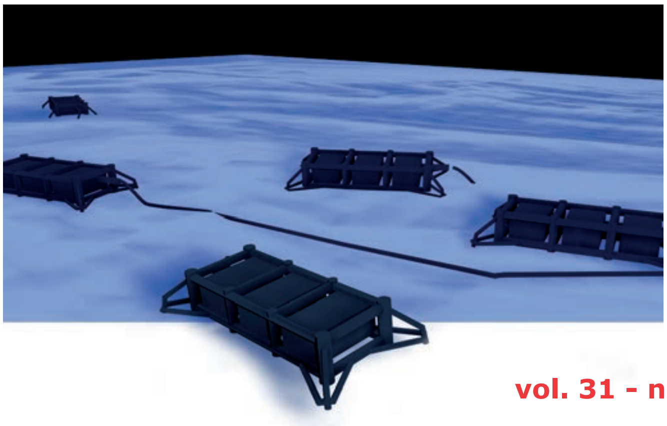

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HARTENERGY

SEN

SUBSEA ENGINEERING NEWS

DSME/KBR CONSORTIUM NABS MOZAMBIQUE FLNG FEED

From Australia (RW): Daewoo Shipbuilding & Marine Engineering, in joint venture with KBR, has been awarded the front-end engineering and design (FEED) contract for ENI group's floating LNG development, (SEN, 31/12), offshore Mozambique.

The award means that this joint venture, known as the KD Consortium, will be one of three competing for the EPCI contract to build the proposed *Coral South* FLNG facility for development of one portion of ENI's massive gas discoveries in Area 4 in the Rovuma Basin.

The fields include *Mamba South*, *North*, and *North East*, *Coral* and *Agulha*. All are in water depths between 1,500m and 2,600m and lie between 40km and 65km off the coast near the northern offshore border with Tanzania. Estimated reserves total in these fields is in excess of 1.4tcm, although total Area 4 reserves are put at 2.4tcm. The FEED contract is scheduled for completion in late April 2015. ENI is reportedly looking for an onstream date of 2019.

More gas

From the editor: Eni has expanded its cooperation agreement with Korea Gas Corp (Kogas) which currently has a 10% stake in Area 4.

The development of the deepwater gas resources in Mozambique will extend a partnership which is already in operation on five projects including ones in Cyprus, Indonesia and Timor Leste.

Also in the emerging east Africa deepwater gas basin, the Statoil/ExxonMobil group which holds the licence for Tanzania's Block 2 has made its seventh discovery with the wildcat *Giligiliani-1*.

The well, spudded by the drillship *Discoverer Americas* in 2,500m, has added another 34bcm to bring the total of discovered gas resources up to nearly 600bcm.

Over on the west coast of Africa in Equatorial Guinea, Ophir Energy has had its plans for an FLNG development in the deepwater Block R boosted following the successful drillstem test at *Fortuna-2*. This well added 37bcm which brings the total reserves in the block to 96bcm.

WHAT'S INSIDE

PROJECT UPDATES

GAS TO COME TO GHANA TO MEET GENERATION SHORTFALL

The availability of supplies of natural gas as a feedstock for power generation in West Africa is a major political issue as Ghana awaits connection of a new pipeline that will bring gas from its own deepwater fields to shore.

West Africa was meant to benefit from a new gas pipeline from Nigeria (WAGP) which has proven to be an unreliable source.

Having been contracted to supply up to 5.7mcm/d to three of its neighbours - Ghana, Benin and Togo - that supply has fallen to just 25% of the contracted amount.

Independent

So Ghana awaits its gas independence. Now Tullow, which operates the *Jubilee* (SEN, 31/6) field, is shortly due to bring onstream a 12in 58km pipeline that will supply up to 4.2mcm/d to an onshore processing plant.

That gas will provide feedstock for a number of different uses including power generation and LPG for domestic use.

If all of the gas produced by *Jubilee* were to be used for power generation, it could provide nearly 500MW. This, though, is just 10% of the electricity that the Ghanaian government hopes to provide is people by 2016.

This is a problem facing much of west Africa, to wit how to bring the benefits of offshore energy production to its population.

The latest country to face this issue will be Gabon as Shell announced a 'substantial' deepwater gas find there - 200m of net pay from a pre-salt reservoir.

Leopard-1 was drilled in over 2,100m 145km west of Gamba on the coast of Gabon. An appraisal programme is being planned.

ANADARKO READIES BIG CAMPAIGN AT *CORONADO*

From Houston (BN): A weakening oil price isn't slowing Anadarko's offshore plans.

The company waited just two months to file an exploration plan for *Coronado* (SEN, 30/18) after becoming operator of the highly touted Chevron-led discovery in 1,830m in Walker Ridge 98 in the Gulf of Mexico.

The initial exploration plan, filed in July and given conditional approval by regulators this month, calls for eight wells to be drilled in a 4.5km arc around the southwestern edge of the prospect in the Shenandoah Basin.

Anadarko also won two other GoM approvals this month as described below.

The *Coronado* plan calls for the wells to be drilled between 2015 and 2026, five in WR141 and three in WR142. Anadarko became operator in May and sought approval to begin drilling in December, using the drillship *Diamond Ocean Blackhawk*.

Conditional approval of the plan by the Bureau of Ocean Energy Management is just one step. Anadarko will need a separate drilling permit from the Bureau of Safety & Environmental Enforcement for each well, expected to take 195 days to drill.

In announcing the *Coronado* discovery in early 2013, Chevron said it encountered more than 122m of net pay at a depth of 9,713m.

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Coronado is in the same vicinity as the Anadarko-led *Shenandoah* (30/1) discovery in WR52 and the Shell-owned *Yucatan* find in WR95&96, both also in 2013.

Partners in the licence are Unocal (Chevron), ConocoPhillips and Venari. The drilling location is 375km south of New Orleans.

Anadarko also won approval of an exploration plan for the *Ticonderoga* prospect in Green Canyon 724 in 1,600m in the Gulf of Mexico. The plan calls for three wells to be drilled starting next month with the last one expected in 2016. The location is about 320km south of New Orleans.

Not yet available for public viewing, but noted in a regulatory activity listing was another Anadarko plan approved for Mississippi Canyon 920, location of *Independence Hub*.

The gas-gathering facility, in operation since 2007, serves wells operated by the Atwater Valley Producers Group - Anadarko, Devon, Eni and Hydro (Statoil) - in cooperation with hub owners Enterprise and Helix.

The new development operations coordination document was filed in November 2013 and approved this month.

Tieback

In other GoM developments, Freeport McMoran filed plans to complete two wells in its *Dorado* prospect in Viosca Knoll 915 and connect them via jumpers to an existing tieback to the *Marlin* tlp in the same area and block. Startup is expected in March 2015.

LLOG has won approval of its plan to drill into Mississippi Canyon 208 from MC253, across the northeast corner of MC 252 (31/14). The prospect has been dubbed *Neidermeyer North*. The plan calls for tying back to the *Delta House* (31/13) hub, which is currently being installed in MC254.

ALTA STRIKE BOOSTS *CASTBERG* PROSPECTS

From the North Sea (NT): Lundin has made a large discovery with its *Alta* well in the Loppa High region of the Barents Sea which could improve the chances of an oil pipeline to shore from Statoil's *Johan Castberg* (SEN, 31/2) floater development.

The *Alta* wildcat (7220/11-1), drilled by the semi *Island Innovator* in 388m, found an estimated 88-315mmbbl of oil and 5-17bcm. Two production tests were successfully run, achieving a maximum flowrate of 3,250b/d and 0.05mmcm/d.

Lundin intends to follow up swiftly with a four-well campaign on Loppa High next year, including appraisal of *Alta* and exploration of other prospects.

Alta lies just 20 km to the north-east of Lundin's *Gohta* discovery and on the same licence, PL 609. Reserves at *Gohta*, which was appraised earlier this year, stand at 60-145mmbbl and 8-15bcm.

Boost

Alta is located 190km northwest of Hammerfest and on the route which a pipeline to shore from *Castberg* would take. Sharing the cost of such a line - NOK10bn ($1.5bn), according to Statoil – would ease the burden on the *Castberg* group.

Meanwhile Statoil's latest attempt to find additional oil reserves to make the *Castberg* project more robust has proved disappointing. The *Isfjell* exploration well (7220/2-1), 40km northeast of *Castberg*, found just 1-2bcm.

The semi *Transocean Spitsbergen*, is now trying its luck with the Saturn prospect (7227/10-1) further east.

Down in the North Sea, though, Statoil has achieved a solid commercial result with its 25/8-18 appraisal of the *D* structure discovered by Norsk Hydro in 1992.

Reserves are now estimated at 31-75mboe, up from 6mboe for the original well. A tie-in to the *Grane* platform, 7km to the south, will be evaluated, Statoil says.

The *D* Structure lies close to last year's *Grane F* discovery (21mmbbl), so a joint development, as part of the 'fast-track' programme, could be on the cards. The D structure appraisal was drilled by the semi *Transocean Leader* in 129m.

STATOIL NEEDS TO RE-THINK *BRESSAY*, DOT TOLD

From Aberdeen (IF): Development costs for Statoil's *Bressay* (SEN, 30/18) heavy oil field in UK waters will have to come in below the $7bn being spent on its sister project *Mariner* (30/20) or it will never get off the ground, the Norwegian operator told SEN last week.

Mariner is on track to come onstream in 2017 before reaching plateau production of around 55,000b/d and operating for 30 years.

An update on Statoil's two heavy oil projects east of Shetland was given at last week's DOT International conference here.

Gunnar Breivik, MD of Statoil Production UK, spoke here from an operator's perspective. He said *Mariner* is important in the company's global project portfolio. The development will include a production, drilling and quarters (PDQ) platform with an fso.

Drilling will be carried out from the PDQ installation with a jack-up rig assisting for the first four to five years.

Around 140 reservoir targets for production or injection are planned for *Mariner*. While the number of well slots at the platforms is smaller, this will be solved using multi-branch technology, sidetracks and reuse of slots.

Statoil says heavy oil projects have required the development of pioneering technology. The development concept for *Mariner* is said to fully address the complexities of the field, in particular related to reservoir management, recovery rates and project execution.

Mariner has 2bnbbls of oil in place, but only 250mbbbls are currently deemed recoverable. Breivik said his company has a clear ambition of increasing the recovery rate.

Statoil's Aberdeen spokesman Ola Morten Aanestad told SEN there was no specific target for an improved recovery rate, but the firm was working to improve the oil drainage strategy to get more out of the reservoir.

Breivik said *Bressay*, which could have up to 300mbbls recoverable, also features in Statoil's large project portfolio. Last year, the company was said to be re-thinking the project and postponed the final decision on the development

Statoil said then there was potential to simplify the *Bressay* concept. The development was originally expected to be similar to *Mariner*, but a less-expensive option is now being sought. 'This is one of the projects where we need new ideas; leaner and smarter solutions,' Breivik said.

Aanestad added, 'We are currently screening concept options. It will have to be cheaper than *Mariner*. We have to get the costs down or it won't be developed.'

A concept selection is due next year, and it is likely to be a stand-alone development of some sort. A final investment decision is expected in 2016. First oil from the field was previously expected in early 2018, but Aanestad said it would not be realistic to see any oil production that year.

Statoil expects to have an onshore and offshore Scottish workforce of around 700 by the time *Mariner* comes onstream.

Max recovery

DOT focused on maximising resource recovery and ways to cut costs at a time of falling oil prices were high on the agenda for many of those attending.

John Westwood of research consultancy Douglas-Westwood told the conference that costs had been soaring because demand for products and services exceeded supply.

He highlighted issues such as increasing technical challenges; over-engineering; project management issues; skills shortages; local content pressures; and the impact of the *Macondo* disaster.

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ATP FINED OVER *INNOVATOR* SPILL

From Houston (BN): ATP Infrastructure Partners, a unit of bankrupt ATP Oil & Gas, has agreed to a $1mn penalty and corrective measures related to the leak of oil and chemicals back in 2012 from the now-retired *ATP Innovator* production semi.

This is the latest development in the sad saga of a company that suffered problems after the Gulf of Mexico drilling moratorium imposed in the wake of the 2010 *Macondo* (SEN, 31/13) offshore accident and oil spill.

And it's not over yet. The pollution claims against what's left of parent ATP Oil & Gas itself remain for future resolution.

ATP Innovator was supposed to be a creative re-use of a semi-submersible drilling rig, the *Rowan Midland*, as a floating production facility for the *Gomez* (30/24) field in 290m in Mississippi Canyon block 711 in the GoM.

What upset the Environmental Protection Agency, apparently and led to the complaint in federal court was a 'hidden piping configuration being used to inject chemical dispersant into the facility's wastewater discharge outfall pipe to mask amounts of oil being discharged into the ocean'.

The *Innovator* is no longer in operation, has been decommissioned and towed to retirement in Corpus Christi TX. ATP-IP said it had no plans to use or lease *Innovator*. EPA said the settlement consent order is to make sure that it is never used again without correction of improper piping.

Who, what and where

To that end, the consent decree approved by a federal court imposes specific requirements on ATP-IP. The company must report every six months on *Innovator*'s location, ownership and operational status. Prior to any future operation, ATP-IP must certify wastewater handling is proper and adequate.

Any future operator that leases *Innovator* must have an independent audit of wastewater treatment and surface production safety systems, EPA and ATP-IP agreed.

Interestingly, Anadarko reported a $131mn pretax loss on the ATP fiasco in the third quarter of 2013, because it sold the *Gomez* tract to ATP in 2003. Under American law, after ATP went bankrupt, Anadarko was the remaining 'responsible party', forced to pay for plugging wells and towing away *Innovator*.

PROJECT UPDATES

From the North Sea (NT): A subsea tieback to BP's *Ula* or Talisman's *Gyda* platform - 12km or 8km distant, respectively - are two of the development options for the **BUTCH** prospect in the Norwegian sector as suggested in Centrica's proposal.

Other options are a wellhead platform tied back to the same hosts and a mobile drilling and production unit. According to partner Faroe, concept selection is due to be made in early 2015.

Centrica plans to submit its field development plan in February 2016, get approval the following spring and bring the field onstream in late 2018 with two production wells and one water injector.

Butch is expected to remain in production for 12 years, although at present the company is still working with a wide reserves range – 27-51mboe. The NPD gives an estimate of 47mmbbl of oil and 0.7bcm of gas, equivalent to the top of Centrica's range. Capex will be NOK4-8bn ($600mn-1.2bn).

Discovered in 2011 by exploration well 8/10-4, *Butch* lies across two licences. Development is proceeding even though wells this year on *Butch East* and *Butch Southwest* were both dry.

CARBON CAPTURE AND STORAGE is not a subject that SEN has taken too much interest in, primarily as it has been long delayed and does not have much to do with production. We can not be interested in everything.

But things are heating up, particularly surrounding Shell's former *Goldeneye* platform which is due to be the centre for reinjection of CO_2 from the Peterhead power station under a UK scheme.

Wood Group Kenny has picked up FEED for the subsea part of the work which includes the landfall at the power station, the CO_2 pipeline, a subsea isolation valve station plus tie-ins and spools.

Elsewhere, Strathclyde University has joined the CCS partnership, a research group which includes the British Geological Survey, the universities of Aberdeen and Edinburgh and Heriot-Watt University.

From Houston (BN): Foreign flirtation with the reform of the energy sector in **MEXICO** continues. Pacific Rubiales announced a three-year 'memorandum of understanding and cooperation' with state company Pemex on deepwater projects, improved recovery from mature fields and challenges such as heavy oil and high water production.

A Pemex executive touted ultra-deepwater exploration news in a recent interview, forecasting a discovery at the *Vasto-1* prospect in the Perdido Fold Belt and touting an appraisal well at *Maximino*, where Pemex has scored three discoveries close to the US-Mexico maritime boundary.

From the North Sea (NT): Project **COST OVER-RUNS** continue to plague ongoing field developments in Norway, according to new figures released by the government.

In fact, the average over-run has escalated to 9.5% from 3.4% a year ago.

The worst sinner is Eni's *Goliat* project, as already reported (SEN, 31/5). At NOK46.7bn ($7.1bn), it is running almost 50% over the budget at the time of approval in 2009.

In percentage terms, Lundin's *Brynhild* (31/12), at 58.4%, appeaers to be worse, but this is a small project totalling just NOK6.9bn even with the overrun. Of two developments approaching start-up late this year or early next, BG's *Knarr* (31/14) is 35.9% over budget, at NOK16.2bn, and Statoil's *Valemon* (31/4) 14.8% over at NOK22.6bn.

Honourable mentions go to Statoil's *Gina Krog*, 1.2% below budget (NOK 29.5 bn), and Det norske oljeselskap's *Ivar Aasen*, with savings of 0.8% (NOK25.6bn).

And the three projects which have come onstream since August 2013 - ConocoPhillips' *Ekofisk South* and Statoil's *Gudrun* and *Svalin*, all came in below budget.

Chevron has now confirmed that it has postponed the startup date for its *Indonesia Deepwater Development* (*IDD*) aka **GENDALO-GEHEM** (31/14) until 2019 as it has to submit a revised development plan.

Anyone with a long memory will recall that these twin gas fields were originally being developed by Unocal and were due onstream in 2004. So it will now vie with Shell's *Corrib* (31/11) gas field in Eire for the longest delayed project. Who's got the whisky?

It has been a good couple of weeks for OneSubsea. Firstly, it picked up the subsea hardware contract related to Pemex's **LAKACH** (31/14) deepwater development in Mexican waters.

This is a seven-well system and winning it would have been a good 'foot in the door' for any of the suppliers who want to set up stall for the coming expansion in Mexico.

Only it just seemed a bit strange that Saipem suggested that it was handling the project on an EPCI basis which suggested being involved in the hardware procurement, but this award came direct from Pemex. Let's get it straight next time, guys.

A possibly bigger award, though, for 1-SS is a 10-year worldwide frame agreement with **BG GROUP**. 1-SS-cum-Cameron has supplied BG with more than 100 trees to date - the majority for *West Delta Deep* (31/14) in Egypt, but there have been some for UK and Norwegian projects as well.

1-SS did not respond to queries on what tree numbers might be involved over the next decade and the projected value of the deal, but all will come to light in the fullness of time, we expect.

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FMC has picked up the hardware contract for Total's **EDRADOUR** and **GLENLIVET** (31/13) subsea gas fields, west of Shetlands. No surprise here, as FMC supplied the equipment for the headline **LAGGAN-TORMORE** fields.

From Australia (RW): Expro has been awarded a $50mn contract to supply a testing package and related services for Inpex's **ICHTHYS** (31/14) deepwater gas project off Western Australia.

Expro is to supply large-bore subsea landing string, well intervention and fluid analysis and surface sampling services for the project. The initial phase includes 20 high-rate gas producers. Work is expected to begin late this year and run through till 2017-18.

The single-train test package incorporates a 5mcm/d megaflow recycling test separator and 7in large bore landing string assembly. The package also includes wet gas metering and wireline services to complete, clean up and prepare wells for coming into production.

The plan is to allow the wells to flow at maximum rate, thus reducing clean-up time and removing drilling mud, debris and completion fluids from the well bore before the hand-over to production operations.

JDR is to supply what was believed to be its first steel tubed umbilical to Wintershall Noordzee for its **RAVN** project in the Dutch sector of the North Sea. This is an 18km combined signal and power umbilical linking a new platform with an existing one.

But wait...this is not actually the first STU delivery for JDR. As a famous Jedi master said, 'there is another', but it went to one of those shy operators who does not like to be identified and certainly not the first of anything. Now who could that be?

From Houston (BN): As SEN went to press (Thursday), Chevron announce a new deepwater Lower Tertiary discovery in the Gulf of Mexico at its **GUADALUPE** prospect.

The well in 1,217m in Keathley Canyon 10 encountered 'significant' oil pay as it was drilled to a depth of 9,197m. Chevron said drilling by the drillship *Transocean Discoverer India* began in June.

Tests are underway and additional appraisal will be needed to determine the extent of the find. Drilling went faster than expected.

In regulatory filings, Chevron planned to start 1 February and finish 27 Septewmber, almost seven months. In the end, Chevron started in June and finished in time for a late October announcement – as little as five months.

Guadalupe is about 20km northwest of BP's *Tiber* (28/17) discovery and about 470km southwest of New Orleans. Chevron operates (42.5%) for BP (42.5%) and Venari (15%).

Closer to home, GdF Suez and BP announced an interested find in the Central North Sea which crosses over 30/1c and 1f which is being called **MARCONI** by the former which was responsible for the well and **VORLICH** by the latter. Why does the BP name sound like the name of an evil wizard from Harry Potter?

Anyway, the well was flowtested at over 5,000b/d which has everyone excited. Its closest neighbours at the ConocoPhillips' facilities in *J* Block (30/7) to the southeast and others, like *Elgin-Franklin* and *Shearwater* to the northwest.

FLOATER NEWS

AJE GETS THE GREEN LIGHT

From Australia (RW): The Yinka Folawiyo Petroleum Co group has given the green light on the final investment decision for the $220mn Stage 1 development of the *Aje* oil field, offshore Nigeria.

The aim for Stage 1 is to produce 10,000b/d and will target two wells in the OML113 licence area. A re-entry of *Aje-4* will form the first producer, while drilling of *Aje-5* will be the second.

The development plan includes the use of Rubicon's fpso *Front Puffin* which previously operated on the *Puffin* field (SEN, 31/x) in the Timor Sea. The vessel will be brought up to specification shortly. Procurement of subsea equipment and the contracting of a drilling rig are also progressing.

The *Aje* field is estimated to contain 200mmbbls of 2C contingent resources in Cenomanian-age reservoirs. Additional resources may be present in a separate reservoir and these may be accessed through a second phase of development comprising two more wells. Stage 1 of the project is scheduled to be brought onstream at the end of 2015.

Yinka operates (25%) with Chevron (33.75%) acting as technical advisor for Vitol (24.05%), Panoro (12.19%) and Australian independent Jacka Resources (5%).

FLOATER BRIEFS

Not much has been said about the fpso that Teekay Offshore/Odebrecht Oil & Gas will deliver and operate as an extended well test/early production unit on the giant **LIBRA** (SEN, 31/14) field, offshore Brazil, but it seems noteworthy.

This unit which will be converted from the shuttle tanker *Navion Norvegia* in Singapore at Sempcorp Marine's Jurong Shipyard under a $696mn contract is an unusual beast.

It will have an oil processing capacity of just 50,000b/d - most of the production units under charter to Petrobras have at least three times that capacity - but will be able to process 4mcm/d and be able to compress most of it for reinjection back into the reservoir for pressure maintenance.

The low daily production level suggests less frequent offloading - there will be two producers and one gas reinjection well - but it also may be a somewhat smaller unit that will be redeployed. The water depth on the field exceeds 2,000m.

The contract is a 12-year charter which is due to begin in late 2016. The *Libra* field has estimated reserves of 8-12bnbbls.

And Jurong is on a roll. It has also picked up conversion work from Modec on a vlcc destined for Tullow's **TEN** (31/8) fpso project, its second deepwater development in the waters off Ghana.

The unit will have an external turret in waters beyond 1,000m.

BMT Scientific Marine Services will supply a riser integrity monitoring system for Petrobras' **LULA NORTE & EXTREMO SUL** (30/17) developments in Santos Basin under a subcontract from SURF contractor Saipem. The systems for these two fields will include their proprietary rov-deployable subsea strain sensor assemblies for continuos monitoring and data collection.

Wood Group Mustang will handle pre-FEED for Statoil's proposed **SNORRE C** (31/8) tension leg platform covering topside design and integration with the hull with a final decision on the project due early next year...Addax Petroleum has extended by one year its charter of fpso **KNOCK ADOON** which is working offshore Nigeria.

From Houston (BN): Ocean Rig UDW touted Petrobras' extension of contracts for **TWO DRILLSHIPS**, *Corcovado* and *Mykonos*, for drilling offshore Brazil.

The extensions are for 1,095 days with forecast combined revenue of $1.1bn. If approved by partners, the extensions commence at the end of current deals with Petrobras in the first half of next year.

Also, Pacific Drilling's dp drillship *Pacific Sharav* has arrived in the Gulf of Mexico to take up a five-year charter with Chevron. This is based on a Samsung 12000 design, ie capable of drilling to 12,000ft or over 3,600m.

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TECHNOLOGY

NEW CONNECTOR COULD EXPAND USE OF PLASTIC-LINED PIPE

The market for plastic-lined pipe (PLP), used most conventionally offshore in water injection pipelines, could expand with the development of a new connector offered by the company which now holds the patent for installling plastic lining in pipelines.

Liner Bridge is a plastic connector that offers a number of advantages over the existing connectors offered by two of the main subsea SURF contractor, Technip and Subsea 7, according to Swagelining.

From the cost and technology perspective, it will be cheaper and quicker to manufacture these connectors and will allow lined pipe to be cut at any point for repair.

More significantly for the market, it will enable plastic-lined pipe to be installed by s-lay vessels expanding the number of pipelay contractors able to offer this technology and the size of the pipelines that can be plastic-lined. As all are currently reeled, the limit is 14-16in, while an s-lay water injection line could be as big as 24in.

The technology offered by Swagelining is not new in general pipelining - it was developed more than 20 years ago by the then British Gas for lining gas distribution pipelines and later adopted by water supply companies. According to Swagelining, it was first used offshore by BP at *Foinaven*.

BG's intellectual property on the technique plus another for the associated WeldLink connector were later acquired by Subsea 7 who subsequently sold the technology - but not the connector - on to a team of former employees who formed Swagelining.

The main advantage of plastic lined pipe is cost. The alternative is a range of exotic metals that can either be solid pipe, clad or lined. The cost for the latter, depending on the alloy, could range from three to five times the cost of PLP.

Tech Briefs: NEL, based near Glasgow, has invested £0.5mn in an upgraded **WET GAS TEST FACILITY**. This is said to be the first independent commercial operation of its type in the UK for calibrating wet gas meters.

The facility will initially be able to handle flowrates of 2,000m^3/hr and liquid volume fractions beyond 10%. There will be additional expansion for injecting water and oil to simulate field conditons.

Maritime Developments has received a patent for its **4-TRACK TENSIONER**. It is a 50t caterpillar that can be used vertically as well as horizontally and has been incorporated into its new portable vertical lay system (VLS). MD has already delivered two of the 4-track systems to clients and is building a third for a rental unit.

BUSINESS

P&A WORK TO LEAD DECOM ACTIVITY

From Aberdeen (IF): Well plugging and abandonment (P&A) costs are expected to be the biggest single decommissioning expense in the UK North Sea in the next decade.

Oil & Gas UK has calculated that P&A will run up a bill of £6.4bn through 2023 – 44% of a predicted decom spend of £14.6bn.

Operators are forecasting that total decom expenditure in British waters this year will soar to £1bn for the first time in a single year. The 2013 figure was less than £500mn.

OGUK has just launched its annual forecast for decom activity and expenditure on the UK Continental Shelf.

The report focuses on the activities of 28 operators on the UK Continental Shelf, providing intelligence on their decom plans for the next 10 years.

Oonagh Werngren, operations director at OGUK, said the document would be of huge interest to both operators and contractors.

'Our report provides the industry with the facts and figures it requires...when opportunities arise in this growing sector,' Ms Wergren said.

'For operators, this might be... collaborating on work programmes to reduce cost and gain...efficiency and for the...supply chain it is ensuring the UKCS is geared up to take on this new challenge.'

Werngren said the £14bn-plus due to be spent on decom in British waters in the next decade is significant, but should be put into context against total capex by the industry of £14.4bn last year alone.

'The challenge is to see a thriving decom market emerge as part of a continued and sustained capital investment programme,' she said with both relying on a focus on cost efficiency and more effective ways of working.

OGUK is forecasting that nearly 930 wells in British waters will be subject to P&A between now and 2023, around 19% of the well stock. Meanwhile, more than 55,000t of subsea infrastructure will be removed and almost 3,300 km of pipelines decom-ed.

Just over 100 platforms are expected to be decom-ed in the same period, with 481,000t of equipment and facilities coming onshore.

Central focus

OGUK says 43% (£6.3 bn) of the total forecast spend during the decade will be concentrated in the central North Sea.

In the central and northern North Sea, the predicted average P&A cost of a platform well is put at £4.8mn; of a wildcsat exploration or appraiser coming in at £17.4mn and of a subsea development well at £11.6mn.

In the southern North Sea and the Irish Sea, the predicted P&A average cost of a platform well is put at £2.7mn; of a wildcat or appraiser comes in at £5mn; and of a subsea development well is £7.6mn.

The full UK sector decommissioning capital expenditure from now through 2023 is broken down into: well P&A activities, £6.4bn; operator project management and facility running costs, £3.1bn; removal and associated activity, £5.1bn.

BUSINESS BRIEFS

AS SEN went to press, it was announced that **PROSERV** had been sold by one private equity group to another. The seller was Intervale Capital which formed the Proserv Group over a number of years by combining the 'old' Proserv IRM company with Azura and the controls division of Weatherford. The buyer is Riverstone Holdings which is a $27bn investment firm.

Riverstone is acquiring all the shares in Proserv includings those held by Weatherford and other minority shareholders. No price has been put on the deal.

From Houston (BN): **PETROBRAS** has come under fire from two sides - a prominent American shareholder activist and from rating agency Moody's, which moved Petrobras' credit rating from Baa1 to Baa2 or, in simple terms, from bad investment grade to worse investment grade.

The company's ambitious pre-salt investment plans, falling oil prices, government limits on how much it can charge for petroleum products, and a weaker Brazilian currency were all factors.

Petrobras was not helped as Brazilian voters go to the polls this weekend armed with President Dilma Roussef's admission that there was corruption at the company and her promise to try to clean it up.

Allegations of kickbacks to Petrobras executives in exchange for contracts have dogged the Roussef campaign. The president and her party had tried to deflect the charges. Polls indicate Roussef is in a tight race for a second four-year term.

It isn't often that licence partners come to philosophical blows, but that is what has happened between **IONA ENERGY** and **NORECO**, shareholders on the *Huntington* field in the UK sector.

The Norwegian Energy Co announced a fortnight ago (SEN 31/14) that it was suffering financial hardship as a result of production issues at *Huntington* and its Norwegian *Oselvar* field. It said it was writing down its value on both.

Iona is having none of it. It said that most of what Noreco mentioned in its statement was 'old news', ie it has been said before. It also took exception to Noreco's *Huntington* writedown. Iona said that the writedown was based on an inflated statement of the reserves - 39mboe - while it had booked only 29mboe, because it did not include figures from what it called the 'low resistivity zone' of the Forties reservoir.

The bell has gone on round two. We await the start of round three.

From the North Sea (NT): CEO **HELGE LUND** is leaving Statoil to join BG Group. Unlike some of his predecessors, he is going of his own accord rather than pushed out by scandals or shocks. In fact, Statoil has enjoyed a good decade under his leadership, not only strengthening its position on the Norwegian Continental Shelf, but building a solid base internationally and raising its market cap more than two and a half times to in excess of NOK500bn ($76bn).

Lund is now cashing in on all that good work, being set to increase his wages at least seven times in his new job. Underperforming BG, without a permanent CEO since March, no doubt presents challenges, but the clincher for Lund seems to have been the prospect of a £12m 'golden hello', a £3m buyout of his Statoil shares, £0.5m in relocation expenses and the chance to earn up to £13.5m a year if he meets unrevealed personal performance criteria. The deal, which was heartily criticised by the High Pay Centre, requires special shareholders approval.

Lund takes over at BG in early March 2015. Eldar Sætre of the corporate executive committee has been appointed Statoil's acting CEO as the search for his replacement begins.

This is a trick question: how do you make a lawsuit go away? You buy the other litigant in the action. That is just what subsea fluids specialist **MACDERMID OFFSHORE SOLUTIONS** has done.

SEN reported back in May (31/5) that MacDermid and Niche Products were suing each other on both sides of the Atlantic over the suggested re-formulation of MacD's HW443 fluid. The litigation will presumably now go away as Niche has been acquired by MacD with the Niche management team remaining in place until the year-end.

So what does this mean? We have no idea, but here is a thought: did MacD buy Niche because it was cheaper than carrying on with the lawsuit? Fascinating.

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