

## Subsea Sector Eyes Growth As Market Conditions Improve

The subsea sector has been battered by the downturn as oil and gas companies spend less. However, as market conditions improve, subsea players are seeing the light at the end of the tunnel and eyeing additional areas for potential growth.

For Subsea 7, one of those areas is renewables. Having further diversified its offerings with the acquisition earlier this year of Seaway Heavy Lifting (SHL), a provider of engineering, procurement, construction and installation services for wind farm foundations as well as transportation and installation services, Subsea 7 sees opportunities in the renewables market.

The company partly attributed increased renewables activity, which offset lower revenue from SURF projects, for its \$1 billion in third-quarter 2017 revenue—a 15% year-on-year increase.

“We see this market as a growing market for a number of reasons—one being technology. We are seeing on the renewable side the technology playing critical parts in lowering the cost of the projects in particular on the turbine side,” Subsea 7 CEO Jean Cahuzac said during the company’s latest earnings call.



Subsea 7 believes the worst may be over for the oil and gas sector as it eyes tenders and renewable opportunities. (Source: Subsea 7)

It wouldn’t be a coincidence if the industry saw a number of projects launched without government subsidies, he said, adding the company’s project and engineering expertise, fleet and knowledge brought by SHL leaves it well-positioned to capture opportunities. “I’m optimistic about the growth of this business in the years to come,” Cahuzac said.

Subsea 7 COO John Evans pointed out that the size of turbines is getting bigger, “which means larger foundations, which means the SHL asset base is the right capability for that.”

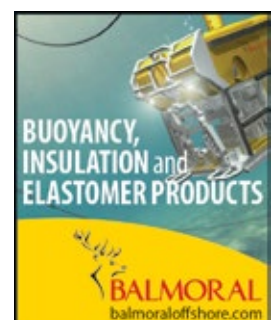
The company has about 180 km (112 miles) of inter-array cables to install at the Beatrice wind farm project in the North Sea offshore Scotland. “So that’s an adjacent part of the market that’s also of interest and sometimes part of our scope,” Evans said, adding the company is tendering work for projects in France, Taiwan and the Vineyard project in the U.S. offshore Massachusetts’ Cape Cod.

“We are seeing what is traditionally a very European-based and successful-based renewable industry starting to spread its wings in a limited way,” Evans said.

Lower commodity prices have led some subsea companies into renewables in an effort to capitalize on pos-

### WHAT’S INSIDE

Reliance-BP Moves To Develop India’s Deepest Discovery .....	2
Ghana, ExxonMobil In Talks On Deepwater Drilling .....	6
Overcoming Lost Circulation While Cementing Presalt Wells ....	8
Decommissioning In Brazil Creates Opportunities .....	12



sible business opportunities and survive the prolonged downturn as oil and gas companies reduced spending and delayed projects. But steadily improving oil prices, which are giving companies more confidence to move forward on some projects, are adding to the favorable outlook.

A barrel of West Texas Intermediate crude was fetching about \$56 on Nov. 14—a big improvement from lows of less than \$30/bbl in February 2016.

### Better Times For Oil, Gas

Major subsea players are signaling the worst of times may be over as market conditions improve.

Subsea 7 expects the number of awards to the market will increase early next year, if global energy prices maintain recent gains and cost reductions are delivered by the industry. The company identified nine active subsea umbilicals, risers and flowlines project tenders, led by projects offshore Norway where companies are ramping up action at the Snorre, Skarvfjell, Snadd and Johan Castberg developments.

“In terms of new awards to market, we believe the worst of the downturn is now behind us and awards will increase gradually as we move through the first half of 2018,” Cahuzac said. “However, in most cases, newly awarded projects take 12 to 18 months in engineering and procurement phases before offshore activity, while most of the revenue and profit is recognized.”

Cahuzac noted that the most active market is Norway, where oil and gas companies are moving ahead with final investment decisions and project sanctions.

“Larger projects offshore Africa are likely to take more time, and the Golfinho, Mamba and Tortue project are not likely to be awarded before mid-2018,” he said. “Other sizable projects that the market is waiting for includes the first of the ultradeepwater Libra project of Petrobras and the second phase of the Gorgon gas project offshore Australia.”

Cahuzac said the company’s “differentiated service, partnership and alliance” gives it confidence that the

company will win its fair share of available work.

Nick Green, senior analyst for Bernstein, pointed out on the earnings call that Subsea 7 “probably has the lowest rolling 12-month book-to-bill at the moment, probably caused by having quite good sales from work won in the last year or so.

“But it does seem on those kinds of metrics that maybe you’re not taking your fair share of work,” Green said, according to a SeekingAlpha transcript.

So what gives Subsea 7 confidence in its ability to land work?

While it’s difficult to evaluate market share on the basis of a quarter or two, Cahuzac said, “what we are seeing today is that the industry is moving toward more technology, more early engagement on the engineering side, clearly a very big momentum on the Reliance side with the SPS [subsea production system],” according to the transcript. “And we see this market starting to pick up first in the North Sea, which is a short-term fuse, where we are very well placed from a competition perspective. So, when I put all that together, I come to the conclusion that I’m comfortable with where we are going.”

### Other Thoughts

Beliefs that a subsea recovery has begun also were shared by other subsea players.

Yet some believe the future remains uncertain.

As summarized in a note from Barclays’ analyst, TechnipFMC anticipates 2018 will see orders grow; however, there will be “more competitive pricing” for large tenders; and Oceaneering International anticipates increased activity in second-half 2018, but lower prices will impact profitability.

However, National Oilwell Varco called the recovery narrative “tepid” with limited visibility, while Drill-Quip’s views were that oil prices and the offshore rig environment “will remain uncertain” into 2018, Barclays said.

—Velda Addison

## DEVELOPMENT

### Reliance-BP Moves To Develop India’s Deepest Discovery

A Reliance Industries Ltd. (RIL)-led consortium is set to launch a \$2 billion field development plan for India’s deepest gas discovery, MJ-1, located in the deepwater KG-DWN-98/3 (KG-D6) Block in India’s Bay of Bengal.

A field development plan for MJ-1 has been submitted to the Directorate General of Hydrocarbons for approval, an RIL official said, adding “works will be launched soon after the approval.”

The operator, according to the field development plan, proposes to drill “seven subsea wells with two subsea drill centers and tied back to a floating production, storage and offloading [FPSO] facility.” Crude oil from

the FPSO unit will be transferred to tankers, while gas will be pipelined to the Deepwater Pipeline End Manifold for further transport and handling at the existing onshore terminal at Gadimoga.

The development plan, based on FEED work prepared by Genesis Oil and Gas Consultants Ltd., targets gas and condensate prospects in Mesozoic Synrift Clastic reservoir lying more than 2,000 m (6,562 ft) below already-producing reservoirs in the D1 and D3 gas fields in the KG-D6 concession.

Peak production from the seven wells is targeted at rates of about 35 MMscf/d of natural gas plus 2,400 bbl/d of condensate, the company said.

First production is scheduled to be commenced by year-end 2021.

Discovery well MJ-1, drilled in water depth of 1,024 m (3,359 ft) and to a total depth of 4,509 m (14,793 ft) in the central (north) fault block, encountered a gross gas and condensate column of about 155 m (508 ft) in the Mesozoic reservoir. In the drillstem test, the well flowed 30.6 MMscf/d and liquid rate of 2,121 bbl/d with a 36/64-in. choke and a flowing bottomhole pressure of 8,461 psia, which is considered to be good flow potential.

### Significant Reserves

The appraisal program, which included three appraisal wells, has provided additional information on understanding the reservoir. The first appraisal well, MJ-A1, had largely confirmed the pre-drill expectations, suggesting a gross pay interval of 130 m (427 ft).

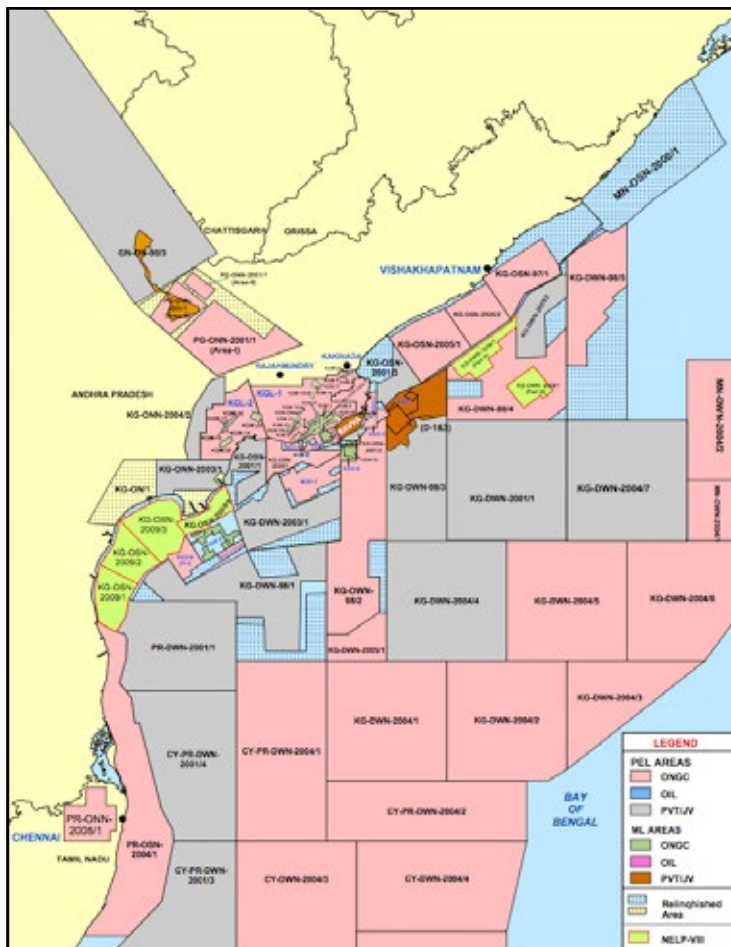
The second appraisal well, MJ-A2, encountered a high-quality reservoir, similar to the quality and age of the hydrocarbon-bearing sections found in MJ-1 and MJ-A1, but the targeted section was wet. The third appraisal well, MJ-A3, found hydrocarbons at the zone of interest, but the zone was thinner than expected.

Deloitte LLP, an independent petroleum engineering firm, evaluated the appraisal results of MJ-1 and indicated the estimated reserves at 40 Bcm (1.4 Tcf). The firm said the “best case estimate of gross unrisked contingent resources of 1.4 trillion cubic feet of equivalent [39.6 Bcm] relates to the Central (North), Northern and Central (South) fault blocks that were drilled by the MJ-1, MJ-A1 and MJ-A3 wells, based on an estimated areal extent of approximately 24 square kilometers [9.26 sq miles], approximately twice the areal extent of the analogous MA field that is currently producing.”

### Integrated Plan

The MJ-1 field development project is the third of the three projects planned by the operator to increase gas production from KG-D6 block.

The first plan relates to the development of the R-Series gas field (D34) in the deepwater block with the drilling of eight development wells in water depths of more than 2,000 m in the southern part of the producing D1 and D3 fields. It is expected to produce between 12 MMscm/d and 15 MMscm/d of gas from 2020.



(Source: Directorate General of Hydrocarbons)

The satellite area development is the second one, which involves developing six gas finds: the D2, D6, D19, D20, D22 and D29 and D3 fields. It involves drilling up to 14 wells to produce about 14 MMscm/d of gas from 2020.

BP Group CEO Bob Dudley said earlier that the three deepwater projects would be developed in an integrated manner with a total investment of \$6 billion.

The KG-D6 Block, which is spread across an area of 7,645 sq km (2,952 sq miles) in water depth ranging from 400 m to 2,700 m (1,312 ft to 2,953 ft), is estimated to have probable gas reserves in the range of 116 Bcm to 169.9 Bcm (4.1 Tcf to 6 Tcf).

The operator has discovered 19 oil and gas prospects in the concession and has developed three of them so far, producing gas from the D1 and D3 fields and crude from the MA field.

RIL holds a 60% participating interest in the KG-D6 Block, while BP and Niko Resources hold 30% and 10%, respectively.

—Ravi Prasad



## DEVELOPMENT BRIEFS

### Four GoM Oil Platforms Shut After Enchilada Fire

Royal Dutch Shell said on Nov. 14 that production at four oil platforms in the Gulf of Mexico (GoM) has been shut in due to a Nov. 8 fire at its Enchilada platform.

“Production is shut in at the Shell-operated Enchilada and Salsa platforms as well as the associated Hess-operated Conger Field,” in which Shell has a 37.5% share, the company said in a statement.

“In addition, Shell safely shut in all production operations at its Auger platform due to downstream constraints caused by this incident.”

Production from Auger flows back to Enchilada for transport to shore.

There was still no time line for the resumption of normal operations, Shell said.

“Shell is in the process of developing a plan to repair damage caused by an operational incident on its Enchilada platform and safely redeploying personnel.”

### MODEC Completes Deepwater Tension-Leg Platform Project For Hess

A subsidiary of MODEC Inc. has successfully completed its contracted work scope on a deepwater tension-leg platform (TLP) project for Hess Corp. as operator, the company said.

Work included engineering, procurement management, construction management and installation support of the hull and mooring systems of the TLP.

The newly installed Stampede TLP is based on a conventional design supporting a gross topsides processing capacity of 80,000 bbl/d of oil and 100,000 bbl/d of water injection. The development calls for six subsea production wells and four water injection wells from two subsea drill centers tied back to the TLP.

The TLP is permanently installed on the Stampede deepwater oil and gas field in the U.S. Gulf of Mexico’s (GoM) Green Canyon blocks 468, 511 and 512, which are about 185 km (115 miles) south of Fourchon, La. The field is located in about 1,067 m (3,500 ft) of water depth, with a reservoir depth of 9,144 m (30,000 ft).

### Inpex Says Ichthys LNG Project On Track For March Start

Japan’s top oil and gas explorer Inpex Corp. is on track to begin production at its offshore Ichthys LNG project in Australia by the end of March 2018, a senior company executive said.

The company expects to take about two years to reach full-scale production through a gradual increase in utilization rates by conducting various tests, said Masahiro Murayama, Inpex’s senior managing executive officer.

The central processing facility and the FPSO facility have been connected to the seabed and undergoing tests,

he said. Tests also are being done on the onshore LNG plant, he added.

“We are confident that the preparation for startup has been progressing steadily,” Murayama told reporters during a briefing on the company’s first-half earnings.

Once the project reaches full-scale production, Inpex will consider various options including raising dividend or buying stakes in Ichthys Field’s adjacent blocks for future projects, he said.

The startup of Ichthys was previously planned for third-quarter 2017, but the installation of offshore production facilities was delayed. But Inpex said production of condensate, LNG and LPG would still begin by the end of March 2018, followed by shipments.

### Kosmos Plans To Resume Drilling On TEN Project In 2018

Kosmos Energy Ltd. said it expects to resume development drilling on Ghana’s multibillion-dollar Tweneboea, Enyenra, Ntomme (TEN) deepwater oil and gas project in early 2018, rather than around the end of this year as it previously expected.

Tullow Oil Plc, Anadarko Petroleum Corp., Ghana National Petroleum Corp. and PetroSA also have stakes in the TEN project.

Dallas, Texas-based Kosmos is working with the partners to bring a second rig into Ghana in 2018, CEO Andrew Inglis said on a post-earnings call.

In September the International Tribunal for the Law of the Sea drew an ocean boundary favoring Ghana in a maritime border dispute with its neighbor Ivory Coast, opening the way for development drilling to resume on the TEN project. The decade-old row between the two West African neighbors has slowed the development of oil fields.

Kosmos also estimated it would require two shutdowns in 2018, resulting in about four weeks of downtime, to stabilize the turret of the FPSO vessel at its Jubilee Field in Ghana. An issue with the turret bearing was identified in February 2016. The company had previously planned a shutdown of five to eight weeks in late 2017.

Planning for the rotation of the vessel in the Jubilee Field is also ongoing, with work expected to begin around year-end 2018, Kosmos said.

### Eni Eyes 2018 For First Gas For Ghana’s OCTP Project

Eni is moving closer to first gas production from its integrated oil and gas development project in Ghana’s Offshore Cape Three Points (OCTP) Block with production startup expected in 2018.

Construction work for the onshore receiving facility and pipelines is 63% completed, Eni said in a news release. The project is expected to provide Ghana with more than 15 years of gas supply and allow the country to produce at least 900 MW. But that could rise to 1,500 MW.

Eni launched production from the project in May, a milestone reached three months ahead of schedule with a record time-to-market of 29 months, Eni said. The accelerated ramp-up allowed Eni to increase the expected 2017 production from an initial 2.8 MMbbl to 5.2 MMbbl.

The company anticipates reaching the oil plateau of 45,000 bbl/d by year-end 2017.

The project includes the Sankofa Main, Sankofa East and Gye-Nyame fields, which combined have 500 MMbbl of oil and about 40 Bcm (1.4 Tcf) of non-associated gas in place.

Eni holds a 44.44% stake in the project. Partners Vitol and Ghana National Petroleum Corp. hold 35.56% and 20%, respectively.

### Aibel Lands Contract For New Troll C Gas Module

Statoil and partners developing the Fram Field in the North Sea have agreed to invest in a new gas module for the nearby Troll C platform, the hub for the Fram development, the company said in a news release.

The engineering, procurement, construction and installation contract, valued at \$73.5 million, for the gas module was awarded to Aibel. The company said it will fabricate the module at its Haugesund yard. Work has already begun with projected startup at year-end 2019.

The new gas module is expected to help boost production from the Fram Field while also improving the profitability of the Troll C installation by increasing and accelerating production by means of the enhanced gas capacity, Statoil said in the release.

“By using standardized solutions and equipment, in addition to focusing on making this a maximum lean project, and working closely with Statoil’s operations and suppliers, we have come up with a very cost-

efficient and profitable gas module,” Siv Irene Skadsem, vice president of tieback and brownfield projects, said in the release.

The Fram oil and gas field is located in the North Sea about 20 km (12 miles) north of Troll. Fram licensees include Statoil (45%), ExxonMobil Exploration and Production Norway (25%), Engie E&P Norge (15%) and Idemitsu Petroleum Norge (15%).

### Siccar Point Divests Interests In Shell-operated Jackdaw

Siccar Point Energy E&P Ltd. entered an agreement to divest its 26% equity interest across three production licenses covering the Jackdaw Field discovery to Dyas UK Ltd., the company said Nov. 6.

The price of the transaction, which is subject to customary regulatory and partner consents, wasn’t disclosed.

The 2005 Jackdaw Field discovery holds gas and condensate in Jurassic sandstones. Full development is expected to produce more than 100 MMboe, Siccar said on its website. Located in the Central North Sea, the HP/HT field is located about 10 km (6 miles) northeast of the Jade Field.

Siccar Point acquired its 26% nonoperated interest in the field from the takeover of OMV (U.K.) in January.

Siccar Point Energy’s CEO Jonathan Roger said that while Royal Dutch Shell Plc has performed well as operator of the Jackdaw, the company’s appraisal and development activity compels Siccar to focus on in its West of Shetland portfolio.

Dyas CEO Robert Baurdoux said the company’s Catcher and Mariner developments are nearing first production and buying interests in the Jackdaw will provide it with the opportunity to join Shell in “developing this exciting gas-condensate field and bringing more U.K. gas into our portfolio.”

Tubular Bells  
First Oil  
November  
2014

Lucius First Oil  
January 2015

Jack/St. Malo  
First Oil  
December  
2014

WOOD GROUP

Three  
Successful  
Startups,  
One Common  
Denominator

Leader in Topsides Design

### TechnipFMC Wins Subsea Contract For Offshore Malaysia

TechnipFMC has been awarded a subsea contract by Murphy Sabah Oil Co. Ltd. for the Phase 1A Block H gas development project, the company said.

The project is located offshore Sabah, Malaysia, at a water depth of about 1,300 m (4,265 ft).

This contract covers the engineering, procurement, construction, installation and commissioning of the umbilicals, risers and flowlines as well as the transportation and installation of subsea hardware and controls.

### McDermott Scoops Up KG-D6 Subsea Installation Contract

Reliance Industries Ltd. has selected McDermott International to provide subsea installation work for its R-cluster Field offshore east India in the Krishna Godavari Basin. The deepwater oil and gas field is located in the KG-D6 Block.

McDermott said it will provide engineering, procurement, installation and precommissioning of subsea flowlines, vent lines and a pipeline-end manifold for connection with six subsea wells in the field at a water depth of up to 2,100 m (6,890 ft).

The company work also will include infield pipelines, monoethylene glycol line, pipeline-end terminals, jumpers, risers, umbilicals system and the modification of the control riser platform to interface with the new facilities, McDermott said in a news release.

McDermott pointed out that there is also an option for up to seven more subsea wells for an optional S-cluster package. The scope would include two more subsea structures and flowlines at a water depth between 1,400 m and 1,800 m (4,593 ft and 5,905 ft).

Work is expected to be finished by second-quarter 2020 for the base scope and by first-quarter 2021 for

the optional scope. Though the exact value of the contract was not disclosed, McDermott said it is a significant contract. The company defines a significant contract as between \$250 million and \$500 million.

### Siccar Point, BHGE Sign Agreement For Cambo Field Development

Siccar Point Energy Ltd. and Baker Hughes, a GE company (BHGE), agreed on the development of the Cambo Field, located northwest of the Shetland Islands in the U.K., the company said.

BHGE has been selected as the exclusive supplier to support the appraisal and early production phases of the project, with the ability to extend into the full field development.

The scope of supply will leverage BHGE's integrated portfolio of solutions for the oilfield services segment, including a full suite of well services solutions for the appraisal well and expansion to also provide the production and installation of subsea production equipment and flexible pipes in partnership with Ocean Installer, for the early development phase.

Siccar Point Energy's 100%-owned Cambo Field is located 125 km (77 miles) northwest of the Shetland Islands. Siccar Point acquired the field with the takeover of the OMV (U.K.) portfolio in January. Cambo was discovered in 2002 and has five wells drilled into the structure so far.

The development concept will be focused on a two-phase approach. Phase 1 will be an early production system, followed by a Phase 2 full field development.

The initial plan is to drill an appraisal well into the main reservoir sequence and perform an extended well test, which will take place in 2018 and provide key information for the facility design.

—Staff & Reuters Reports

## EXPLORATION

### Ghana, ExxonMobil In Talks On Deepwater Drilling

Ghana has opened talks with ExxonMobil Corp. to allow the U.S. oil firm to undertake deepwater exploration off its coast, a deputy energy minister said.

"The negotiations are ongoing according to our current laws ... so far so good," Mohamed Amin Adam told Reuters on the sidelines of an Africa oil conference in Accra.

Adam said the government had opted for direct negotiation with ExxonMobil without open competitive tendering due to the peculiar nature of the field and because Ghana has yet to pass regulations to back open competitive tendering.

A new petroleum law requires that oil contracts should be awarded through open and competitive tender. It also allows direct negotiation when necessary and justifiable.



(Source: Shutterstock.com)

ExxonMobil signed a memorandum of understanding with Ghana in 2015 to assess its Deepwater Cape Three

Point (DCTP) region, 150 km (100 miles) off the coast with water depth ranging between 2,000 and 4,000 m (6,500 and 13,000 ft).

The government said two firms had separately opted not to seek to explore the field because of its depth and high risk levels.

Adam said the government considered the ExxonMobil bid important, given the firm's experience and capability in deepwater operations. "Ultradeepwater exploration is beyond the reach of current technology, and we believe operators with strong research and development capabil-

ity such as ExxonMobil are needed to unlock the potentials," Adam said.

The DCTP interest is the second attempt by ExxonMobil to acquire oil assets in Ghana after the government blocked its 2009 bid to take over Kosmos' stake in the flagship Jubilee Field.

Ghana, which also produces cocoa and gold, expects to ramp up oil production to about 250,000 bbl/d by 2019 from four oil fields including Jubilee whose current combined average annual output is about 100,000 bbl/d.

—Reuters

## EXPLORATION BRIEFS

### Africa Oil, Eco Atlantic Partner For Exploration In West Africa, Guyana

Africa Oil Corp. said on Nov. 13 it has entered a strategic partnership with Eco Atlantic Oil & Gas Ltd. for exploration in West Africa and Guyana.

Africa Oil has agreed to acquire a 19.77% shareholding in Eco through the purchase of 29.2 million common shares \$0.38 per share for a total consideration of roughly \$11 million.

The agreement also states Africa Oil has the right to participate in any future Eco equity issuances and to appoint one nominee to Eco's board of directors. Keith Hill, president and CEO of Africa Oil, will join the Eco board of directors as soon as practicable.

The parties also entered a strategic alliance agreement, where they will jointly pursue new exploration projects. Africa Oil will be entitled to bid jointly on any new assets or ventures proposed to be acquired by Eco. Additionally, Africa Oil will also have a right of first offer on the farm-out of exploration properties currently held by Eco.

Eco has been able to assemble an exploration portfolio in two countries, including four blocks in Namibia and one block in Guyana. The Namibia blocks are located in an area of proven source rocks and large, seismically-defined stratigraphic traps where upcoming wells by neighboring operators will be drilled in the near future to de-risk the play.

In Guyana, Eco holds a block directly updip from the Stabroek Block on which ExxonMobil Corp. estimates resources of 2.5 Bboe to 2.8 Bboe, including the Liza Field. The Eco Block is expected to be fully delineated after processing and interpretation of the 2,550 sq km (985 sq miles) 3-D seismic survey recently completed in September.

Eco also recently entered an option agreement for a farm-in by Total on this Guyana acreage.

### Lebanon Crisis Won't Delay Oil, Gas Licensing

The political crisis in Lebanon shouldn't delay the country's first oil and gas offshore licensing round, its energy minister said Nov. 14.

Prime Minister Saad al-Hariri resigned in a speech from Saudi Arabia on Nov. 4 and has yet to return to the country, sparking a political crisis. President Michel Aoun has said he will not accept Hariri's resignation until Hariri returns to the country, and Lebanese authorities have said they consider the government to be still legitimate.

Speaking to reporters on the sidelines of an energy conference in Abu Dhabi, energy minister Cesar Abi Khalil said, "The government is still operational and the constitution is still in place. We are operating business as usual."

Lebanon sits on the Levant Basin in the eastern Mediterranean where a number of big subsea gas fields have been discovered since 2009, including the Leviathan and Tamar fields situated in Israeli waters near the disputed marine border with Lebanon.

Lebanon relaunched the tendering competition for E&P rights in January after a three-year delay due to political paralysis. But only one consortium, made up of Total, ENI and Novatek, submitted an offer in the process which closed on Oct. 12, with bids for two of the available five blocks.

Abi Khalil said companies will negotiate their technical offers on Nov. 27-28, and he will then submit an evaluation report to Lebanon's council of ministers for final approval.

### North Sea Oil Producer Chrysaor To Begin Drilling In 2018

North Sea producer Chrysaor Holdings Ltd. plans to begin drilling for oil and gas in early 2018 after completing a \$3 billion acquisition from Royal Dutch Shell, Chrysaor Chairman Linda Cook said.

Chrysaor became the largest independent oil and gas producer in Britain's North Sea following the deal as new private-equity-backed firms gradually take over from long-standing producers in the aging offshore basin.

Backed by Harbour Energy Ltd., an investment vehicle of EIG Global Energy Partners, Chrysaor has already turned its sights to new acquisition in the U.K. North Sea and beyond, Cook told Reuters in an interview.

"We're already looking at further acquisitions we can make in the North Sea to broaden and deepen the assets

that we have acquired ... We are eager to broaden our geographic scope in Chrysaor to include Norway and Denmark,” she said.

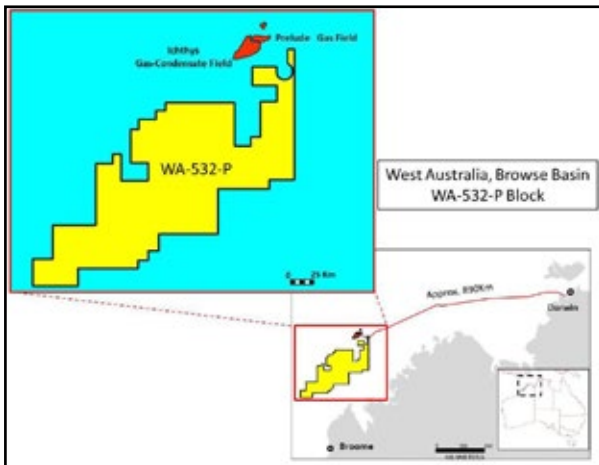
New acquisitions would include operated assets with large reserves, said Cook, who is the CEO of Harbour Energy and a former senior Shell executive.

Chrysaor will be able to fund many acquisitions through internal cash generation from existing production, and Harbour would be able to offer further backing, she said.

Chrysaor, led by CEO Phil Kirk, would also consider an IPO but not in the next 12 months, she added.

**Inpex Picks Up Block Near Ichthys Field Offshore Western Australia**

Inpex Corp. subsidiary Inpex Browse E&P Pty Ltd. has secured an exploration permit for Release Area WA-532-P (the Block) in Australia’s 2016 Offshore Petroleum Exploration Acreage Release, according to a news release.



(Source: Inpex)

Inpex Browse will hold a 100% participating interest in the block, where it will pursue exploration activities as operator. Block WA-532-P is located off the coast of Western Australia and covers an area of 26,300 sq km (10,154 sq miles).

The block lies in the vicinity of the Ichthys gas-condensate field where Inpex is developing the Ichthys LNG project. Promising gas fields have been discovered nearby and are being developed at multiple blocks in which Inpex holds interest, the company said.

**Brazil Energy Council Approves Fourth Presalt Oil Auction**

Brazil’s energy policy council CNPE approved on Nov. 9 the fourth round auction of presalt oil blocks and the 15th round under the concession regime, announcing planned dates for the auctions next year.

The presalt auction of blocks in the Santos and Campos basins is planned for June 7, while the bidding for 70 blocks under the concession regime is scheduled for March 29, CNPE said in a statement.

The 70 blocks of non-presalt will include offshore areas in Ceara, Potiguar, Sergipe-Alagoas, Campos and Santos basins as well as onshore in Parana and Parnaiba basins.

CNPE delayed the offer of blocks in the Foz do Amazonas Basin until 2019 to allow time to complete environmental licensing for blocks auctioned in previous rounds. A consortium led by Total won a block in the basin in a 2013 auction but has yet to receive an environmental license to proceed with exploration.

In October, Brazil awarded six blocks in an auction of areas in the coveted presalt region, where billions of barrels of oil are trapped below thousands of feet of salt in the country’s Atlantic waters.

—Staff & Reuters Reports

**TECHNOLOGY**

**Overcoming Lost Circulation While Cementing Presalt Wells**

The trend in the oil and gas industry is to drill wells at greater water depths even though operational difficulties can increase and rigs capable of drilling such wells have a high day rate. During the exploration campaign in the Santos Basin (Figure 1), the operator drilled about 20 wells in ultradeep water. The reservoir included multiple zones of interest and hydraulic isolation that allowed selectivity between the zones. Additionally, the presalt environment demanded cementing of the production casing to help prevent casing deformation/collapse. Therefore, cement integrity was important to the success of the proposed plan.



FIGURE 1. An operator in the Santos Basin drilled about 20 wells in ultradeep water. (Source: Halliburton)



In the Brazilian presalt environment (Figure 2), the reservoir consists of a series of heterogeneous hard microbiolite carbonate layers up to 900 m (2,953 ft) thick located below a salt layer 2,000 m (6,512 ft) thick that serves as a reservoir seal. The narrow margin between fracture gradient and pore pressure inherent of deep water, presalt and the depleted zones in mature assets generates low equivalent circulating density (ECD) requirements. Uncontrolled ECDs can increase the potential risks of fracturing pressure-sensitive formations and induce lost circulation that can increase the potential risks of wellbore instability, packoffs, stuck pipe, well-control issues, formation damage and even the inability to complete the well. The problems are particularly magnified when circulating mud, running casing or liners, and cementing in high-angle extended-reach and horizontal well geometries.

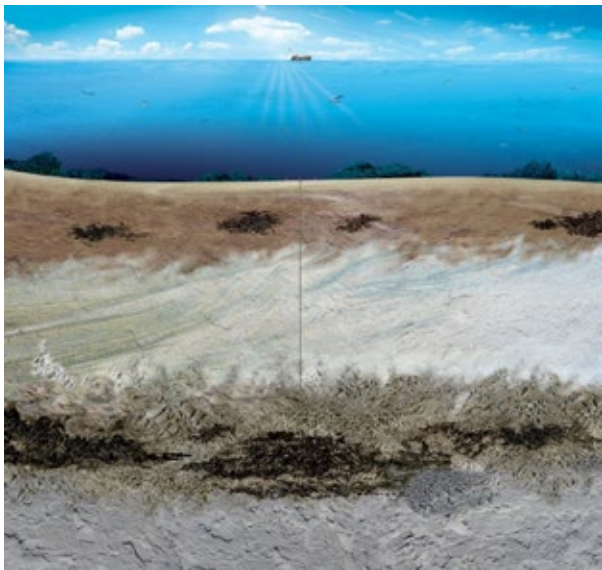


FIGURE 2. The Brazilian presalt environment presents cementing challenges. (Source: Halliburton)

The loss of fluid into formation can be a significant complication while drilling and cementing wells, resulting in considerable nonproductive time on the rig and additional costs. Managing severe lost circulation while cementing can be challenging in highly permeable zones and naturally fractured formations. A novel solution consists of an engineered composite lost-circulation material (LCM) solution with particle-size distribution to potentially manage severe loss-circulation situations in naturally fractured reservoir formations.

### LCMs

The lost circulation issue should be addressed before cementing operations begin since there are several conventional methods or strategies available to help prevent or mitigate losses before cementing such as lowering the weight of the fluid, incorporating LCM into the drilling fluid and pumping gelling agents that can bridge off loss zones. However, conventional methods are not always effective, and the available solutions to minimize

lost circulation during cementing are limited (granular or fibrous materials incorporated in the spacer and cement slurry, reactive spacer, increasing hole excess, thixotropic slurries, foamed cements, etc.).

Various types of LCMs have been applied throughout the years using a variety of particle sizes and shapes. Many competent materials are not allowed during deepwater operations, so it was necessary to develop a material that qualified for use in this area. At relatively low concentrations, round and heavy lost-circulation particulate material is difficult to suspend in a spacer pit. Additionally, heavy materials such as calcium carbonate tend to increase the density of otherwise light spacer fluid.

Particle shapes that deviate significantly from the spheres are easier to suspend in fluid, and they also bridge off better across fracture openings. Fibers are known to bridge off effectively but hold little differential pressure at large fracture widths. Resilient materials are known to produce a long-lasting seal in fractures when the pressure varies, but in large fracture widths their bridging capability is limited. Flaky materials bridge well if they do not orient sideways in the fracture, but many of these materials only hold a low differential pressure.

The combination of high-performance components with different characteristics in the LCM spacer fluid material generates a versatile high-pressure rated effective LCM with minimal leak-through potential. These components act synergistically to mitigate lost circulation by bridging tight slots effectively at moderate concentrations. Once formed, the bridge can easily withstand a 1,000-psi differential pressure.

Spacer fluid enhanced with the addition of the LCM is designed to overcome lost circulation while preparing the wellbore to receive cement. It is an environmentally acceptable blend of carefully selected materials, including coarse and tough LCM, fibers and medium-sized resilient angular material. This fluid system helps mitigate losses when cementing across weak, unconsolidated or fractured formations. The LCM spacer fluid allows customized viscosity, and the particles remain in suspension with minimal potential risk of sedimentation. Additionally, it can accommodate weighting additives to optimize the fluid density.

### Case Study

A well was drilled with a 12¼ in. bit and a 9.8-ppg to 10.2-ppg synthetic-based mud across the reservoir formation to produce oil from the carbonate reservoirs. The open hole was logged, exhibiting an average caliper measurement of 12.45 in. With the production casing/liner at the bottom, the fluid was conditioned for 3 to 4 hours, and a lost circulation of 300 bbl/hr to 500 bbl/hr at 10 bbl/min was observed.

An LCM spacer fluid was proposed by the subject operating company, a solution that was proved to mitigate loss of circulation across the carbonate section. To apply this advanced loss-circulation solution to presalt

fields, the operator and the subject operating company worked together, evaluating previous field applications of the LCM spacer fluid package and conducting rigorous laboratory tests of the LCM spacer fluid in spacers.

To assess the potential risk of bridging across the narrow annulus, this spacer was tested, simulating a size of 5/32 in. (4 mm) as a worst case and the smallest the operating company could recommend at different concentrations (10 parts per billion to 25 parts per billion). According to the test results, the formulation was better suited to the necessary conditions. Single slurry was designed to cover the entire annular span of the intermediate casing. The cementing operation involved adding 15 ppg of the LCM spacer fluid package in the spacer on the fly.

Cement was successfully placed across the reservoir zone in a single cementing stage, and circulation with losses between 300 bbl/hr and 500 bbl/hr were reported during the cement operation. When spacer containing the LCM spacer fluid reached the annulus, the return was regained and maintained until the cementing operation was complete. Cement-bond log evaluations showed good bonding to pipe and formation, indicating good zonal isolation that met regulatory requirements throughout the entire pay zone. Using the LCM spacer fluid package helped the operator avoid costs previously experienced because of lost circulation events across the carbonate.

— *Miguel Perez and Leonardo Brunherotto, Halliburton*

## TECHNOLOGY BRIEFS

### Terves Releases HT Dissolvable Alloy

Dissolvable materials manufacturer Terves Inc. has released a high-temperature (HT) dissolvable alloy it says is built for operating temperatures of up to 300 F (150 C).



TervAlloy HT is a special high-temperature version of Terve's patent-pending dissolvable magnesium designed for oil and gas applications. (Source: Terves)

Terves said TervAlloy-HT is geared toward HT environments such as in the Gulf of Mexico and is available in various shapes in lengths of up to 48 inches.

"All the currently available dissolvable alloys see a 50-70% drop in mechanical properties at 300 F compared to their standard operating temperature of 100 F to 150 F [38 C to 65.5 C]; whereas, we have been able to engineer our TervAlloy-HT to offer properties similar to industry leading TervAlloy TAX-100E Alloy at significantly higher operating temperature," Terves CEO Andrew Sherman

said in a news release. "This is a significant step toward interventionless tooling being used across any oil and gas operating environment, especially since oil and gas completion and production is witnessing higher operating temperatures every year."

### O&M Database Maps Major UK Energy Facilities

The Energy Industries Council (EIC) has released its newest business development tool, EICAssetMap, a press release stated.

EICAssetMap is an interactive operations and maintenance (O&M) database that maps all major U.K. energy facilities across all sectors (oil and gas, power, nuclear, and renewables)—the only database of its type to do so.

Users can search for facilities by location, sector and operator. The database, which is updated daily by the EIC's expert analysts, charts the full life cycle of energy facilities from startup to decommissioning. As well as giving an overview of the facilities, it also provides contact information for the site operators and many of their contractors. EICAssetMap is also tablet-friendly so that it can be used on the move.

### Gas-tight Barrier Provides Isolation In HP/HT Wellbores

Weatherford International Plc has released the ISO Extreme retrievable well barrier, which is qualified to International Organization for Standardization 14310 V0 standards for gas-tight isolation, a press release stated.

The barrier has a large operational envelope. It is capable of withstanding pressure differentials up to 10,000 psi and temperatures between 4 C and 163 C (40 F and 325 F), which reduces the loss-of-containment risk in extreme environments. ISO Extreme well barriers are available for tubing sizes from 3.5 in. through 7 in. The variety of deployment options (including electric line, slickline, tubing and coiled tubing) further increases operational flexibility.

Unlike comparable technologies available for the HP/HT market, the ISO Extreme barrier does not require any nipple profiles and is retrieved by first shifting down to equalize the pressures and then jarring up to release. This safety feature reduces the risk of trapped pressure below

the plug prior to releasing. Additionally, the small diameter of the plug enables passage through typical wellbore restrictions for easy deployment and removal, even in challenging environments.

—*Staff Reports*

## FLOATERS & VESSELS

### Petrobras Seeks Subsea Support Vessels

Oil giant Petrobras said it is looking to engage in three-year contracts to charter diving support vessels (DSVs) and ROV support vessels.

The DSV tender from Brazil's national oil company said that the contracts would include possible two-year extensions. BNamericas reported that the company could hire two DSVs, though that information was not made available by the company to potential bidders.

The two-lot auction is split into:

- Commencement of operations expected for December 2018; and
- Operations beginning in January 2019.

Bidders have until Nov. 23 to submit proposals. Numerous companies own and/or operate DSVs and ROVs for Petrobras, including U.S.-based Otto Candies and Edison Chouest; Holland-based Fugro; Norway-based SolstadFarstad, Sealion and DOF (Norskkan); U.K.-based Up Offshore; and Brazil's Farol Apolo Marítimo.

### SBM Offshore Starts Liza FPSO Conversion

The *Liza FPSO* unit will undergo upgrade work on the hull and integration of topsides at Keppel's Singapore shipyard following a final investment decision on the offshore project it is destined for, the company said Nov. 14.

The move follows completion of FEED and Exxon-Mobil's decision in June to move forward on the Liza Phase 1 development project offshore Guyana.

### Sembcorp Marine Clinches \$490 Million Construction Contract From Statoil

Statoil plans to sign a letter of intent with Singapore-based Sembcorp Marine Rigs & Floaters Pte. Ltd. for the Castberg project, Statoil said Nov. 10. The contract is valued at about \$490 million.

The contract covers the engineering, procurement and construction services for the hull and integrated living quarters of a FPSO vessel that will be located on the Johan Castberg Field in the Barents Sea.

The two companies will sign the contract at the final investment decision scheduled before the end of December.

The contract, which was won through international competitive bidding, marks an important milestone for the progress of the Castberg project. There were no Norwegian bids for the contract.

"We will be working closely with Sembcorp Marine to ensure safe and efficient delivery based on our requirements for HSE, quality, time and cost," Pål Eitrheim, Statoil's chief procurement officer, said. "The remaining procurement work will be progressed in parallel with this."

The construction of the hull is the most time-critical delivery for the completion of the Johan Castberg project for the scheduled startup in 2022, according to Statoil. The contract will have a separate cancellation clause linked to the approval of the plan for development and operation.

"Johan Castberg is the next major field development on the Norwegian continental shelf and important to future infrastructure in the Barents Sea," said Torger Rød, Statoil's senior vice president for project development. "Analyses from Agenda Kaupang show that the project will generate some 47,000 man-years of employment in Norway in the development phase from 2018 to 2022 given a competitive Norwegian supply industry."

### Petrobras Picks MODEC For Sépia Field FPSO Vessel

Tokyo-based MODEC Inc. snared a 21-year contract to provide an FPSO vessel to Petrobras for operations off the coast of Rio de Janeiro, the company said.

The contract involves supply, charter and operations for the vessel in the Santos Basin at a water depth of about 2,200 m (7,218 ft).

In addition to engineering, procurement, construction, mobilization, installation and operation of the FPSO vessel, the company will be responsible for topsides processing equipment as well as hull and marine systems. A subsidiary, SOFEC Inc., will design and supply the spread mooring system.

The new FPSO vessel will be capable of processing 180,000 bbl/d of crude oil, 2212 MMscf standard cubic feet of natural gas and 240,000 bbl/d of water injection. It will also have storage capacity of 1.4 MMbbl/d of crude oil.

This FPSO vessel will be the 13th MODEC has delivered in Brazil, and MODEC's 6th FPSO vessel in the presalt. Other presalt vessels include FPSO *Cidade de Angra dos Reis MV22*, FPSO *Cidade de São Paulo MV23*, FPSO *Cidade de Mangaratiba MV24*, the FPSO *Cidade de Itaguaí MV26* and the FPSO *Cidade de Caraguatatuba MV27*, which achieved the first oil production in December 2016.

The FPSO vessel will be delivered with Brazilian local content.

### **BW Catcher Attracts \$275 Million Investment**

The world's largest commercial bank has invested \$275 million into a long-term deal with North Sea field development vessel *BW Catcher*.

Industrial and Commercial Bank of China Ltd. (ICBCL), the global leader in terms of total asset and net profit, closed its deal Nov. 13 to become an equity partner in the FPSO unit. *Catcher* is under a lease contract with Premier Oil.

The investment is the first transaction under a cooperation agreement between Norwegian shipowner BW Offshore Ltd. (BWO) and ICBCL in April. The company said it plans to redeem the preference shares in full over an estimated term of 12 years. Net proceeds from the shares will be used for general corporate purposes.

"We are very pleased to secure this equity participation for the *BW Catcher* FPSO in cooperation with our stra-

tegic partner, ICBCL, and in line with our stated ambition to seek new ways of enabling further growth for the company," BWO CEO Carl K. Arnet said in a statement.

The FPSO unit arrived in the U.K. North Sea earlier this year to begin a seven-year fixed-term contract in the field. The contract's extension options could keep *Catcher* in the North Sea for up to 18 years.

*BW Catcher*, built in Japan, was converted for use in the North Sea in Singapore. It can process up to 60,000 bbl/d of oil and store 650,000 bbl. The vessel is designed to sustain 20 years of uninterrupted operations. BW Offshore was awarded the front-end engineering study in 2012.

The *Catcher* development covers the fields of *Catcher*, *Burgman* and *Varadero* 161 km (100 miles) east of Aberdeen, containing an estimated 96 MMbbl of oil.

Premier's stake is 50%, with Cairn Energy (20%), Mol Group (20%) and Dyas (10%).

—Joseph Markman

## BUSINESS

### **Decommissioning In Brazil Creates Opportunities, Poses Challenges**

Decommissioning of offshore units in Brazil has been increasingly gaining importance within the country's offshore industry over the past few years.

Although the offshore sector is expanding, decommissioning work is getting attention because many sedimentary basins have reached their peak. Currently, there are 160 units under E&P activities and half of them are more than 25 years old.

The Campos Basin, the most important oil area in the country, for example, reached its oil production peak in 2009. Having unique characteristics along its vast coast and working to increase its output, Brazil now sees itself face to face with the challenge of dealing with aging projects. Brazil's oil and gas regulator, ANP, expects the abandonment of 60 oil platforms and 165 offshore wells over the next years. Petrobras has scheduled to decommission four units located in the Campos Basin. They are the P-7, P-12, P-15 and P-33 units.

Challenges are both technical and financial.

Most of the country's offshore projects deploy wet wells completions and have a large network of pipelines interconnecting wells and oil platforms.

As for the financial perspective, decommissioning mainly impacts the Brazilian state-owned oil company



A row of decommissioned rigs is shown in the North Sea. Other parts of the world, including Brazil, are also faced with decommissioning old rigs. (Source: Shutterstock.com)

Petrobras. The oil major operates 74 out of the 79 units with more than 25 years in the country's offshore fields.

The decommissioning of production systems might create a number of opportunities for supply companies in the offshore industry. In fact, companies such as Aker, ABB, Schlumberger, Siemens and TechnipFMC have been carrying out talks with Petrobras to take advantage of those opportunities ahead.

Decommissioning in Brazil is challenging. Offshore activities in Brazil employ larger and more complex subsea systems compared to some other areas in the world. In addition, oil fields in deep and ultradeep water use many pipelines, spanning hundreds of kilometers. Complete removal of any subsea system in cases of high-complexity fields can result in extremely high costs.

“Therefore, it is very important to reduce regulatory uncertainties related to the decommissioning process in order to achieve success in the selling of upstream assets. In that sense, decommissioning gains strategic importance for the Brazilian oil major,” Edmar de Almeida, an economist at the Federal University of Rio de Janeiro, said during a recent conference at the Brazilian Institute of Petroleum.

### Opportunities For Oil Supply Companies

To meet the challenges of decommissioning, last year Petrobras created a special department for the company’s decommissioning activities, headed by Eduardo Zacaron. During a Nov. 10 event with companies with expertise in production unit decommissioning and ship dismantling, Zacaron said methodologies for comparative assessment of alternatives must be adapted to the Brazilian scenario and must consider all factors and stakeholders.

“Decommissioning has become our focus in the company’s strategic plan. Our main concern is to reduce the likely risks in the end of field life. Petrobras has developed a well completion system, which represents the higher cost involving the decommission process. And this is where the opportunities are found as we need to find solutions for cost cuts, and we need companies that can help us on this strategy,” he said.

Zacaron explained that wells, platforms and subsea systems decommissioning projects have different chronologies and require different solutions.

“Paradigms must be broken with risk analysis. The projects require long-term planning and execution and

should be evaluated as early as possible in order to seek synergy and cost reduction. High decommissioning costs can make new projects unfeasible and anticipate the devolution of mature fields,” Zacaron said.

Yet the most challenging decommissioning activities are those related to the subsea systems, according to the manager. “We are talking about thousands of flexible and rigid pipelines and hundreds of subsea equipment that we don’t know what to do with. Definitely, the decommissioning of subsea systems presents the most uncertainties,” Zacaron said.

### Environmental Impact

Establishing criteria for decommissioning is also a challenging task. Committing to environmental sustainability is among them. Bruno Graffino, director of Brazil’s environmental regulator IBAMA, emphasized that importance of evaluating environmental impacts as well as designing the decommissioning cycle. “These impacts must be compared to the economic and social aspects in order to contrast environmental impacts to the financial and social costs,” Graffino said at the same event.

Graffino said conversations between Brazilian government and companies are also important for better regulatory framework.

Earlier this month, ANP announced that it is planning to begin drafting a resolution that will regulate the decommissioning of oil and gas production systems. The new regulatory framework, which will revise existing rules, aims to establish deadlines and obligations to be carried out by the concessionaires in the process of decommissioning.

—Brunno Braga

## BUSINESS BRIEFS

### DNV GL Secures Master Services Agreement With Chrysaor

DNV GL has secured a combined engineering services agreement with Chrysaor Holdings Ltd. to deliver a range of services to the company in support of its North Sea operations, according to a news release.

Chrysaor recently completed the acquisition of a package of assets in the U.K. North Sea from Royal Dutch Shell for \$3 billion. The transaction sees Chrysaor become the leading independent E&P company in the U.K., according to DNV GL. It has more than 400 staff working in the U.K. Continental Shelf.

Chrysaor now holds stakes in 10 fields and blocks, including the BP-operated Schiehallion.

### Subsea 7 3Q Misses Forecast, Sees Flat 2018 Revenues

Oil services company Subsea 7 posted below-forecast third-quarter earnings Nov. 9 and predicted flat year-on-

year revenues for 2018 with a second consecutive year of lower profit margins.

Analysts in a Reuters poll had on average expected a 10% decline in 2018 revenues and a lower earnings margin.

Subsea 7, a major supplier to energy companies seeking to develop offshore oil and gas fields, reiterated its expectations for revenue growth in 2017 from 2016 and a decline in margins.

Subsea 7’s contract backlog fell to \$5.3 billion in the third-quarter from \$5.7 billion in the second quarter but was still ahead of the \$5.19 billion predicted by analysts in a Reuters poll.

“Assuming that global energy prices sustain current levels and cost reductions identified by the industry are consistently delivered, there is reason to believe that the number of awards to the market could increase in the first half of 2018,” it said.

The company’s adjusted earnings before interest, tax, depreciation and amortization declined by 13% year-on-

year in the third quarter to \$250 million, below a \$280 million forecast in the Reuters poll.

### Marie-Noëlle Semeria Appointed SVP, Group CTO at Total



Marie-Noëlle Semeria

Semeria became CEO of Leti, Institute of CEA-Technological Research, in October 2014.

Marie-Noëlle Semeria has been appointed senior vice president, group CTO at Total, effective Nov. 2.

Semeria began her career at Sagem, the high-tech unit of the SAFRAN Group, before joining the French startup PixTech in 1994 and CEA in 1996.

During her previous 20 years at CEA, she held various senior-management and strategy-development positions and secured numerous patents.

### Rockwell Automation Names Senior VP, CIO



Chris Nardecchia

In addition, he has held leadership roles at Pfizer and Warner Lambert, the release stated.

Rockwell Automation has named Chris Nardecchia to the new position of senior vice president, IT and CIO.

In this leadership role, Nardecchia will provide strategic vision, operational excellence and change leadership to develop and implement IT initiatives and architecture throughout the company, according to a news release.

Nardecchia most recently served as vice president and CIO global operations and supply chain for Amgen Inc.

### Chrysaor Awards Contract For Central North Sea Assets To Sparrows

Chrysaor has awarded Sparrows Group a three-year crane management services contract for the three operating assets it will take ownership of from Shell in November.

The scope of work will see Sparrows operate and maintain seven cranes across the Armada, Everest and Lomond gas platforms located 233 km (144 miles) to 250 km (155 miles) east of Aberdeen in the U.K. Continental Shelf (UKCS).

The campaign will be a continuation of the work Sparrows has carried out over the past decade for Bunge Ltd. and subsequently Shell on the three installations. This includes the delivery of offshore crane operations and maintenance, including the supply of rigging lofts and inspection services, as well as overseeing the onshore management of all crane maintenance strategies and related engineering scopes.

### Tullow Oil Lifts Outlook On Higher Crude Prices, Output

Tullow Oil has raised its production targets thanks to higher output from its flagship West African fields and as higher crude prices brightened the outlook for the indebted British explorer.

The London-listed firm struck a cautious note for the oil exploration business despite a 46% rise in the oil price in the three months to above \$60/bbl following a three years of weak prices.

Tullow, which brought its Ghana field onstream near the lowest point of the oil price slump, plans to continue reining in spending next year as it begins exploring for new resources in Suriname, Guyana and Jamaica, CFO Les Wood said.

Tullow also slashed its 2017 spending target by a quarter to \$300 million due to lower expenses in East Africa, where it is developing production, and reduced its debt to \$3.6 billion while increasing free cashflow to \$400 million.

Stronger-than-expected output from Ghana, where it has deferred to 2018 major maintenance at its Jubilee Field, helped Tullow lift its 2017 output target to between 85,000–89,000 boe/d from a previous 78,000–85,000 boe/d.

### Sudan Holds Talks With Foreign Firms About Oil Industry

Sudan has held talks with Russian oil firm Lukoil and other companies from the United States and Canada on the development of its oil industry after the lifting of U.S. sanctions, Sudan's oil minister said Nov. 14.

Companies are interested in developing natural gas projects in offshore areas in the Red Sea as well as onshore locations, Abdul Rahman Osman told reporters on the sidelines of an energy conference in Abu Dhabi.

The United States lifted long-standing sanctions against Sudan in early October, saying it had made progress fighting terrorism and easing humanitarian distress.

Sudan's oil production fell after South Sudan broke away, taking with it most of the country's crude production. Output is currently 88,000 bbl/d.

Sudanese officials expect a gradual recovery after the end of the 20-year-old U.S. trade embargo, opening the way for reforms and badly needed investment. It also unfreezes assets and lifts financial restrictions that hobbled the economy.

### Gambia Plans To Market Oil Blocks Disputed By African Petroleum

Gambia plans to market two offshore oil blocks that African Petroleum says it still legally holds, the country's minister of justice said.

Norwegian-listed African Petroleum said in October it had launched arbitration proceedings against the Gambian government to defend its exploration rights. Licenses for the two blocks expired in September 2016, but the oil company had been in talks with the government until earlier this year to extend the exploration period.

African Petroleum has previously said the terms of its licenses stated they remained active until the state enacted a termination procedure, which it said had not been done. It held blocks A1 and A4 that are thought to contain up to 3 Bbbl of oil and are next to licenses in neighboring Senegal.

“We respect African Petroleum’s choice to initiate arbitration proceedings ... We will exercise our rights to market our blocks, including A1 and A4,” Gambia’s minister of justice and attorney general Abubacarr Tambadou said at an event in London.

The Gambian government said it had decided not to extend the firm’s exploration rights, citing a failure by

the firm to meet its commitments. In August, prior to the start of arbitration proceedings, the government said the two blocks were open for bids.

An official delegation from Gambia recently visited London to drum up interest in six offshore blocks. The government said it would send out a request for interest within the next month or so, an official said during a presentation.

Gambian Oil Minister Fafa Sanyang said the terms would be negotiable but that the state oil firm would keep a minimum 10% stake in the blocks.

—Staff & Reuters Reports

## IN MEMORIAM

### Subsea Sector Losses Pridden

David Pridden, a long time stalwart of the British subsea industry and first CEO of the government-backed Subsea U.K. organization, died Nov. 4 after a six-month battle with cancer. He was 66.

Pridden spent the early part of his career with BP but moved into the contracting side of the industry in the early 1980s with Kongsberg Subsea Developments, eventually becoming managing director. In 1984 he and three others set up front-end specialist Mentor Engineering Consultants, which was later sold to McDermott.

Having moved from engineering to business development, Pridden got involved in a number of ventures including corrosion engineering, oil assaying and later renewables including being part of the team that set up

*Renews*, the U.K.’s first electronic newsletter covering the renewables business. This was his second venture in publishing, having been an original partner in the company that owned *Subsea Engineering News*.

In 2004 at an earlier period of offshore business doldrums in the U.K., Pridden took on the role of heading a new organization, Subsea UK, which aimed to expand the profile of one of the key elements of the British offshore sector.

After five successful years at Subsea UK, he returned to entrepreneurship, growing the TNEI renewables company before selling it off to Petrofac. Most recently, he was chairman of the offshore Seanamic group.

He leaves behind his wife Kari.

—Steve Sasanow

## UPCOMING

The next issue of *Subsea Engineering News* will be distributed Dec. 7. Until then, visit [epmag.com](http://epmag.com).

## JOBS

Looking for a new job in the industry? Find opportunities in the jobs section at [epmag.com/jobs](http://epmag.com/jobs).

## CONTACT INFORMATION

**LEN VERMILLION** Group Managing Editor  
Digital News Group  
[lvermillion@hartenergy.com](mailto:lvermillion@hartenergy.com)

**VELDA ADDISON** Senior Editor  
Digital News Group  
[vaddison@hartenergy.com](mailto:vaddison@hartenergy.com)  
(713) 260-6400

**CONTRIBUTORS:**  
Ariana Benavidez (Houston)  
Brunno Braga (Rio de Janeiro)  
Mary Holcomb (Houston)  
Joseph Markman (Houston)  
Ravi Prasad (India)  
Steve Sasanow (UK)

**GUEST CONTRIBUTORS:**  
Miguel Perez (Halliburton)  
Leonardo Brunherotto  
(Halliburton)

**Subsea Engineering News (ISSN 0266-2205)** is published twice monthly by Hart Energy Publishing LLP, Houston TX, USA. Telephone: +1 713 260 6400; Email: [sen@hartenergy.com](mailto:sen@hartenergy.com) or [custserv@hartenergy.com](mailto:custserv@hartenergy.com); Website: [www.epmag.com/subsea-engineering](http://www.epmag.com/subsea-engineering). Email for subscriptions: [mpigozzi@hartenergy.com](mailto:mpigozzi@hartenergy.com).

Copyright 2017. All rights reserved. Reproduction of this newsletter, in whole or in part, without prior written consent of Hart Energy is prohibited. Federal copyright law prohibits unauthorized reproduction by any means and imposes fines up to \$100,000 for violations. Permission to photocopy for internal or personal use is granted by Hart Energy provided that the appropriate fee is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. Phone: 978-750-8400; Fax 978-646-8600; Email: [info@copyright.com](mailto:info@copyright.com).

**2017 ANNUAL SUBSCRIPTION:** £425 + VAT (WHERE APPLICABLE), \$675 USA. FOR MULTI-USER SUBSCRIPTIONS, CONTACT US OR CHECK THE WEBSITE. CREDIT CARDS ACCEPTED SUBJECT TO CHARGES.

**HART ENERGY**  
1616 S. Voss, Suite 1000 • Houston TX 77057-2627 • USA  
[www.hartenergy.com](http://www.hartenergy.com) | [www.epmag.com](http://www.epmag.com)



Follow us on Twitter @Hart EPMag