by $314mn, but this more than tripled last year to $1bn.

PRC-Poco is comprised 23 elements including unit cost reduction, design optimisation and improved productivity. There is also a direct focus on rig efficiency and availability. Petrobras believes that it saved over $100mn last year as a result in a 2% increase in the fleet's operational efficiency.

Despite its recent ills, Petrobras finds itself on the top of several recent operator listing. It is now the biggest producer of oil (2.86mb/d) amongst publicly traded companies and fourth when gas is included.

It now also has the biggest fleet of floating production units at 45 - 29 fpso's, 15 semis and one non-storing production ship. These numbers don't include four fso's and the recently commissioned tlp.

PROJECT BRIEFS

From the North Sea (NT): Tendering for Shell-SSE's Peterhead **CARBON CAPTURE AND STORAGE** (CCS) project is due to take place in the first half of the year, opening the way to detailed engineering next year, construction in 2017/18 and commissioning and start-up in 2019/20.

The project is expected to capture 1mt/a of CO_2 a year for a base-case period of 10-15 years, but possibly lasting up to 20 years, to be stored in the depleted *Goldeneye* reservoir.

That's assuming that Shell and partner SSE, the operator of the Peterhead gas-fired power station, win the competition with Alstom's White Rose project for the £1bn prize offered by DECC for a demonstration CCS project. The two schemes are currently performing early design and engineering work with £100mn of government money. Final investment decisions by the two sets of partners are expected late this year with DECC choosing the winner in 2016.

According to environmental statements issued by Shell, its offshore scope of work includes the construction of a 20in pipeline from the Peterhead plant to carry liquid CO_2 to the Goldeneye platform. The new line will tie-in to the 100km *Goldeneye* export pipeline to St Fergus. Depending on the tie-in point chosen, the new line could be between 15km to 26 km long. The preferred option is for a 20km line.

An existing 4in service line will be used to carry methanol to the platform for the purpose of hydrate suppression in the injection wells.

Some or all of the five wells will be recompleted for injection by a jackup rig. Platform modifications, which will require the support of a flotel, will include the installation of a CO_2 injection manifold, while the subsea safety isolation valve will also be changed out with the old unit being left on the seabed.

From Australia (RW): The Chevron-led **GORGON** (31/16) subsea gas-to-LNG project off Western Australia has signed a binding sales and purchase agreement to supply 4.15mt/a of LNG to SK Group of South Korea for five years beginning in 2017.

The agreement covers 27% of the project's expected capacity of 15.6mt/a. Chevron says that in excess of 75% of its equity LNG from *Gorgon* has now been sold to Asian customers.

The three-train project on Barrow Island is scheduled to come onstream in mid-2015. Chevron (47.3%) operates for ExxonMobil and Royal Dutch Shell (25% each) plus Osaka Gas (1.25%), Tokyo Gas (1%) and Chubu Electric Power (0.4%).

J+S has executed a one-off design of a replacement high voltage connection for the multiphase booster pump on CNR's **LYELL** field in the UK sector. J+S designed a splice with a pressure compensated housing to be executed in a habitat that could link the existing umbilical to new pigtails. This solution was an alternative to the costly replacement of the umbilical.

From Australia (RW): Emas AMC has been awarded a A$130mn contract by Apache Energy for subsea construction work on the **JULIMAR-BRUNELLO** (29/14) gas project, offshore Western Australia.

The work will include transport and installation of an electro-hydraulic steel tube umbilical, two subsea manifolds plus flying leads and jumpers and diverless tie-in spools.

Julimar-Brunello will supply gas for Chevron's *Wheatstone* (31/19) LNG project. Woodside Petroleum acquired Apache's interest in the two fields late last year (31/19) with the deal due to close by the end of March.

Emas AMC has already begun project management and engineering work. Offshore actrivity will begin mid-2015 using the company's heavy-lift deepwater construction vessel *Lewek Constellation*.

The contractor only recently completed work on the *Coniston* field development for Apache.

Aker Solutions and sister company Kvaerner Verdal have picked up the first contracts for Statoil's giant **JOHN SVERDRUP** (31/18) development in Norway.

AkerSol will handle detailed engineering of the topsides for the processing and riser platforms, while Verdal will build the riser platform jacket. The latter is contingent on the project go-ahead which is due to be made next month.

TULLOW OIL has cut another $200mn off its 2015 capex budget...Statoil has filed a PDO for the NOK4.6bn **RUTIL** development, part of the *Gullfaks South* complex. Reserves are 80mmboe, mostly gas.

From Houston (BN): Noble Energy's **MADISON** (31/18) deepwater exploration well in the Gulf of Mexico has been declared non-commercial.

It reached the targeted Upper and Middle Miocene objectives, but did not find enough hydrocarbons to be of interest. Drilled to TD of 5,139m in Mississippi Canyon 479, the well has been plugged and abandoned. Noble operated (60%) for Stone Energy with the remaining shares.

From Houston (BN): Away from the scandals, Petrobras has reported finding more oil with its Indian partners Videocon and Bharat Petroleum in the Sergipe basin.

The discovery, dubbed **FARFAN**, is in the BM-SEAL-11 exploration block, 107km east of Aracaju. Petrobras said the well found very light oil in a 28m column.

Elsewhere in Sergipe, Petrobras reported a well confirmed the continuation of light oil in the **MURIU** area, about 99km east of Aracaju. The well penetrated a 56m reservoir of good porosity and permeability.

From the North Sea (NT): As oil companies take the axe to exploration spending, **GREENLAND** is one of the victims.

Statoil has relinquished three licences, all covering acreage off the west coast, and now has only one, off the east coast, where it has a longer period to make a 'drill-or-drop' decision. GDF Suez and Dong have also handed back licences, while Maersk has agreed a two-year extension to the initial period of its Baffin Bay licence to give it more time for technical and commercial evaluation.

Cairn Energy has farmed out 10% of its stake in Premier's **CATCHER** (31/20) fpso project to Dyas UK for $182mn in carried costs...Eni has received a three year extension on its exploration period on the prolific **15/06** block, offshore Angola, while picking up two more deepwater blocks offshore **EGYPT** in the Mediterranean...The Philippines National Oil Co is looking into a farm-in to Otto Energy's **HAWKEYE** deepwater prospect.

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FLOATER NEWS

NORNE TO LIVE EVEN LONGER

From the North Sea (NT): Statoil is looking to double the producing life of the *Norne* (SEN, 30/4) field to 2030.

The Norwegian Sea field came onstream in 1997 with the expectation of ceasing production last year. *Norne* and its satellites have so far yielded some 700mmboe, but Statoil now aims to lift recovery to 60% from the current figure of 56.5%, which the company describes as a 'top result worldwide' for a subsea field.

A central element in extending operations is the state of the fpso. With the aid of Polarkonsult in Harstad and Aker Solutions in Tromsø, Statoil last year conducted studies which showed that the hull structure was solid and could probably be kept in operation until 2036. In particular they demonstrated that a yard visit would not be necessary.

There are still plenty of hydrocarbons to be produced through the fpso. The remaining resources in the area may be as much as 300mmboe, according to Kristin Westvik, *Norne* operations VP.

Further satellite tiebacks look likely, in addition to the existing fields – *Stær*, *Svale*, *Dompap* and *Fossekall*, all Statoil-operated, and the third-party fields *Alve* and *Marulk*. They will probably include Total's *Alve North* discovery, although Statoil, a partner in that licence, has declined to take part in the *Alve North* drilling.

Statoil plans to establish a project organisation in 2017 detailing the scope and scheduling of investments and will apply for an extended technical life licence for *Norne* in 2021. The field produced an average 11,000b/d last year.

ENBRIDGE TO BUILD *STAMPEDE* LINK

From Houston (BN): Hess and its partners in the *Stampede* deepwater floater project have contracted Enbridge to build a 26km 18in oil export pipeline to connect the planned tlp to an existing line, not identified, but almost assuredly BP's *Caesar* system.

The *Stampede* lateral will originate in Green Canyon 468, about 350km southeast of New Orleans in 1,067m. Assuming *Caesar* is the export link (no permit yet appears), the lateral will tie in to the 24-28in main line in GC471, three blocks to the east.

The *Caesar* oil pipeline runs from Freeport-McMoRan's - but formerly BP - *Holstein* spar in GC645 to a hub in Ship Shoal 332, a length of 112km.

Also, Oceaneering has snagged the contract to supply the umbilicals and distribution hardware. The order is for 14km of electro-hydraulic steel tube umbilicals, termination assemblies, hydraulic and chemical distribution units, electrical distribution units, flying leads, and junction plates.

Oceaneering plans to begin assembling the umbilicals at its plant in Panama City, Florida, in the second quarter and fabricating the distribution hardware at its facilities in Houston. Delivery is set for mid-2016.

In earlier contract awards, Subsea 7 will install flowlines, steel catenary risers, umbilicals, jumpers and associated subsea architecture which will link two drill centres to the tlp and provide water injection and gas lift to the wells.

There will be two 10in production flowlines from each drill centre. The main installation phase is due to commence in Q3 2016 and conclude in Q1 2017.

Proserv provides a 12-well subsea control system along with associated topside and subsea interface equipment.

Startup of *Stampede,* the joint development of discoveries at *Pony* (GC468, Hess, 2006) and *Knotty Head* (GC512, Nexen, 2005) – is set for 2018. The reserves are 300mmbbls.

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FLOATER BRIEFS

China's Cosco shipyard group has taken a $90mn writeoff on the unsold **OCTABUOY** floating production system.

This unit, a hull and topside module, was ordered under an agreement with ATP UK for deployment on the *Cheviot* (30/18) field. When ATP's US parent filed for bankruptcy, the deal was seen as being in trouble which was confirmed in July 2014 when the UK entity faltered and said it was going into a 'company voluntary arrangement'.

In December last year, Cosco's debt claim was confirmed and its Nantong yard received a $5mn part payment.

Recent difficulties in the market exacerbated by the plummeting oil price has made it impossible for Cosco to sell the floater which resulted in this week's writeoff.

From Houston (BN): Anadarko has confirmed first oil at its ambitious deepwater **LUCIUS** (31/16) project in the far southern reaches of the Gulf of Mexico.

The $2.8bn project is based on a spar moored in 2,160m in Keathley Canyon 874-875-918-919, some 440km southwest of New Orleans. The floater has a processing capacity of 80,000 b/d and 12.8mcm/d handling flow from six subsea development wells.

The facility will also handle gas from ExxonMobil's nearby *Hadrian South* (28/24) development in KC964.

It has been a long road. *Lucius*, estimated to contain 300mmboe, was discovered in 2009, appraised in 2010 and the project sanctioned in 2011. The 184m, 20,700t spar was built in Pori, Finland and towed to Kiewit's Ingleside, TX yard near Corpus Christi in May 2013 for mating with the topsides Kiewitt was building.

The spar was towed to its operating site in the GoM and installed in October 2013. The topside was towed out to the spar and installed in the spring of 2014.

Oil will be piped ashore by the Southeast Keathley Canyon Pipeline Co and the gas via a Discovery Producer Services line.

Anadarko Lucius operates (27.8%) for Plains Offshore, ExMob, Apache, Petrobras, Eni and Teikoku (INPEX).

From Australia (RW): Matrix Composites & Engineering has delivered one of the world's largest installation buoyancy structures to Heerema Marine Contractors for use on Inpex's **ICHTHYS** (31/17) gas-to-LNG project off Western Australia.

The structure weighs 103t in air and provides 150t of uplift in water. It has been constructed from a modular design so that it can be assembled in numerous 3D configurations to meet project requirements. The structure is part of the modular installation buoyancy package to be used to deploy subsea structures at *Ichthys* by Heerma's installation vessel *Aegir*.

Together they will install the flowline end termination and in-line tee structures onto the seabed 250m below the surface.

The buoy is made up of 72 standard elements held in place with a through member. Overall the structure is 12.3m high and 6.44m long.

Apart from enabling multiple configurations as required, the modular design also enables any damaged element to be removed rather than replacing the entire module. Matrix believes the system is a more cost-effective and flexible solution compared to customised buoyancy structures.

Shell is reportedly continuing its sell-down of its Brazilian assets by parting with its 80% shareholding in the **BIJUPIRA-SALEMA** fpso development to HRT.

Bijupira-Salema came to Shell as part of its takeover of Enterprise Oil back in 2002. Last year it sold a 23% stake in its *Parque das Conchas* development (SEN, 30/12) to Qatar Petroleum, while HRT acquired its first domestic offshore production through a deal for the *Polvo* field.

Premier Oil's *Bream* (31/13) field in Norway has been renamed **VETTE** and the fpso development is being looked at closely for cost saving opportunities in advance of the plan for development being filed later this year...Eni has received the formal production readiness notice from the Angolan authorities for the fpso *N'Goma*, operating on the **15/06 WEST HUB** (31/19) development which came onstream in late November...London Marine Consultants, a subsidiary of Ezra Holdings, is to design and supply an external bow-mounted turret system for Petrobras' **LIBRA** (31/18) extended well test fpso. The unit is being supplied by a joint venture of Teekay Offshore and Odebrecht Oil & Gas based on the converted shuttle tanker *Navion Norvegia*...Production at the **HUNTINGTON** (31/14) field fpso continues to be constrained by problems with the *CATS* gas export system...Semi production unit *FPF-1* due to operate for Ithaca Energy in the **GREATER STELLA AREA** (31/13) in the UK will be delivered for first oil in Q3 of this year.

From Australia (RW): The first custom-built LNG carrier for the **PNG-LNG** (31/4) project fleet has been named *Papua* in a ceremony at Hudong in China. The vessel has been built by the Hudong-Zhonghua Shipping Group and will be operated by the Mitsui OSK Lines on behalf of ExxonMobil. It is the largest vessel of its type built in China and has a capacity for loading 172,000m^3 of LNG.

Papua will be delivered in the next month or two. Along with three other carriers - *The Spirit of Helga*, *Gigira Laitebo* and another being built at Hudong - it will be dedicated to ship PNG-LNG to Asian customers.

Shell, GdF Suez, the Gas Authority India Ltd (GAIL) and a local distribution company have signed two memoranda of understanding for the development of a **FLOATING LNG TERMINAL** off the southeast corner of India in Andhra Pradesh.

The semi drilling unit **COSL PROSPECTOR**, recently delivered to COSL Drilling Europe, is the first to use the GG5000 hull design developed by Wood Group Mustang. The unit designed for waters to 1,500m is scheduled to operate in the Norwegian sector...Hyundai Heavy Industries' new deepwater drillship design **HD12000** which will be able to handle the latest 20kpsi bop has received approval in principle from classification society ABS.

IRM specialist N-Sea has extended its charter of the subsea construction unit **SIEM N-SEA** for an additional six years...Oceaneering has inked a two year deal with Shell Offshore for the charter of its multipurpose vessel **OCEAN ALLIANCE** for IRM, subsea repair work and intervention activities.

OIL PRICE CRASH

MANY VOICES CALL FOR ACTION TO SAVE OFFSHORE JOBS

From Aberdeen (IF): Pressure continues to mount on the UK government to give additional help to the country's beleaguered offshore industry, which has already begun to shed hundreds of jobs.

Chancellor George Osborne last month announced reforms to the offshore fiscal regime, but calls are now growing for more drastic steps to be taken. A prolonged drop in the oil price could threaten tens of thousands of jobs in Britain's high-cost oil industry.

North Sea industry leader Sir Ian Wood has suggested that the supplementary corporation tax on oil company profits should be slashed even more than originally announced by the government, even though this move would not have much immediate impact.

'The key is to stabilise the industry, avoid a real crisis of confidence and ensure they can see a sustainable future,' Sir Ian said. 'There's virtually nothing, fiscally, that can be done at $45, $50 oil to have any impact because, at that stage, very few operators are making profits and if they are not, they are not paying taxes. What is really important is to...set a medium-term tax regime so it will continue as the oil price recovers.'

That would involve at least a further 10% off the supplementary to 20% or less.

Chief Secretary to the Treasury Danny Alexander said the reforms to offshore fiscal regime announced in December would be in place by March's Budget. He also said the government will consider going further with changes if needed.

With only a few months to go to the next UK general election in May, the future of the North Sea is now a top item on the agenda.

The GMB union has called for firms not to make decisions 'on the hoof' which could have a long-term impact here. An official said the union is asking contractors and clients to hold off until there is an assessment of the current situation and what needs to be done, including action by UK and Scottish governments.

Malcolm Webb, chief executive of Oil & Gas UK, said the rapidly-falling oil price and escalating costs have affected activity here, with companies having to make difficult decisions in a challenging business climate. 'OGUK believes...action is...needed on three fronts...the industry must proceed to implement necessary cost reduction and efficiency improvement measures...the Department of Energy must proceed as quickly as possible with the full establishment of the new Oil & Gas Authority and...its office in Aberdeen and...(the) Treasury must radically reduce the tax burden on this mature ...province. Tax rates ranging from 60% and up to 80% are no longer sustainable.'

Summit set

A date has now been set by Aberdeen City Council for the oil summit (SEN, 31/20) being held in a bid to save jobs. Council leader Jenny Laing said the event will be held on 2 February at Aberdeen Exhibition and Conference Centre.

'The city council called the summit because it is vitally important that...governments, industry representatives,...unions and experts ...address the falling oil price,' Laing said.

Scottish First Minister Nicola Sturgeon who has announced the formation of an energy jobs taskforce and Scottish Secretary Alistair Carmichael are both planning to attend.

JOBS SLASHED ACROSS THE INDUSTRY

From Aberdeen (IF): Scarcely a day passes at this difficult time for the oil industry without more job cuts at home and worldwide.

Talisman Sinopec Energy UK is the latest North Sea operator to reveal posts are going. It said on Wednesday that 300 positions - 100 employees and 200 contractors - are being cut from a workforce of about 3,000.

The same day, Baker Hughes which is being acquired by Halliburton in a $35bn deal – said it was laying off about 7,000 employees.

Last week, BP announced it was cutting around 200 jobs and 100 contractor roles from its near-4,000 strong North Sea workforce.

Schlumberger, biggest oilfield service company, is chopping 9,000 jobs – more than 100 of them from North Sea operations.

More bad news on the jobs front is expected in the weeks and months ahead as belt-tightening continues across the industry and more companies hunker down.

TSE UK managing director Paul Warwick said the industry is operating in a mature environment with a declining oil price, ever-increasing operating costs, falling production, reduction in exploration and asset integrity and maintenance issues.

Talisman wrote to all of its employees this week informing them of wage freeze and a reduction of 10% in rates paid to all contractors earning over £300/day.

Trevor Garlick, BP regional president, said his company was committed to the basin, but 'given the well-documented challenges of operating in this maturing region and in toughening market conditions' the company is taking steps to ensure business remains competitive and robust.

'Whilst our primary focus will be on improving efficiencies and on simplifying the way we work, an inevitable outcome of this will be an impact on headcount,' Garlick said.

Meanwhile, business advisors Deloitte reports that exploration and appraisal (E&A) drilling activity here was down 20% last year. Forty E&A wells were spudded, a drop of 10 on a dismal 2013.

The Deloitte report also found there was a reduction in new field start-ups, decreasing from 13 in 2013 to just six last year.

There were fewer deals completed, dropping from 63 in 2013 to 23 in 2014. Farm-ins were the most prevalent type of transaction again in 2014, representing 57% of deals.

With the price of oil falling significantly, many asset prices are likely to be revise which Deloitte said this could result in more deals being completed this year.

It is likely that if the oil price remains low, assets will become more affordable to the region's cash-rich players who may be looking to invest in the UK basin.

BUSINESS

IO AIMS FOR NEW APPROACH TO FRONT-END WORK

The old adage 'where some people see problems, others see opportunities' might be how the new venture io oil & gas consulting sees the current marketplace.

Of course creating an entity like io - a 50/50 joint venture between McDermott International and GE Oil & Gas - takes time in gestation, so the process began long before the current oil price crash.

According to ceo Dan Jackson - who joined the McDermott world two years ago when the American company acquired DeepSea Engineering & Management (SEN, 30/1) - the birth of io was borne more out of the frustration with the project 'hiatus' that began when cost escalation hit new developments.

The *raison d'etre* for io is to 'leverage' - a word straight out of the GE playbook - the experience of the two parents across the field development landscape to create a new front-end company whose aim is to help operators create a 'clearer blueprint' for their projects.

There is an anomaly, though. Io - whose name comes either from the moon of Jupiter, 'independent-operations' or maybe even input-output - wants both to be seen to share the expertise of its parents in subsea hardware, fabrication and installation, while still being independent. Tough call.

Jackson believes that the expertise to bring down project costs lies with contractors who understand better than operators the breadth of development challenges. He thinks that operators need more certainty on costs before they get to their key decision gate, FID - financial investment decision.

Io, which will be based in central London to take advantage of its attraction to draw in talent, is led by Jackson and chief technology officer Mark Dixon from McD side and Tony McAloon and Oliver Dixon- no relation to Mark - coo and cfo, respectively from GE. McAloon is actually a recent recruit from Baker Hughes who may (or may not) have jumped ship in the wake of the Halliburton takeover.

The plan is eventually to have a workforce 'in the hundreds' which might have seem difficult some time ago, but might be possible now if other companies begin shedding staff.

SEN Online Glossary of Terms - click here

NEW VENTURE AIMS TO GET COMPOSITE PIPE IN THE MARKET

Composite pipe manufacturer Magma Global and pipelay system component fabricator Maritime Developments have joined forces in a venture which is aiming to help get the high-spec pipe into the market.

MD has designed a compact portable pipe deployment system that could be used on a vessel of opportunity that can handle Magma's pipe in what would be a non-production mode in competiton with coil tubing. The target is the chemical intervention market for wells, ie scale squeeze or acidisation treatments.

Magma's pipe which can operate with harsh chemicals and at high pressure has the fatigue life that would allow it to be deployed multiple times for such applications, while often coil tubing is used only once. The Magma design's main limitation is the minimum bend radius of the pipe.

The system will allow the deployment of multiple strings of pipe with connectors in order to allow it to be used in a range of water depths out to 3,000m. The tensioning capacity of the system is just 15t because the piple is neutrally buoyant in water.

Magma is following a similar path to the other new composite pipe supplier Airborne Oil & Gas (SEN, 31/18) which found its first niche in a downpipe application for pipeline commissioning. Both are likely to find their way into the spool and jumper sectors before getting the opportunity to supply risers.

MD is not a new player in the market, but is a relatively new name. It began life making deck equipment for handling fishing gear, before migrating into reel-drives sold through third parties. It now delivers vertical lay systems with four-track tensioners and winch packages ranging from 5t to 4t.

BUSINESS BRIEFS

Acteon has created a new company, **CLARUS SUBSEA INTEGRITY**, from the integrity business of group company 2H Offshore. The Houston-based company will be led by **John MacDonald** and **Dharmik Vadel** who had looked after the business inside 2H. This move is part of Acteon's opex-oriented strategy towards ageing deepwater facilities.

Mooring rope and wire specialist **BRIDON GROUP** has acquired the mooring business of ScanRope, which is part of Parker Hannifin. Norwegian-based ScanRope supplied both steel and fibre mooring systems.

Royal Boskalis Westminster continues its indirect pursuit of **FUGRO** (SEN, 31/17) by increasing its holding to 20.1%. It still asserts that the share acquisition is not part of a move to make an offer. Fugro calls the stakebuilding 'unsolicited and unexpected' and says it values its independence.

DEEPOCEAN has reorganised its geographic structure into Greater North Sea and international sectors. **Ottar Maeland** will look after GNS, while **Mads Bardsen** will head up the international division with reporting to ceo Bart Heijermans.

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