

SEN

SUBSEA ENGINEERING NEWS

(with DEEPWATER INTERNATIONAL)



Remote Subsea Power Hub Tested

A full-scale remote subsea power hub, driven by ocean currents, is going into the water for testing next month at the Underwater Centre at Fort William in Scotland.

The system has been developed by East Coast Oil and Gas (EC-OG), and the company's Managing Director Richard Knox told a National Subsea Research Initiative Technology Showcase event in Aberdeen that it will be tested as part of an 18-month, £4 million (US\$ 6.1 million) programme.

The tests will aim to demonstrate that it is feasible to provide information from the seabed back effectively via a satellite link to any location, without the need for an umbilical.

Knox said, "We believe things are moving toward the autonomous subsea well. Keeping a subsea well operational only needs a maximum of 100 watts to keep the subsea control module up and running and keep the oil and gas flowing, effectively keeping the lights on for us."

He said there are almost 400 subsea wells in the U.K. North Sea, which have suffered from a temporary shut-in because of failures, which can be down to the umbilical.

Some of the key things that can affect an umbilical are water ingress, damaged seals and failures of electrical connectors. All these can lead to failure in electrical supply.

Knox said, "We have reached a point in 2015 where the average tieback distance is 20 km and some are as far back as 100 km from the host facility. The cost of getting electrical service to the well is proportional to the tieback distance. Not only are we in a situation where a large number of assets are reaching the end of their design life, they are getting to the point where failures occur much more regularly.

"If there is a failure, wouldn't it be nice to have a simple solution, something we could just plug straight into the

control module to get us back up and running and get oil and gas flowing again."

The subsea power hub being developed by EC-OG aims to provide a predictable source of power and an energy storage solution all in a small footprint.

Ocean currents can be predicted 100 years in advance and as long as the planet keeps on turning the ocean currents are going to be there, Knox said.

"It is important from a cost perspective that we don't overengineer the system. By knowing what is going to happen in such a long period of time reduces the engineering challenge," he added.

The 500-watt EC-OG hub has been kept small, 2 m across, with the turbines in Delta configuration.

"We can package the turbines in a system, which is overtrawlable, easy to install and most importantly of all there is a high level of redundancy, which means we can be extremely reliable.

"By keeping the unit within a small space we can create double the energy capacity. At 0.4 m per second, we can start generating useful electrical power and that is key."

He said that because the turbines can cut in at such a low speed and generate power, the device can be installed in the same location as the infrastructure it is looking to service.

"It's not only in the U.K. that this is the case. There are suitable ocean currents in the Gulf of Mexico, Indonesia, Australia [and] West Africa. These conditions exist globally."

EC-OG is the only company in Aberdeen that has been awarded support by Scottish Enterprise's top-tier High Growth Start Up Unit, whose task is to identify companies with a high potential of developing new technology that can be commercialised and used for the benefit of the Scottish economy.

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DEVELOPMENT

Statoil Slashes Costs for Polarled



The *Solitaire* has completed laying the Polarled pipeline.

Statoil has managed to shave just over \$400 million off the cost of the Polarled Pipeline. An original investment budget of \$1.33 billion came in at \$900 million for the line, which has just been completed.

Torger Rød, head of projects at Statoil, said, “This is due to good planning, good market knowledge and good execution—and the fact that we could combine several large projects when we went to the market and negotiated for pipes and vessels. Based on this, we were able to achieve favourable conditions in the market with regard to capacity and price.”

The final pipe in the 482.4-km-long Polarled Pipeline was recently installed at the **Aasta Hansteen** (32/11) Field in 1,260 m in the Norwegian Sea.

Polarled is the first pipeline on the Norwegian continental shelf that crosses the Arctic Circle and opens up a brand new highway for gas from the Norwegian Sea to Europe. It is also the deepest.

The 36-in. diameter pipeline extends from Nyhamna in Møre og Romsdal to the Aasta Hansteen Field in the Norwegian Sea and was laid by Allseas’ *Solitaire* pipelay vessel.

The pipelaying work began in March 2015 and the line consists of more than 40,000 separate 12-m pipes.

This is the first time that a 36-in. pipe has been laid in such deep water. The pipeline’s capacity will be up to 70 MMcm/d of gas.

In the initial stage, only the gas from Aasta Hansteen will be transported through Polarled; however, the pipe has space for more.

“We have therefore installed six connection points. Call them future slip roads to the new gas highway,” said Håkon Ivarjord, project director for the Polarled development project. “With this pipeline, we open up for the export of gas to Europe from a completely new area, and with the infrastructure in place it will also be more attractive to explore the area.”

Production from Aasta Hansteen could start up in 2018, rather than 2017 as planned, the oil and energy Ministry said in its 2016 fiscal budget.

The field, which is being developed with a spar platform, was previously expected to start in fourth-quarter 2017.

Problems at the Hyundai Heavy Industries fabrication yard in South Korea are causing delays to delivery of the platform, which will be the first spar installed on the Norwegian continental shelf.

Mexico Auction Sparks Strong Interest

From Houston (BN): Mexico’s Round 1 shallow-water production auction last week (also known as Round 1.2) was much more successful than the Round 1 shallow-water exploration auction last July (Round 1.1).

With Mexico offering more favourable terms, Round 1.2 saw three of five blocks attracting successful bids. In Round 1.1, only two of 14 blocks attracted any bids at all.

Dallas Parker, a Mexico energy expert at the Houston-based Mayer Brown law firm, told *SEN* the outcome bodes well for “the big prize of deepwater bids early in 2016.”

Parker said Mexico—opening its oil fields to foreign investment for the first time in more than 75 years—has responded to oil companies’ demands for better terms, especially in an environment of \$50 oil.

And the trend toward easier terms will likely continue because “only with a successful deepwater bid round will Mexico be able to declare Round 1 a success,” Parker said.

The changes from Round 1.1 to 1.2 include Mexico made clear the minimum royalty and working capital

requirements for a successful bid (in Round 1.1, companies had to guess); Mexico limited the government’s freedom to rescind contracts (companies considered the rules for Round 1.1 too harsh); and Mexico also loosened its requirement of corporate guarantees, making it easier in Round 1.2 for subsidiaries of international oil companies to bid.

Of course, another factor in Mexico’s Round 1.2 success is that the five groups of production blocks offered were less risky than the 14 exploratory blocks offered in Round 1.1.

But Parker said Mexico’s increasing sophistication in the setting of terms also is playing a role.

“Mexico had planned all along that these early phases would be educational,” Parker said. “I believe Mexico is leaving its ears open to ensure that the deepwater bids are successful.”

Regarding the actual Round 1.2 results, the nine companies that submitted bids for production sharing contracts included some big names such as Statoil, Lukoil,

Eni and CNOOC. Bigger names such as Shell and Chevron were among others who qualified but, in the end, did not submit bids.

Most of the competition was for Block 1 encompassing the **Amoca**, **Mizton** and **Tecoalli** fields and covering 68 sq km in shallow waters off Tabasco, with 62.84 MMbbl proven (1P) but 187.6 MMbbl proved, probable and possible (3P).

Italy's Eni won Block 1 over eight competitors by promising the government an 83.75% share of profit production and offering to spend 33% more than the minimum working capital required on the project.

A partnership of Houston-based Pan American Energy and Argentina's E&P Hidrocarburos y Servicios won Block 2, encompassing the **Hokchi** Field and 42 sq km in shallow waters off Tabasco, with 21.31 MMbbl proven (1P) but up to 92.68 MMbbl possible (3P). The Block 2 winners offered a 75% share of profit oil and 100% more than minimum working capital.

A partnership of U.S.-based Fieldwood and Mexico's Petrobal was sole bidder for Block 4, encompassing the **Ichalkil** and **Pokoch** fields and 58 sq km in shallow waters off Campeche, with 41.44 MMbbl proven (1P) but up to 190.63 MMbbl possible (3P).

The Block 4 winners offered 74% share of profit oil but no working capital over the minimum required. Blocks 3 (**Xulum** off Tabasco) and 5 (**Mixon** and **Nak** off Campeche) drew no bids.

Meanwhile, in upcoming deepwater bidding, Mexico needs to attract significant interest to salvage a bidding round hampered by delays and low oil prices, with Phase

4 of the current Round 1 licensing process offering the country's first deepwater assets, research and consulting firm GlobalData said.

The company's latest report states that 13 exploration blocks will be open for bidding, together with several deepwater discoveries, with the general expectation that the assets will be offered under a royalty/tax contract.

Adrian Lara, GlobalData's senior upstream analyst, said that evolutionary evidence from shallow-water terms suggests the Mexican government is likely to change the adjustment mechanism to reduce the maximum additional royalty rather than accepting lower bids.

GlobalData's report also found that E&P companies with more than 1.6 MMbbl/d of production may no longer be restricted from partnering, and changes to unpopular corporate guarantee rules also are being considered.

Despite these attempts to make the current phase more attractive, Round 2 is expected to be more popular among bidders.

Lara added, "Many companies are happy to wait to invest in Mexico if the Round 1 terms are not right, as a number of blocks in the Perdido area for Round 2 are possibly more attractive than those on offer this time around.

"The more important element of licensing in Round 1 is the farm-out of deepwater discoveries **Exploratus**, **Trión** and **Maximino** in the Fold Belt, which could contribute production within a much shorter time frame. Outside of the farm-outs, the government only risks the political capital it has invested if the terms are deemed unattractive," the analyst concluded.

Sverdrup Jackets Awarded



An artist's impression of the Johan Sverdrup living quarters platform.

Statoil has handed out more contracts for the giant **Johan Sverdrup** (32/13) project off Norway with Kvaerner Verdal and Spain's Dragados Offshore picking up awards for a jacket each.

Kvaerner Verdal will build the steel jacket for the field's processing platform in a deal worth \$122 million.

Weighing 17,700 mt, the jacket will be constructed at the yard in Verdal, Norway, and installed on the Johan Sverdrup Field in the summer of 2018.

"This is the third delivery based on the letter of intent signed by Statoil and Kvaerner for delivery of jackets. This means that Kvaerner will deliver 3 of 4 jackets for the first phase of the Johan Sverdrup development," said Kjetel Digre, senior vice president for the Johan Sverdrup development project.

The contract awarded to Dragados Offshore covers engineering, fabrication and construction of the steel jacket for the Johan Sverdrup utility and accommodation platform. Weighing 7,600 mt, the jacket will be constructed at the yard in Cadiz. Field installation is scheduled for the summer of 2018.

"We have good experience with Dragados Offshore from construction of the jacket for the Statoil-operated **Mariner** (32/11) project," Digre said.

EMAS AMC Tackles GoM Trio

Subsea specialist EMAS AMC has successfully completed the first two of three Noble Energy-operated subsea tie-back projects in the U.S. Gulf of Mexico (GoM).

The scope of work included project management, fabrication and installation of 8-in. steel catenary risers and 64 km of 8-in. and 12-in. pipe-in-pipe for the **Big Bend** (32/9) and **Dantzler** field development projects in 2,100 m of water.

It also included the design, fabrication and installation of eight subsea structures weighing up to 100 mt each.

All project management activities were performed at EMAS' Houston office, with pipeline production and structures fabrication at the EMAS Marine Base in Ingleside, Texas.

Since May, the *Lewek Constellation* has carried out more than 30 heavy lifts between 900 mt and 2,200 mt, trans-

ferring rigid pipe reels, many of them in open water locations, for the Big Bend and Dantzler projects.

Emas said, "This game-changing technology of multiple, transportable reels combined with heavy-lift capability reduces the transit time and eliminates the need for direct spooling by the installation vessel, keeping the vessel in pipelay mode throughout the entire project.

"This effectively decouples *Lewek Constellation* from the spool base and takes the pipeline fabrication off the critical path."

Lewek Constellation and *Lewek Connector* have now mobilised to lay the pipeline and umbilicals on the Noble Energy-operated **Gunflint** (32/9) development project in the GoM.

DEVELOPMENT BRIEFS

From Houston (BN): Freeport McMoRan said it found more than 40 m of net pay at its **Horn Mountain Deep** project in the Gulf of Mexico (GoM).

First production is expected in 2017 and, combined with two follow on development wells, may produce up to 30,000 boe/d, the company said. The production will be tied back to existing facilities.

The well was drilled to a total depth of about 5,158 m in the Middle Miocene, where it found "excellent reservoir qualities."

The site is in Mississippi Canyon Block 127 in more than 1,660 m about 230 km southeast of New Orleans, and the well targeted 34.5-degree oil.

The announcement comes amid news reports that Freeport McMoRan, which has been in and out of the oil business more times than you can count recently, may spin off its oil operations to focus on copper.

Still, the company's operational update bragged about its other ongoing oil operations and prospects in the GoM. Listed were development wells at King, completion activities at Holstein Deep and the prospects Sugar, Rose, Fiesta, Platinum and Peach near the wholly owned Horn Mountain production facility.

Premier Oil continues to expect first oil to flow from its U.K. North Sea **Solan** (SEN, 32/13) project in fourth-quarter 2015.

Good offshore productivity on the project and 97% uptime has been achieved with the *Regalia* flotel, while completion of the commissioning of the subsea infrastructure also is progressing well.

A number of the critical path platform systems have now been successfully commissioned including the fire-water deluge system and other safety-related systems

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such as the gas detection system. Some 34,000 hours of planned commissioning activity remains to first oil, which Premier said are being achieved at a rate of 600 hr to 800 hr per day.

Solan, which is being developed with a subsea storage tank, contains 44 MMbbl of reserves, and once online it is expected to ramp up to a peak production rate of 25,000 bbl/d.

Technip has landed a contract from Shell for the development of subsea infrastructure for the Gulf of Mexico (GoM) **Stones (32/11)** project.

Included in the workscope are two subsea production tie-backs to the FPSO vessel.

The Stones Field is located in the Walker Ridge area in the U.S. GoM, at a water depth of 2,930 m (9,613 ft) along the pipelay route.

The contract covers engineering of the required second pipeline end terminations (PLETs), fabrication of the PLETs and piles, installation of the subsea production system, and includes associated project management, engineering and stalk fabrication.

From Houston (BN): DeepStar, a consortium of 12 oil companies that has run a series of joint-industry projects related to offshore challenges, has hired GMC Deepwater to test high-strength mechanically connected, friction-welded steel riser for strength and fatigue resistance in steel catenary riser applications.

GMC said full-scale testing is planned for risers and pipelines, including mechanical and fatigue testing of friction joints and connectors rated for 15,000-psi pressure.

Glen Viau, COO, cited the “urgent requirement” for cost-effective technical solutions in deepwater and ultradeepwater projects as HP/HT and hostile environments such as the Arctic become increasingly important.

VBMS, a joint venture of VolkerWessels and Boskalis, has successfully completed the offshore installation of an 18.5-km control umbilical for Wintershall.

The umbilical connects the *Ravn (32/6)* platform in the Danish sector to *A6A* in the German sector of the North Sea.

VBMS equipped the SURF-installation vessel *Ndurance* with the in-house developed Trenchformer burial system to perform the full installation, which included direct pull-ins and the simultaneous laying and burial of the umbilical.

Statoil is reaching out across Norway’s maritime boundary with the U.K. and has strengthened its position in a block containing the **Alfa Sentral** Field.

Statoil has acquired First Oil’s 24% stake in PL046 which contains Alfa Sentral, boosting its operated stake to 62%.

Alfa Sentral is a 60-MMboe gas and condensate field, which is planned to be developed as a tieback to the existing infrastructure for Sleipner (32/7) on the Norwegian continental shelf, which Statoil operates. Alfa Sentral will therefore increase the utilisation of the Sleipner facilities.



Alfa Central will be tied back to Sleipner infrastructure.

Mette Halvorsen Ottøy, senior vice president for the operations south cluster in Development and Production Norway (DPN), said, “Statoil has set ambitious goals for future activity, production and value creation. This transaction demonstrates the potential on both the U.K. and Norwegian side of the continental shelf. The acquisition of this Alfa Sentral licence increases the resource base and strengthens our efforts to further develop the Sleipner area towards 2030.”

The transaction is expected to close by year-end 2015. Concept selection for the Alfa Sentral project was passed in September 2015. Negotiations to unitise the field will commence shortly.

A final investment decision is planned for late 2016 with production startup in 2020.

Amec Foster Wheeler has been awarded an engineering, procurement and construction contract by BP for the provision of additional living quarters, as part of BP’s Life Extension Project on the **Eastern Trough Area Project (32/10) (ETAP)** in the U.K. Central North Sea.

The BP ETAP Life Extension Project will extend the life of the platform to 2030 and improve its operating efficiency.

Claxton has successfully installed a high-pressure drilling riser system as part of a multimillion-pound contract for Premier Oil’s **Catcher (32/13)** area field development in the U.K. Central North Sea.

Claxton’s scope of work includes providing the subsea connector to latch the riser with the subsea wellhead; riser tensioning interface from the riser to the rig’s tension system; and all riser handling tools and a suite of custom-designed bolt tensioners, which will facilitate flange makeup.

The Catcher area field development includes the Catcher, **Varadero** and **Burgman** fields in Block 28/09a.

2H Offshore has been picked by Chevron to manage a production riser weld qualification testing programme.

The aim of the development of 20,000-psi technology is to qualify the equipment required to develop future offshore fields with design pressures above 15,000 psi and temperatures above 250 F.

These design pressure and temperature requirements result in line pipe wall thickness requirements as much as 1.9 in. for 8-in. to 10-in. diameter risers. This is beyond what the industry already has qualified and installed to date for fatigue sensitive deepwater risers.

The scope of the programme will incorporate test pipe specifications, procurement and qualification of new welding and comprehensive fatigue testing that will include the effects of sour service conditions.

In addition, the project scope includes the development of feasible marine riser system configurations for a number of different host vessels.

XPD8 Solutions has won a two-year condition monitoring contract with CNR International for five CNR platforms in the North Sea, including *Tiffany*.

Having already provided cover to CNR International's U.K. Continental Shelf assets over the past eight years, this latest contract will take XPD8 to a decade working for the Canadian independent.

Gordon Ellis, operations director at XPD8, said, "The downturn facing the oil and gas industry has made it more important than ever for operators to know their equipment is working at optimum levels. Effective condition monitoring is crucial in ensuring that production continues at the desired rate. In addition, the correct system will flag up where machinery is not running efficiently, helping to avoid breakdowns and the costs this ensues in downtime and repairs."



XPD8 will provide condition monitoring services on the *Tiffany* platform.

Shell has begun production from the **Malampaya** depletion compression platform (32/6), a new offshore natural gas platform in the West Philippine Sea.

The platform, which is adjacent to the existing Malampaya shallow-water platform, will help ensure a steady supply of natural gas to the Philippines.

The completed facility supports the extension of the only indigenous producing natural gas source in the Philippines, which provides 40% to 50% of the power generation needs for the island of Luzon, the largest and most populous island of the Philippines.

FLOATERS

Ithaca Splashes Cash on *FPF-1*



The *FPF-1* is being upgraded at the Remontowa shipyard in Gdansk, Poland.

Ithaca Energy and its co-venturers in the U.K. North Sea **Greater Stella Area** (*SEN*, 32/11) have struck a deal with Petrofac in a bid to ensure the *FPF-1* floating production unit is delivered on time.

Under the terms of the deal, all costs of modifying the *FPF-1* above the contract cost cap will continue to be fully paid by Petrofac as incurred, while Ithaca will pay Petrofac \$13.7 million in respect of final payment on variations to

the contract. This payment will be deferred until three and a half years after first production from the Stella Field.

A further payment to Petrofac of up to \$34 million will be made by Ithaca dependent on the timing of sailaway of the *FPF-1*. The maximum payment can be achieved for delivering sailaway of the vessel from the shipyard prior to the end of March 2016, with this incentive payment eroding on a daily basis to zero by July 31, 2016.

This payment also will be deferred until three and a half years after first production from the Stella Field.

Ithaca said the transition from construction activities into commissioning operations continues on the *FPF-1* modifications programme at the Remontowa shipyard in Gdansk, Poland.

The main construction works are nearing completion and handover of the various topsides processing, utilities and accommodation sub-systems for precommissioning is progressing.

Initial commissioning operations are underway, with electrical loop checking on the process control and safety systems and equipment package interface testing having commenced.

First production from the Stella Field is anticipated at the end of the second quarter.

Ithaca CEO Les Thomas said, “Delivery of first hydrocarbons from the Greater Stella Area is the next key operational priority of the company. This agreement introduces a significant additional incentive for Petrofac to provide timely delivery of the *FPF-1* without affecting the liquidity position of the company.”

Ithaca also has completed the main 2015 subsea infrastructure installation works. Installation of the 3-km oil

export pipeline from the *FPF-1* floating production facility riser base to the single-anchor loading structures was completed in August, and the associated pipeline tie-ins closed out in September.

The only remaining subsea activity to be completed this year involves a small amount of pipeline rock-dumping operations, which are scheduled for late October 2015.

Ichthys CPF Hits the Water

From Australia (LB): Japan’s Inpex Corp. has ticked off another construction milestone at its **Ichthys** (*SEN*, 32/13) project after launching the central processing facility (CPF).

The CPF, understood to be the world’s largest semisubmersible, was officially launched from the offshore floating dock at the Samsung Heavy Industries shipyard in Geoje, South Korea, where it has been under construction since 2013.

Inpex President Director Australia Seiya Ito said the successful launch was one of the project’s most significant achievements.

“To see this enormous facility in the water is a testament to those who have worked for years to make it a reality,” Ito said. “This milestone is a clear demonstration that the Ichthys LNG project is making good progress and that we are working in an excellent spirit of cooperation with our Korean contractors.”

Ichthys Project Managing Director Louis Bon said the operation was completed within two days in safe conditions.

“The CPF is now berthed quayside at the shipyard where work is continuing to lift and install the living quarters and integrate and commission all equipment in preparation for the CPF’s sailaway,” he said. “All teams are working together in a very efficient manner to achieve our next targets.”

Once completed, the CPF will be towed 5,600 km to the Ichthys Field in the Browse Basin offshore Western Australia, where it will be permanently moored for about 40 years by 40,000 mt of chain secured to about 20,000 mt of foundation piles.

The Ichthys project is a joint venture between Inpex, Total and the Australian subsidiaries of Tokyo Gas, Osaka Gas, Chubu Electric Power and Toho Gas.

Along with announcing a 10% project cost blowout to \$37.4 billion, Inpex recently lifted the anticipated annual LNG production capacity for the two-train project from 8.4 mtpa to 8.9 mtpa.

Technip Teams with Samsung for Semisubmersible

Technip’s U.S. affiliate has entered into an agreement with Samsung Heavy Industries to develop a joint design of a low motion semisubmersible production platform.

Technip said the design and delivery model will leverage its proven engineering expertise along with Samsung’s extensive experience in semisubmersible floating production and storage vessel construction.

It also will aim at defining a global configuration in full compliance with the clients’ specific project design basis.

The agreement also covers joint design and delivery of topsides for the semisubmersible systems.

The hull form to be developed is based on Technip’s patented Heave and VIM Suppressed semisubmersible. It has best-in-class overall motion performance for the vital support of both top tension and steel catenary risers, Technip said.

Samsung will complete the detail design and fabrication package in alignment with its own yard’s efficiencies.

It has fabricated several world-class production semisubmersibles including *Jack St. Malo* for the U.S. Gulf of Mexico and *Ichthys* for offshore Australia.

OneSubsea FEEDs on Enfield

From Australia: OneSubsea has bagged a FEED contract for Woodside Petroleum’s **Greater Enfield Area** development offshore northwest Australia.

The FEED study, which will be undertaken by OneSubsea’s local team in Perth, will include the design of the full subsea production system architecture solution, including subsea multiphase boosting for the field.

OneSubsea said its unique capability to integrate reservoir analysis and production assurance expertise with subsea hard-

ware engineering delivered a solution that optimises system performance and maximises recovery and financial returns.

“In the current economic climate, the greatest challenge is to provide the most cost-effective solutions for our customers,” CEO Mike Garding said.

“OneSubsea is uniquely positioned to deliver on this challenge through our integrated pore to process approach.

“Through this FEED award, we will be able to optimise the subsea system performance and deliver capex

savings for Woodside through standardised hardware and the integration of our subsea production and boosting controls technology.”

The Greater Enfield development comprises the subsea tieback of the *Ngujima-Yin* FPSO vessel, which is used on the nearby **Vincent** (32/13) oil project.

FLOATER BRIEFS

From Houston (BN): Preparation continues for Shell's **Appomattox** (SEN, 32/8) deepwater hub development in the Gulf of Mexico.

FMC announced it has received an award for enhanced vertical deepwater trees, subsea manifolds, topsides controls, a control system and a field distribution system.

Plans on file with regulators call for Appomattox to be a four-column floating production facility serving a number of discoveries in eastern Mississippi Canyon and western Desoto Canyon.

It is slated to be Shell's largest floating production system and is to be moored in Mississippi Canyon Block 437 in 2,286 m of water, about 250 km southeast of New Orleans.

With plans calling for six drill centres, 15 producing wells and five water-injection wells, Appomattox is a massive undertaking in the Norphlet trend.

It will be costly, but Shell estimates oil in place at 700 MMbbl to 800 MMbbl, and with Shell's **Vicksburg**, **Gettysburg** and **Rydberg** discoveries nearby, there is additional opportunity around it.

But Shell is proceeding cautiously. Even as it made the final investment decision, it said it had cut costs by 20%.

Recent filing and withdrawal within weeks of the installation plan for the platform fit with a cautious approach as Shell seeks to right-size Appomattox in a world of \$50 oil.

Technip has landed a contract from Eni to supply umbilicals to the Block 15/06 **East Hub** (31/23) floater development off Angola.

The field is in water depths of 450 m to 600 m and the contract covers project management and manufacture of about 15 km of dynamic and static steel tube umbilicals.

Technip Umbilicals facility in Lobito, Angola, with support from Technip Umbilicals in Newcastle, U.K., will manufacture the umbilicals that are scheduled to be completed in second-half 2016.

The deal follows another project awarded to Technip last year for the fabrication and installation of flexible and rigid pipelines at Block 15/06.

The East Hub project involves development of the **Cabaça North** and **Southeast** discoveries. The discoveries are being developed in different phases; the first phase foresees the development of Cabaça SE and the drilling of 10 subsea wells and the installation of an FPSO vessel with a capacity of 80 Mbbl/d.

Keppel Shipyard is handling the conversion of a tanker into a 1.7-MMbbl storage FPSO unit for the field.

Woodside recently awarded Norwegian contractor Aibel a contract to undertake management, engineering and provision of procurement services work for that particular portion of FEED.

Woodside is targeting final investment decision for the Greater Enfield development in 2016.

Aker Solutions has been awarded a contract from Murphy Sabah Oil Co. to deliver the subsea production system for the **Rotan** (32/11) deepwater natural gas development offshore Malaysia.

The delivery includes hardware for four subsea wells, a hub manifold, in-line tees, a connection system and production control system. First deliveries are scheduled for second-quarter 2016.

Rotan will be produced through the *PFLNG 2* floater.

Aker Solutions has worked with Murphy on the **Kikeh** (32/2) oil and gas project, the first deepwater development in Malaysia and the **Siakap North-Petai** (31/14) oil and gas development, a tieback to Kikeh. Both fields are in Block K offshore East Malaysia at the easternmost state on the island of Borneo.



Production will be routed through the *Bonga* FPSO vessel.

Shell Nigeria (SNEPCo) has kicked off production from the **Bonga Phase 3** (32/13) project, an expansion of the Bonga Main development with peak production expected to be about 50 Mboe/d.

Output will be transported through existing pipelines to the *Bonga* FPSO vessel, which has the capacity to produce more than 200 Mbbl/d of oil and 150 MMcf/d of gas.

The Bonga Field, which began producing oil and gas in 2005, was Nigeria's first deepwater development in depths of more than 1,000 m. Bonga has produced more than 600 MMbbl of oil to date.

The Bonga project is operated by SNEPCo as contractor under a production sharing contract with the Nigerian National Petroleum Co., which holds the lease for OML 118, in which the Bonga Field is located.

Golar LNG's **Cameroon** (32/8) floating LNG (FLNG) project has reached a major milestone with

the final approval by all parties of the gas convention for the project.

This final investment decision commits the project to a targeted start date for commissioning of second-quarter 2017.

Golar, Perenco and SNH are developing the FLNG project, located 20 km off the coast of Cameroon, using Golar's floating liquefaction technology (GoFLNG).

The project will take in 14 Bcm of natural gas reserves from the offshore **Kribi** fields, which will be exported to global markets via the GoFLNG facility *Golar Hilli*, now under construction at the Keppel Shipyard in Singapore.

It is anticipated that the allocated reserves will be produced at a rate of 1.2 mtpa of LNG, representing about 50% of the vessel's nameplate production capacity, during about eight years. It is expected that production will commence in second-quarter 2017.

As many as 64 FPSO units are expected to start operations worldwide over the course of the next five years giving a strong push to offshore oil and gas production, according to a new report from GlobalData.

Brazil will drive the global FPSO industry growth with an expected startup of 25 FPSOs by 2019. Development of fields in the subsalt and post-salt areas in the deep and ultradeep offshore areas of Brazil will drive the FPSO unit deployment in the country.

In Europe, development of offshore projects in the North Sea and Barents Sea will drive the deployment of FPSOs.

The U.K. is expected to witness the startup of seven FPSOs by 2019, while Norway will see the deployment of three FPSOs, mainly for fields in the Barents Sea.

EXPLORATION

Shell Demobilises after Arctic Disappointment



The *Polar Pioneer* will be demobilised from the Arctic.

From *Houston (BN)*: Shell has begun demobilising its massive deployment of equipment, supplies and personnel in the Alaskan offshore Arctic after disappointing results from its **Burger J** (*SEN*, 32/11) well.

Shell said there were "indications of oil and gas, but these were not sufficient to warrant further exploration. Shell will now cease further exploration activity in offshore Alaska for the foreseeable future." The well will be sealed and abandoned.

The shutdown ends a nine-year, \$7 billion effort marred in 2012 by equipment problems, including the

grounding of a rig being towed to winter harbour.

After the campaign resumed this year, it was hampered by regulators who required Shell to have a backup rig nearby for relief well emergencies but would not allow that rig to drill a second well simultaneously for fear of disturbing marine life.

"This decision reflects both the Burger J well result, the high costs associated with the project, and the challenging and unpredictable federal regulatory environment in offshore Alaska," Shell said.

The company, which owns leases on 275 Chukchi Sea blocks, remains confident of the basin's potential and expects the Alaskan offshore to be strategically important to U.S. energy supply in future.

Sidelines chatter at the Offshore Technology Conference in May guessed Shell must see something

big in the Chukchi to keep going despite \$50 oil prices. Whatever it is, Burger J didn't find it.

Shell will take a financial charge in the billions, to be detailed in its third-quarter earnings report. Opponents of Arctic offshore oil exploration declared victory, but analysts said the Alaskan economy will suffer from the loss of offshore oil activity.

And the world will have to wait at least another few years (decades?) for active U.S. oil exploration in Arctic offshore waters.

Lundin Spins Bit in Barents

Lundin Petroleum has been busy with the bit off Norway and it has just spudded the **Neiden** prospect exploration well 7220/6-2 in PL609 in the Barents Sea with the *Island Innovator*.

The Neiden prospect is located in the northern part of PL609, about 60 km northeast of the **Alta** (32/11) discovery, which Lundin has just appraised with two wells.

Neiden will be drilled to 1,350 m below mean sea level, and the well is expected to take about 40 days.

On Alta, appraisal wells 7220/11-3 and 7220/11-3 A were drilled on the eastern flank of the original discovery in PL609 and hit a gross hydrocarbon column of 74 m, of which 30 m was gas and 44 m was oil in reservoir rocks of varying quality.

The Alta discovery is located 10 km to 20 km northeast of Lundin Petroleum's **Gohta** (32/11) find. There is no infrastructure in the area.

The Alta discovery well 7220/11-1 was completed in October 2014. The preliminary evaluation of the gross recoverable oil and gas resource range from the Alta discovery well after the first well was estimated at 125 MMboe to 400 MMboe.

The appraisal well 7220/11-3 and sidetrack was located about 4 km south of the original Alta discovery well 7220/11-1 and about 3 km northeast of the previous appraisal well 7220/11-2.

Meanwhile, Lundin has resumed exploration drilling off Malaysia with the spud of Mengkuang-1 exploration well in licence PM307.

The well will target hydrocarbons in Miocene-aged sands 75 km to the northwest of the **Bertam** (31/22) Field operated by Lundin Malaysia.

Mengkuang-1 will be drilled with the *West Prospero* jackup rig to a total depth of about 1,300 m below mean sea level. The drilling of the well is expected to take about 30 days.

EXPLORATION NOTES

From Houston (BN): Stone has won approval of its initial exploration plan for the **Apple** prospect in Green Canyon Block 865 in the Gulf of Mexico, four blocks north of Chevron's **Big Foot** (SEN, 32/11) project.

The approval by U.S. Bureau of Ocean Energy Management covers drilling a 70-day well by year-end 2015, drilling a sidetrack early next year, evaluating those wellbores and then spending 60 days in late 2016 completing the well if successful.

The plan also calls for a 65-day well in mid-2017 to be evaluated, plugged and abandoned. Obviously, if the Apple exploration well finds an oil field and market conditions change, amended permitting could cover completing the second well too.

Both wells would be drilled using a dynamic-positioning semisubmersible or drillship. The project targets 24.9-degree oil. The site is about 320 km south of New Orleans, on a steep subsea slope. The first well is to be drilled in 1,265 m and the second in 1,125 m of water.

Regulators have approved Repsol's plan to reenter a well in Keathley Canyon 686 and sidetrack it into KC 687. If the prospect has a name, it is not included in the application.

It is in the Lower Tertiary fairway, south of BP's **Kaskida** (32/1) discovery and northwest of Chevron's **Buckskin** (31/23) project. Repsol's plan calls for the well to be

completed, tested and temporarily abandoned. Work is to start in December and be completed by October 2016.

Repsol said it will use the *Rowan Renaissance* drillship. The plan targets 29.5-degree oil. The site is in 1,892 m of water about 480 km south-southwest of New Orleans.

Eni is on the verge of spudding its **Vernaccia** (32/4) prospect in the Gulf of Mexico, according to Stone, Eni's partner in the project.

And U.S. Bureau of Safety and Environmental Enforcement data show the *EnSCO 8506* on site in Mississippi Canyon Block 35 as of Oct. 5. Stone said the well, in 1,075 m of water about 200 km southeast of New Orleans, targets a four-way structure in the Miocene trend and will take three months to drill.

The partnership listed in regulator records is Eni (operator, 50%), ConocoPhillips (33.3%) and Stone (16.7%), but in its operational update in early September, Stone said it had made recent changes and now has 4% working interest in the well's drilling cost but will have a 22% working interest in the project after drilling is completed.

BG is planning exploration offshore Newfoundland. The company announced it has bought from Repsol three nonoperated positions in the area. Terms were not disclosed. "This provides the company with access to early



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stage exploration in a proven prospective basin ahead of the first well being drilled later this year," a news release said. BG acquired 25% of EL1123, 10% of EL1125 and 10% of EL1126, all operated by Statoil. Chevron is also partner in EL1125 and EL1126. The tracts are in the Atlantic Ocean about 200 km east of St. John's. The tracts are adjacent to Flemish Pass tracts where Statoil scored discoveries at **Harpoon**, **Mizzen** and **Bay du Nord**.

Shell has delayed deepwater drilling planned off the Otago-Southland coast of New Zealand until next year at the earliest.

Shell and partners OMV and Mitsui E&P had been planning to drill a test well in 1,300 m in the **Great South Basin** about 150 km from Dunedin this summer.

Shell has now said it needs more time to evaluate the basin's complex geology and cannot yet say when it will be able to drill.

Shell New Zealand Chairman Rob Jager said, "We won't be drilling in 2016. We are in discussion with New Zealand Petroleum and Minerals, [and] we're awaiting their decision on the revised work programme."

New Zealand Petroleum and Minerals has agreed to revise plans for work in one of its exploration permits (PEP 54863) but has not yet agreed on a new timetable

for the permit area where the drilling is to take place (PEP 50119).

The Bulgarian Ministry of Energy has awarded Shell a permit for the deepwater Block 1-14 **Silistar** in the Black Sea.

Shell's proposed work programme includes 2-D and 3-D seismic studies. Shell recently conducted deepwater exploration drilling in a Turkish block in the Western Black Sea.

Egypt has awarded four new licenses to explore for oil and gas off its Mediterranean coast, weeks after Eni's giant **Zohr (32/13)** gas find piqued fresh international interest in the area.

Egypt's state gas company EGAS said in a statement it had awarded one licence to BP and one to Italy's Edison.

A consortium involving BP and Eni's Egyptian subsidiary also had picked up a block as had another consortium involving Eni, BP and Total.

EGAS head Khaled Abdel Badie told *Reuters* after the announcement that Egypt was preparing to launch a new bidding round for offshore gas exploration in the Mediterranean in first-half 2016.

VESSEL

Ocean Rig Threatens to Scrap Semis



The *Eirik Raude* could be scrapped after it has completed its current contract.

Ocean Rig is considering scrapping the *Eirik Raude* and *Leiv Eiriksson* rigs.


The *Eirik Raude* rig is currently completing its third well in a six-well program in the Falklands and is now expected to remain employed in the Falkland Islands into January 2016.

Ocean rig said in a fleet update, "Currently, there are no further prospects of employment for the rig in the Falkland Islands, and if no employment is found, the rig will be cold stacked and the company will consider all its options including disposing or scrapping the unit."

The *Leiv Eiriksson* is in the process of completing its current well in Norway and it has no further work under its current contract, which is expected to expire in March 2016. Ocean Rig said it is considering all options for the rig.

Meanwhile, the Ocean Rig *Olympia* has successfully started its new contract in Angola as of August 15, 2015. The rig is expected to move to the Ivory Coast for one well in fourth-quarter 2015 and return to Angola to complete its remaining contract until June 2016. After this, it is likely to be cold stacked.

George Economou, chairman and CEO, said, "The market continues to remain challenging due to the massive spending cuts initiated by the oil companies. In this environment, cash preservation and liquidity remain our number one priority, and we will adjust our available capacity to the new market conditions. For rigs that we cannot secure long-term employment that are coming up for their 5-year SPS [special periodic surveys], we will cold stack the units and in the case of the semisubmersible rigs seriously consider all our options including disposal or scrapping."



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VESSEL BRIEFS

Global subsea vessel operations expenditure will total \$97.7 billion between 2016 and 2020, analyst Douglas-Westwood forecasts in a new report.

This is an increase of 29% compared to the preceding five-year period. However, low hydrocarbon prices, coupled with vessel oversupply will result in low utilisation impacting expenditure over the forecast period.

Author Mark Adeosun said, “Africa, Latin America and North America are expected to account for 47.5% of global subsea vessel expenditure between 2016 and 2020. The ‘golden triangle’ remains vital to subsea vessel demand over the forecast period despite falling oil prices, project delays and the political instability associated with Africa. The development of East African gas basins in the Indian Ocean will contribute to subsea vessel demand in the latter years of the forecast period.”

Atwood Oceanics has agreed to a one-year extension and “rate adjustment” to its existing contract with Kosmos Energy Ventures for the ultradeepwater rig *Atwood Achiever*.

The *Atwood Achiever* began its three-year drilling services contract with Kosmos Energy on Nov. 12, 2014, for operations offshore Northwest Africa.

The agreement adjusts the operating day rate to about \$495,500, net of taxes, and extends the contract end date to Nov. 12, 2018.

Andrew G. Inglis, chairman and CEO of Kosmos Energy, said, “Following our recent basin-opening discovery offshore Mauritania, the extension of the *Atwood Achiever* contract will enable us to continue executing our active exploration and appraisal programme in the Atlantic Margin.”

Ulstein Power & Control has been awarded a contract with AVIC Weihai Shipyard to deliver power and control systems for two subsea rock installation vessels for Jan De Nul Group.



The *Songa Endurance* is on its way to Norway.

The vessels will be used for rock installation to protect cables and other subsea structures at depths up to 600 m.

Ulstein will be delivering the products and systems in 2016. The vessels are scheduled for delivery from the yard in 2017. They measure 95 m in length and 22 m in the beam.

Statoil will suspend the contract for the *Songa Trym* rig after drilling of the **Tarvos** well in the Norwegian North Sea has been completed.

The rig will go on 75% suspension rate of \$283,000 per day from the beginning of November.

The expected resumption of the work with Statoil is indicated to be early 2016.

Songa Offshore said the company will minimise the overall financial impact through the warm-stacking period with reduced manning and reduced activity level during the suspension period.

Meanwhile, Songa Offshore said the *Songa Equinox* is en route from Korea to Norway and is currently in Las Palmas for crew change, fueling and to take onboard Statoil's remaining third-party equipment.

The *Songa Endurance* is en route from Korea to Norway and is currently transiting between Mauritius and Walvis Bay, Namibia.

POLICY

Collaboration Opportunities Missed on UKCS

U.K. oil and gas firms are missing opportunities to collaborate, which is denting the chance of maximising the potential value from the U.K. Continental Shelf (UKCS), according to a Deloitte survey.

Some 74% of respondents said collaboration was an integral part of their day-to-day business, but only 27% reported that the majority of their efforts resulted in a successful outcome.

Cost reduction was found to be the main driver for collaboration today, with nearly one-third (31%) of company respondents in agreement. Ninety per cent said supply chain collaboration also would play a greater role in their company's success.

Nick Clark, a director in Deloitte's consulting team and contributor to the research, said, “While it's encouraging that collaboration is seen by the industry as an important tool in helping companies succeed in maximising economic recovery of the UKCS in line with the Wood Report, there's clearly work to be done and fast given the current tough environment.

“The industry needs to address a number of practical, cultural and behavioural barriers that are standing in the way of realising this successful future. These include fundamentals such as a lack of effective financial incentives, a lack of clear communication and misalignment of expectations between operators and service companies in execution.”

The most critical finding highlighted the discrepancy between what drives successful collaboration and the actions of leadership and business processes to underpin it.

While there was clear recognition of the value of collaboration and what's needed to make it happen—trust and mutual benefits for example—less than 10% said that leadership regularly emphasised its importance or included it in their business strategy.

Despite this, 20% of respondents said they actively sought out opportunities to collaborate, which shows that the potential is there if the right leadership and incentives are in place.

Deloitte suggested that while the industry must take the lead to make collaboration effective in the UKCS, it should look to the regulator, the Oil and Gas Authority and Oil and Gas UK (OGUK) and the industry trade body for support, pointing out that initiatives like OGUK's Efficiency Task Force can be a real driver for positive change.

OGUK's Business Development Director Stephen Marcos Jones commented, "In a world of a fallen oil price and high costs, the industry is facing a difficult time. Whilst there are some signs of recovery—through an upturn in production and concerted focus on improving efficiency—there's also growing consensus that much more needs to be done. Deloitte's report is a welcome contribution to this important debate; it is valuable to have a means to measure the industry's progress in terms of collaboration, which is no easy task.

"Collaboration is crucial if we're to fulfil Sir Ian Wood's vision to maximise economic recovery from the U.K. Continental Shelf.

"I believe the industry is now starting to readjust its way of working together. It is vital we work together proactively—not just between operators, but crucially between operating companies and the wider supply chain—to deliver the transformational change we need to see."

BUSINESS

OKEA Targets Norway Discoveries

This might not seem like the best time to create a new-start oil and gas venture but some Norwegian heavy-weights have taken the plunge.

An experienced management team led by Ola Borten Moe, former Norway Minister for Petroleum and Energy, and Erik Haugane, former CEO of Det norske oljeselskap, have set up OKEA with the backing of global investment firm Seacrest Capital Group.

Trondheim-headquartered OKEA will focus on developing discovered oil and gas fields on the Norwegian continental shelf. Seacrest will initially invest up to \$200 million in OKEA.

OKEA's management team also includes Anton Tronsstad and Knut Evensen, who have a long history of working with Haugane at Det norske oljeselskap.

OKEA's strategy is "to unlock the value of conventional oil and gas discoveries by applying innovative partnerships, dynamic strategies and cost-effective development solutions" to bring existing discoveries

into production in a timely, cost-effective and low-risk manner.

Henrik Schroder, partner, Seacrest Capital Group and chairman of OKEA, said, "Seacrest is attracted to the Norwegian continental shelf given current market dynamics, combining the availability of development and production projects, the favourable pricing of these assets, the material reduction in the cost structure of the industry and an attractive fiscal environment, which protects downside risk."

Haugane, CEO of OKEA, added, "There are numerous discovered fields in Norway that have huge potential value but are not producing today.

"The OKEA team has expertise in successfully delivering oil and gas projects through rigorous planning, the creation of powerful relationships with all project stakeholders, using innovative and cost-effective technological advances and development strategies. OKEA will use this expertise to unlock the maximum commercial potential in projects offshore Norway."

U.K. Wins as U.S Export-Import Bank Lapses

GE has signed a new export deal with the U.K. government that could create as many as 1,000 jobs in the country.

The deal comes on the heels of a similar agreement with the French export credit agency (ECA) COFACE that could create 400 jobs there, making this GE's second ECA agreement with a foreign government lender since Congress failed to reauthorise the U.S. Export-Import Bank in June.

The U.S. Congress did not renew the Export-Import Bank, as it is commonly known, at the end of June.

Since then, the bank has been unable to provide new loans, making the U.S. the only major industrial country to operate without an ECA.

In light of this, GE reached an agreement with the U.K. ECA UK Export Finance (UKEF) to access export financing for up to \$12 billion.

This agreement will initially support both confirmed and potential orders in a number of international markets including Brazil, Ghana, India and Mozambique. As GE

wins these orders, it will create up to 1,000 new jobs in the U.K. in the energy sector.

Since 2003, GE has invested more than \$21 billion in the U.K. These investments make GE one of the leading investors into the U.K., generating significant volume of exports.

GE's Oil and Gas Subsea Division alone exported close to \$1.3 billion to 54 countries in 2014. UKEF has been a valued partner in supporting export financing for GE customers.

Under the terms of the memorandum with UKEF, GE has pledged ongoing support for its U.K. supply chain.

GE said, "In addition to providing export finance support, UKEF has agreed to add GE as a member of its Direct Lending Facility Partnership Panel, which will allow the company to provide technical, commercial and financial solutions to our customers. UKEF also is offering GE a new 'top-up' support facility of up to \$750 million, subject to individual project approval and due diligence. This will create an additional financial incentive for UK exports and assist GE customers to close on U.K. made products."

BUSINESS BRIEFS

Robin Watson has been appointed to succeed **Bob Keiller** as CEO of Wood Group from the start of next year.

Watson is currently COO of Wood Group and was picked as the "stand out candidate" to take up the CEO role as part of the company's succession planning.

Keiller, who took over the helm in November 2012, is retiring to "develop other business interests."

Norway's **Fuglesangs Subsea** (FSubsea) and German pump company **RuhrPumpen** have joined forces to develop advanced subsea centrifugal pump solutions.

The two firms will initially focus on "Seal-Less" and "Topside-Less" subsea pumps for injection and boosting applications.

The "Seal-Less" technology removes dynamic shaft seals in subsea pumps, and "Topside-Less" technology removes the requirement for a topside hydraulic power unit and topside variable frequency drive.

Cesar A. Elizondo, CEO for RuhrPumpen, said, "This new collaboration is an exciting development for the oil and gas industry, and it demonstrates our responsiveness to changing market conditions."

io oil & gas consulting, an independent venture backed by GE Oil & Gas and McDermott, set up to transform the development of front-end solutions for offshore fields, has seen steady staff growth in its London headquarters since its January 2015 launch.

After recently moving into their new offices in The Shard, the company has made a number of significant new hires. Among them is **Philip Howe**, who has been appointed as head of subsea, with global responsibility for subsea systems, pipelines/flowlines and risers.

Howe has more than 25 years' experience with subsea systems and pipelines with a particular interest in production systems and technology development. In addition to his corporate and project delivery roles, Howe is currently engaged with the development of io's subsea engineering delivery and consulting capability.

DOF Subsea has been awarded several major contracts worth about \$364 million.

In the North America region DOF Subsea has won a 10 year inspection, maintenance and repair (IMR) contract with Husky Energy offshore Eastern Canada. The work scope includes a light intervention vessel and two work class ROV systems and personnel.

DOF has also extended a contract for 10 months in the Gulf of Mexico with a key client. One of the group's subsea vessels will be utilised under the contract.

In the Asia Pacific region, several contract awards over the recent weeks with key clients will secure utilisation of the regions vessels. The scope of work includes IMR services, mooring and light construction.

From Houston (BN): Low global oil prices, scandal and economic instability in Brazil apparently led to no bids for offshore tracts in the Round 13 auction held by oil and gas regulator ANP.

Blocks were offered in the **Espirito Santo, Campos** and **Camamu-Almada** offshore areas, but oil companies did not bite. Several onshore tracts were leased in the auction.

SBM's Brazilian subsidiary – suspended by Petrobras as a result of a bribery investigation that preceded the Carwash scandal – has been re-invited to bid on work for the Brazilian state-controlled oil company. SBM confirmed that the company is in "constructive discussions" on settling legal issues with Brazilian authorities but said no final deal has been reached.

Despite the seemingly endless Carwash bribery-kick-back scandal that is lapping at the highest level of government, Brazilian oil production continues to set records.

ANP said total production in August was up 3.3% month-to-month and 9.5% over the same period a year ago. Output hit an all-time high average of 2.547 MMbbl/d for oil and an average of 3.171 MMboe/d when natural gas is included.

Otto Energy said it has received \$21.3 million due from BHP Billiton in respect of the recently completed but disappointing **Hawkeye-1** (32/10) drilling operations offshore the Philippines.

The initial payment represents the bulk of the contribution by BHP Billiton of up to \$24.5 million

towards the cost of the Hawkeye-1 well. The final payment will be received in Q4 2015 once the total well cost is confirmed.

Melfort Campbell and **Martin Jones** have been appointed to strengthen the board of the National Subsea Research Initiative (NSRI).

The pair have impressive pedigrees in innovation and technology in the subsea industry. The NSRI aims to bring new technology to market that will reduce costs and deliver efficiencies and help the UK subsea sector maintain its world-leading position.

From Houston (BN): The Subsea Systems Institute has a new director. He is **Bill Maddock**, a veteran marine and offshore engineer who most recently worked on Arctic issues for BP. The institute, targeting transformative technologies, engineering and operational practices for sustainable deepwater offshore oil and gas production, was established in January with initial funding from the state of Texas. It is a collaboration involving the University of Houston, Rice University and NASA's Johnson Space Center.

OneSubsea is slashing 200 jobs in Norway as the oil price slump continues to bite.

The company is making the cuts because of a shrinking order backlog and lack of new contracts, President of Processing Systems Mads Andersen told local publication *Bergens Tidende*.

The axe will fall at the company's Askoy and Sandsli locations near Bergen in west Norway.

Subsea 7 also is understood to have cut 70 jobs in Norway.

Offshore marine and engineering consultancy **Aqualis Offshore** continues its rapid international expansion and has opened an office in Kuala Lumpur, Malaysia.

"Malaysia holds substantial proven oil and gas reserves from its offshore fields. There are a lot of activities offshore the Peninsular Basin in the west and the Sarawak and Sabah basins in the east. We have already had numerous requests to support existing clients operating offshore Malaysia, and having an official presence in KL will facilitate servicing all existing and new clients in Malaysia more efficiently," said Phil Lenox, director, Asia Pacific, Aqualis Offshore.

EMAS Offshore appointed **Capt. Adarash Kumar** as the company's new CEO, effective Sept. 25, 2015. **Jon Dunstan**, the former CEO, resigned to pursue other interests outside of the company but will remain with the company to handover and assist Kumar until February 2016.

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