

OFFSHOREMARINE

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KFELS B CLASS NOTCHES UP SUCCESSIVE WINS

**Qatar's flagship yard
opens its gates**

On track in Brazil

CONTENTS

BUSINESS

| | |
|--|----|
| KFELS B Class notches up successive wins | 3 |
| Handing West Juno safely to Seadrill | 5 |
| Harnessing the North Sea winds | 6 |
| On track in Brazil | 7 |
| A sparkling Diamond in the yard | 9 |
| Expanding capabilities in Rotterdam | 11 |
| Tradition of excellence | 12 |
| Towards a zero-incident workplace | 16 |

SPECIAL FEATURE

| | |
|---------------------------------------|----|
| Qatar's flagship yard opens its gates | 20 |
|---------------------------------------|----|

TECHNOLOGY

| | |
|------------------------|----|
| Optimising design work | 26 |
|------------------------|----|

PEOPLE

| | |
|------------------------|----|
| Strategic appointments | 28 |
| Welding excellence | 30 |

COMMUNITY

| | |
|--------------------------|----|
| Season of giving | 38 |
| Lighting up golden years | 40 |



Special Feature 20

Strengthening Keppel and Nakilat's partnership – HE Abdullah Bin Hamad Al-Attiyah (right), Deputy Premier and Minister of Energy and Industry for the State of Qatar and Chairman, Nakilat, CB Choo (left), CEO of Keppel Corporation and Chairman of Keppel O&M sign the fleet arrangements while Muhammad A. Ghannam, MD of Nakilat and Chairman of N-KOM looks on.

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KFELS B Class notches up successive wins

Proprietary KFELS B Class design in demand as industry looks to newer, safer, higher specification jackup rigs.



Oystein Ikdahl (right), MD of Standard Drilling, giving the thumbs up with Loe Hauw Sheong, Project Manager at Keppel FELS, at the strike steel ceremony of the KFELS B Class rig ordered

Keppel FELS has secured contracts from three customers for four newbuild KFELS B Class jackup rigs.

CH Tong, CEO of Keppel O&M and Keppel FELS, said, "We would like to thank our customers for their confidence in Keppel FELS, and are very pleased to take our partnership with them to the next level with the building of new KFELS B Class jackup rigs.

"The innovative and cost-effective KFELS B Class jackup rig has proven itself to be the trusted, reliable workhorse of the industry, and has performed well in major offshore exploration and development programmes in various locations."

SETTING STANDARDS

The first order, from Standard Drilling Ltd (Standard Drilling), a subsidiary of Norwegian investment company, Fernclyff TIH AS Group (Ferenclyff), is a jackup rig slated for delivery in 2H 2012.

As part of the agreement, Standard Drilling has been given options to build another two similar jackup units.

Martin Nes, CEO of Fernclyff, said, "We are seeing activities and opportunities in the jackup market recovering quickly and are positive that this demand for newer, safer, high-specification jackups will be sustained, given the growing need

worldwide for premium units with capabilities to operate safely in more challenging locations.

"To create stable and long-term value for our stakeholders, we believe in working with partners with specialist expertise, good management and world leading technology, to develop our assets that will give a good foundation for future growth.

"Rigs built to the KFELS B Class design are known to be highly efficient drilling platforms with industry-leading features for safety and environmental friendliness and boast a proven track record. We are pleased to work with Keppel FELS on building a premium jackup drilling rig of this design, which we are confident, will become a first class asset to our portfolio."

PARTNERING MERMAID

Keppel FELS has also sealed a contract to build two jackup rigs for Asia Offshore Drilling Limited (AOD), a 49%-owned affiliate of Mermaid Maritime Public Company Limited (Mermaid). The two jackup rigs are scheduled for delivery in 2012 and 2013 respectively.

As part of the contract, AOD has been given options to build another two similar jackup units.

Continues on page 4...

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Recent orders reflect the market's confidence in Keppel FELS' proven KFELS B Class jackup rig design

Chandchutha Chandratat, Executive Chairman of Mermaid Maritime, said, "This latest contract represents a significant order from an Asian drilling company, and is in line with Mermaid's goal to be a long-term owner of high specification modern drilling assets in the region.

"I am pleased to announce that the response from investors in the recent equity placement exercise conducted for the two rigs was most encouraging. With that, we have been able to put in place the

necessary funding for our new fleet expediently.

"This reflects the market's confidence in Mermaid's capabilities as an operator, and in our choice of partnering Keppel FELS, the world's leading offshore rig designer and builder, to construct the proven KFELS B Class jackup rig design."

BUILDING FOR JASPER

For its third order secured in a month, Keppel FELS won a contract from Jasper Investments

Limited (Jasper) to build a KFELS B Class jackup rig, with an option for another similar unit. The rig is slated for delivery in 2H 2012.

Wong Kok Seng, ED of Keppel FELS, said, "Having built more than 40% of the world's jackup rigs in the last 10 years, we continue to set benchmarks, not just for completing newbuilds safely, on time and within budget, but also for robust solutions that serve our customers' needs.

"This is the fourth order for our proprietary KFELS B Class design received within the span of a month. It reflects the growing market value of this high specification rig with a proven performance and safety track record."

Geoffrey Yeoh, ED of Jasper, said, "Our partnership with a world-class rig builder and designer like Keppel FELS will strengthen our position to participate in high value projects that will give Jasper a firm foothold in the offshore drilling sector."

Handing West Juno safely to Seadrill



Wong Kok Seng, ED of Keppel FELS and David Gouldin, Asia-Pacific & Middle East Operations Manager at Seadrill Limited, sign the papers for West Juno's safe, on-time and on-budget delivery

The KFELS B Class jackup rig, West Juno, has been delivered to Seadrill Jack-ups Limited (Seadrill) on time, within budget and with a perfect safety record.

Wong Kok Seng, ED of Keppel FELS, said, "We are proud to have maintained an outstanding track record of quality deliveries to Seadrill over 17 years of close collaboration and 16 state-of-the-art offshore drilling units.

"We are glad that our win-win partnership has endowed Seadrill with one of the most modern fleets in the industry today, boosted by many Keppel-designed and built rigs."

Ian Shearer, Senior VP, Jack-ups Asia Pacific and Middle East, of Seadrill said, "Seadrill has constructed and deployed many Keppel jackup rigs over the years. Operating these advanced rigs is almost second nature to our crews who have become highly

accustomed to the unique features of the KFELS B Class.

"Be it jackups or tenders, the Keppel rigs in our fleet have all established excellent performance records with our customers from the first day of operation. Seadrill has worked with Keppel FELS to further enhance the drilling specification and off-line pipe handling features of the rig and we are confident West Juno will perform commendably for our customers. We are pleased to complement our premium fleet with West Juno."

Including West Juno, Keppel-built rigs in Seadrill's current fleet include 10 jackup rigs and six KFELS semisubmersible drilling tenders (SSDT). One other SSDT is currently under construction. West Juno joins the ranks of 32 other KFELS B Class jackups operating in different parts of the world, fortifying the track record of this winning rig design.

KFELS B Class – the industry's leading choice

Including the new contracts secured in the last two months of 2010, an impressive number of 38 KFELS B Class rigs has been ordered to date. 33 of these are already in the market and consistently deliver excellent operational and safety performance for their operators.

Developed by Keppel's technology arm, Offshore Technology Development (OTD), rigs of the KFELS B Class design are able to operate in water depths of 400 feet, drilling depth of 30,000 feet and accommodate 120 men. They are readily upgradeable to higher performance capabilities.

Such rigs are also designed to provide maximum uptime with reduced emissions and discharges. For its environmentally-friendly features, the KFELS B Class design was bestowed the Prestigious Engineering Achievement Award from Institution of Engineers Singapore in 2009.

KFELS B Class rigs incorporate Keppel's advanced and fully-automated high capacity rack and pinion elevating system, and Self-Positioning Fixation System.

Harnessing the North Sea winds

Keesjan Cordia, MD of Seafox Contractors, shares his insights on the demand for wind turbine installation vessels. *OffshoreMarine* reproduces extracts of his interview with *Upstream*.



Keesjan Cordia, MD of Seafox Contractors, expects that more jack-ups with greater heavylift capacity will have to be built for the wind sector

Q: WHAT IS THE OUTLOOK OF WIND TURBINES FOR THE NORTH SEA?

More jackups with greater heavylift capacity will have to be built for the wind sector to install the thousands of wind turbines entering the shallow but occasionally stormy waters of the North Sea in the next five years.

The UK is leading the way in the North Sea, with 1,800 wind turbines planned for the Dogger Bank alone after the latest licensing round.

Q: HOW WILL THE KFELS MPSEP SEAFOX 5 REDEFINE THE OFFSHORE WIND INDUSTRY?

Seafox has entered into a 25:75 joint venture with Keppel FELS to build and own a self-propelled

installation jack-up, Seafox 5, which has been earmarked for wind installation and decommissioning work in the oil and gas industry.

Seafox 5 is the first self-propelled jack-up to be built to the KFELS Multi-Purpose Self-Elevating Platform (MPSEP) design and will be equipped with a 1,200-tonne offshore pedestal crane with a variable load of 6,500 tonnes to carry out installation work.

Most installation jackups that are being built to competing designs will be equipped with cranes of up to 800 tonnes lifting capacity. These units are good for foundation work on 3.6 MW wind turbines, which are understood to involve the installation of

structures of between 400 and 800 tonnes.

The moment you go up to 5 MW, the KFELS MPSEP Seafox 5 differs from conventional jackups in its capacity to carry cargoes on board and factors such as stability and environmental criteria. Smaller jackups will be restricted to turbine installation but a jack-up with a 1200-tonne crane is capable of installing both turbines and foundations.

Q: HOW DO YOU SEE THE DEMAND FOR INSTALLATION JACKUPS WITH LIFTING CAPACITIES?

With the commercialisation of 5 MW wind turbines in the next five years, the demand for installation jackups with lifting capacities of more than 800 tonnes will increase. There are about nine to 10 new jackups coming into the market, of which only two or three are capable of installing the bigger foundations for 5 MW wind turbines.

Q: IS SEAFOX LOOKING INTO BUILDING ANOTHER KFELS MPSEP IN THE NEAR FUTURE?

Seafox is interested in building a second unit after Seafox 5 if and when the market requires such vessels. At the moment, the priority is to get Seafox 5 built and find suitable related projects.

On track in Brazil

BrasFELS shipyard in Angra dos Reis is staying the course to achieve timely progress on projects under its care.



Teamwork and experience enabled the BrasFELS team to successfully complete marine mating operations for the FPU P-56 within a tight timeframe of 13 days



Repeat customer QGOG brings another semisubmersible drilling rig, Atlantic Star, to BrasFELS for repair and upgrading works

Keeping a tight rein on project execution, BrasFELS meets critical project milestones safely and cost-effectively.

A PERFECT MATE

BrasFELS has successfully completed its third marine mating operation of a Floating Production Unit (FPU), P-56, on 2 November 2010.

The mating, a highly critical and complex operation, required the lower hull and the deckbox to be floated out to the mating site. There, the lower hull is submerged. The barge carrying the deckbox transfers its load onto the hull which is gradually floated up. The entire process demands precision, planning and has marginal tolerance for error.

To conduct this mating operation, the project team at BrasFELS drew on its extensive experience and technical excellence amassed from executing similar projects in the past – namely the FPUs P-52 and P-51.

A STRIKING START

Construction on Brazil's first tension leg wellhead platform (TLWP), P-61, kicked off on 24 November 2010. The TLWP will be built at BrasFELS, fulfilling local content requirements. It is

targeted for completion by mid-2013.

The strike steel ceremony was well attended by representatives from Papa Terra BV, a joint venture between Petrobras and Chevron, and classification society, ABS.

Designated for Brazil's Papa-Terra field in the Campos Basin, the P-61 will work alongside the P-63 Floating Production Storage Offloading vessel to handle up to 180,000 barrels of oil per day.

A STAR ARRIVAL

The repair and upgrade of semisubmersible drilling rig, Atlantic Star, is also progressing well. This is the second such job awarded by repeat customer, Queiroz Galvão Óleo e Gás (QGOG).

The work scope includes upgrading the rig's accommodation capacity, replacement of drawworks winch equipment, emergency generator, lifeboats and davits, electrical installation and painting works.

The safe, on-time and within-budget completion of the repair and upgrade of sister rig, Alaskan Star, had affirmed QGOG's confidence in BrasFELS' versatility and capabilities.

Two-fold achievement

The launch of a barge and the delivery of a tugboat marks another week of hard work and strong performance for the specialist shipbuilder Keppel Singmarine.



Keppel Singmarine has delivered Ocean Damietta, a 65-tonne bollard pull tugboat designed by MTD, to Smit International

Hoe Eng Hock, ED of Keppel Singmarine, shared, "The successful launching of H363 and delivery of Ocean Damietta reinforce Keppel Singmarine's commitment to provide high quality and reliable solutions on time, safely and within budget.

"We will continue to value-add in our products and services so as to meet the needs of our customers."

The two vessels are built to Keppel's technology arm, Marine Technology Development (MTD) proprietary designs.

A LAUNCH PARTY

On 10 December 2010, H363, a coal transshipment barge, took to the

waters amidst cheers from Keppel and PT Indo Straits project teams. Camaraderie and strong teamwork had been pivotal to this red-letter day.

Scheduled to be delivered on April 2011, H363 will be deployed in Indonesian waters for open sea transshipping operations.

A POWERFUL TUG

Meanwhile, Ocean Damietta, a 65-tonne bollard pull twin-screw Azimuth Stern Drive tugboat with firefighting capabilities, was delivered to Smit International by Keppel Singmarine on 13 December 2010. The tugboat is slated to be deployed in Damietta, Egypt.

Striking start for OSX 1 FPSO

Keppel Shipyard has commenced the fast track modification of the FPSO, OSX 1, cutting the first piece of steel for the project in a ceremony on 3 November 2010.

Held at Keppel Shipyard (Benoi), the strike steel ceremony had added significance as this is OSX's first FPSO. Representatives from OSX and BW Offshore were on hand to witness the ceremony.

Keppel shipyard is undertaking the detailed engineering, procurement and modification of the topside process modules to upgrade the FPSO for operation in the Waimea

field, offshore Brazil. BW Offshore is providing project management

and technical guidance services to OSX.



Cristina Pinto, Project Manager of OSX 1 FPSO (seated), doing the honours of cutting the first steel plate for the project

A sparkling Diamond in the yard



Diamond Princess and her crew had a restorative time at Keppel Shipyard

The cruise liner Diamond Princess docked at Keppel Shipyard to be tuned and polished from 20 October to 2 November 2010.

Besides repair works, the Princess Cruises' vessel underwent a makeover, which included getting a fresh coat of silicone paint.

Mark Teubert, HR Manager for the Diamond Princess, said, "Coming to Keppel Shipyard is like visiting a good friend. We get excellent service, quality and speed, which ensures that we have a reliable, world-class fleet serving our customers.

"Additionally, the crew had a fantastic time participating in the variety of activities Keppel had helped organised for us. I would like to thank Keppel Shipyard for its hospitality. Indeed, the crew of Diamond Princess was given the royal treatment."



A winning team as Andrew Wright, Superintendent Engineer, Technical Services, Princess Cruises (third from right), congratulates Project manager, Anil Kumar on a job well done

Keppel Shipyard's Project Manager Anil Kumar Sharma shared, "Through sporting activities such as these we build strong camaraderie with our customers. Outside the sporting arena, these bonds help us work as a dynamic team to deliver projects safely and effectively."

A second-time visitor to Keppel Shipyard, Diamond Princess, which measures 288m in length and 40m in breadth, can accommodate 1,100 crew and 2,678 passengers.

Unrivalled service

From repair and upgrades to rig completion, Keppel FELS has the right people and resources to meet the needs of every customer.

Keppel FELS' rig solutions and services are highly versatile and can be tailored to meet specific customer requirements. This gives the yard the ability to enter a project at any stage and provide support to rig owners.

Possessing rich engineering expertise and comprehensive facilities, Keppel FELS has what it takes to undertake a full spectrum of projects to meet the needs of its worldwide clientele.

WINNING SAIPEM'S SCARABEO 9

Saipem's Frigstad D90 semisubmersible rig, Scarabeo 9, has arrived at Keppel FELS' Singapore yard. The rig is undergoing a full battery of commissioning tests and trials for

the marine and drilling sub-systems onboard.

Ke Cheng Da, Project Manager, Keppel FELS, shared, "Cooperation and trust between the Saipem and Keppel FELS teams have been key in ensuring efficient and safe progress in the initial stages of work, which includes the load testing of the main generators.

"We continue to cover a lot of ground quickly and are making good progress in finishing the rig to tip-top condition."

HEAVY-LIFTING FOR SEADRILL'S CJ-70 JACKUP

Asian Lift, a subsidiary of Keppel FELS, provided heavy-lifting services that were critical to



Under the Asian Lift crane operator's experienced hands, the lifting job was completed safely, swiftly and with precision

the completion of Seadrill's CJ-70 jackup rig, being built by another yard in Singapore.

On 3 October 2010, Asian Hercules II, one of the region's largest floating cranes, completed the lifting of the rig's cantilever weighing over 2,200 metric tons onto the rig.

QUICK TURNAROUND ON SEADRILL'S WEST LARISSA

For Seadrill, Keppel FELS also undertook fast-track works on the jackup rig, West Larissa within a tight schedule. The Keppel FELS team raced against the clock in order to meet the customer's urgent timeline and the job was successfully completed to Seadrill's satisfaction.



Saipem's Frigstad D90 semisubmersible rig, Scarabeo 9, has arrived at Keppel FELS' Singapore yard for completion work

Expanding capabilities in Rotterdam



Reflecting Keppel's confidence in the future of the marine and offshore sector in Northern Europe, Keppel Verolme has acquired three docks from the Port of Rotterdam

Keppel Verolme, a wholly-owned subsidiary of Keppel O&M, has acquired three docks within its compound from the Port of Rotterdam for EUR10 million (\$\$18 million). One of the docks, spanning 405m by 90m, is one of the largest in Europe.

In 2000, the Port of Rotterdam acquired the three docks to facilitate Keppel's takeover of the local Verolme Botlek shipyard. Keppel Verolme has

performed well in recent times after overcoming difficult market conditions in the initial years of its operations.

Harold Linssen, MD of Keppel Verolme, said, "We would like to thank the Port of Rotterdam for their continued support of Keppel Verolme over the years. This latest asset acquisition reflects Keppel's confidence in the future of the marine and offshore sector in Northern Europe."

André Toet, COO of the Port of Rotterdam, said, "This investment by Keppel Verolme reaffirms the attractiveness and the resilience of the Rotterdam maritime cluster."

Located in Netherlands, Keppel Verolme's principal business activities are the drydocking, repair and maintenance, modification, conversion and construction ships and other floating offshore units.

Tradition of excellence



Gracing Keppel AmFELS's anniversary party were Dr Chan Heng Chee, Singapore's Ambassador to the U.S. (third from right) and Congressman Solomon P. Ortiz (second from right) with other guests hosted by GS Tan, President & CEO of Keppel AmFELS (third from left)

"We are looking forward to a rebound in the oil and gas industry with a great sense of confidence and eagerness because we have strengthened our fundamentals further during the slowdown."

*GS Tan
President & CEO of Keppel AmFELS*

Celebrating 20 illustrious years in Brownsville, Texas, Keppel AmFELS hosted a grand anniversary party on 30 October 2010, at the Arts Centre of the University of Texas at Brownsville/Texas Southmost College (UTB/TSC).

Gracing the event were Dr Chan Heng Chee, Singapore's Ambassador to the U.S., Congressman Solomon P. Ortiz, State Senator Eddie Lucio Jr., Jason Hilts, President & CEO, Brownsville Economic Development Council, Dr Juliet V. Garcia, President of UTB/TSC, alongside other distinguished guests and staff.

YY Chow, President (The Americas) of Keppel O&M and Chairman of Keppel AmFELS, said, "Our

achievements would not have been possible without the strong support of the local government and community leaders. I also take this opportunity to recognise the commitment and contributions of all Keppel AmFELS employees over the years.

"As a company, we have proven our capabilities and competitive spirit to win jobs and succeed in the global marketplace. And as a corporate citizen, we continue to commit ourselves to the growth and development of Brownsville and its people."

FIRST-RATE WORKFORCE

Over the years, the yard's workforce has expanded significantly, from 150 to as many as 3,000 in 2007. The workforce



YY Chow, President (The Americas) of Keppel O&M and Chairman of Keppel AmFELS expresses his thanks to Congressman Solomon P. Ortiz for his longstanding support to Keppel AmFELS

has also grown in strength, with Keppel AmFELS' continued investment in its human resources, through training, apprenticeship, university collaborations as well as scholarship grants.

In the area of safety, Keppel AmFELS' recordable incident rate is a tenth of the industry norm. The yard was also recognised as the Best Large Shipyard in Safety Management by the Insurance Underwriters two years in a row.

TOP-CLASS FACILITIES

Enabling Keppel AmFELS to grow from strength to strength has also been its continuous investment to its infrastructure and facilities. Congressman Ortiz played an instrumental role in an event that sparked the yard's growth: the acquisition of a 30,000-tonne floating dock back in 1995.

With the dock, named "Solomon Ortiz", Keppel AmFELS became a full-fledged shipyard, capable of providing full range of construction, repair and upgrading work and was thus able to create more jobs for Brownsville.

COMMUNITY LEADER

Giving back to the community has also long been a part of the company's culture. The anniversary party coincided with Keppel AmFELS' Annual Charity Golf Tournament, which raised more than US\$80,000. Besides the tournament, Keppel AmFELS'



Proceeds from Keppel AmFELS' annual charity golf tournament, which raised over US\$80,000 this year, will be used in aid of charities, education purposes and community projects

Continues on page 14...

Continues from page 13...

staff has been the top private contributors in South Texas to the United Way, contributing a total of more than US\$3.0 million since 2000.

NEXT 20 YEARS AND BEYOND

With a healthy backlog, Keppel AmFELS has prepared itself well to be ready to capture new opportunities.

GS Tan, President & CEO of Keppel AmFELS said, "We rode the sudden slowdown in the past two years very well. We count ourselves very fortunate to have a healthy order book that we secured prior to the financial crisis of 2008.

"We pressed on with our continuous improvement programmes relentlessly and we have improved our operational efficiencies in many aspects. We explored the offshore wind-farm business and put ourselves in good position to utilise our parallel expertise for the future wind energy business."

Savouring the fruits of his labour



Even though Tom McCoy is enjoying his retirement cultivating fruit trees at his home in Texas, he continues to mentor the younger workers at AmFELS

From welder to VP of Facilities, Tom McCoy has risen through the ranks at Keppel AmFELS and enters a happy retirement this year at age 60.

Tom, as he was affably known, began his career as a welder-fitter trainee in 1964. Twelve years later, he moved to Brownsville, Texas, and joined Marathon LeTourneau. In 1997, Tom joined the then-named AMFELS. Staying the course, Tom advanced to senior positions and became VP of Facilities for Keppel AmFELS in 2006.

GS Tan, President & CEO of Keppel AmFELS said, "After 30 years of service in this yard, including 13 years with

Keppel AmFELS, few can match Tom's dedication and contributions to the development of this shipyard.

"Tom is a shining example of great work ethics and integrity. He will continue to mentor his successor while tending to his grapefruit and orange trees. Nonetheless, Tom will be missed by all here at Keppel AmFELS."

Tom hands over the reins of day-to-day operations to Juan Cruz who has been promoted to VP of Operations. Juan shared, "Mr McCoy, we will miss your professional expertise and your friendship. On behalf of everyone at Keppel AmFELS, happy retirement!"

Winning jobs worldwide



Including West Pelaut, Keppel FELS has built six KFELS SSDT™ rigs and 10 jackups for Seadrill, with another SSDT currently under construction

Be it jackups or semisubmersibles, rigs designed and delivered by Keppel FELS have continued to create value and secure work for their owners.

KFELS N CLASS ROWAN NORWAY SECURES WORK

Rowan Companies Inc has secured a contract for its third KFELS N Class jackup, Rowan Norway, being built by Keppel FELS. The contract is for an initial commitment period of 240 days with Xcite Energy in UK. The rig will work on the Bentley field in the fourth quarter of 2011.

The first KFELS N Class rig for Rowan was delivered in October this year. Built to the proprietary KFELS N Class design, these new-generation rigs are the brainchild of Keppel's R&D arm, Offshore Technology Development.

CONTRACT EXTENSION FOR KFELS SSDT™ WEST PELAUT

Seadrill has been awarded a new contract extension by Brunei Shell Petroleum for the semisubmersible

drilling tender (SSDT) West Pelaut. The production drilling assignment of three years is scheduled to start in direct continuation of the current contract with Shell, at the end of the first quarter 2012.

The purpose-built KFELS SSDT™, designed by Keppel's Deepwater Technology Group,



Rowan Norway, sister rig to Rowan Viking (seen here), is the third KFELS N Class jackup being built by Keppel FELS

has revolutionised the way in which drilling tenders operate, allowing them to be deployed next to deepwater floating platforms.

ENSCO 8503 SUBLET

Enso plc has sublet ENSCO 8503, a new ultra-deepwater semisubmersible drilling rig, which was delivered by Keppel FELS earlier this year safely, on time and within budget.

The rig will be mobilised to offshore French Guiana to commence drilling operations, scheduled to begin in early 2011. The work is to be undertaken for a subsidiary of Tullow Oil plc on behalf of itself and its coventurers in the license (Shell, Total, and Northpet Investments). Following the sublet period, the rig will resume its contract with Cobalt.



ENSCO 8503 is the fourth of seven ENSCO 8500 Series® semisubmersible drilling rigs being built exclusively for Enso plc by Keppel FELS

Towards a zero-incident workplace

First corporate initiative in line with Singapore's WSH 2018 strategy.



Minister for Manpower Mr Gan Kim Yong (third from right) launching the Keppel WSH 2018 initiative with Keppel's senior management

Taking another major step in the journey towards a zero-incident workplace, Keppel Group launched its Workplace Safety & Health (WSH) 2018 initiative recently on 25 November 2010.

Minister for Manpower Mr Gan Kim Yong, Guest-of-Honour at the Group's fourth Safety Convention where the initiative was launched, lauded Keppel as the first company to launch a corporate initiative in line with the National WSH 2018 strategy.

Minister Gan said, "We are certainly off to a good start today with Keppel Group launching your

very own Keppel WSH 2018 to steer Group-wide efforts.

"Aligning your corporate efforts to national goals is the right way to go, and Keppel serves as a model for other companies especially those in the marine sector. Adopting the key principles to manage risks, build capabilities and intervene effectively is the right step forward."

The initiative outlines Keppel's vision, strategies and goals to align and achieve sustained improvements in WSH standards across the Group. Keppel aims to significantly reduce its incident rates by implementing

uniform safeguards, increasing accountability and promoting ownership across all its business units.

CH Tong, ED of Keppel Corporation and CEO of Keppel O&M, said, "Our goals by 2018 are to have a strong WSH culture, to have WSH as an integral part of our business, to have a reduction in workplace incidents and to be a thought leader in safety in the relevant industries where we are in. This is the next phase in our safety journey where we align safety standards and culture across the Group's workforce, contractors and partners."

KEPPEL WSH 2018

The initiative features four key thrusts which will impact Keppel's over 40,000 employees and subcontractors.

ESTABLISHING AN INTEGRATED FRAMEWORK

Keppel has introduced an electronic Global Incident Reporting System – a centralised system to manage incident reporting across the Group, enabling sharing of incidents anywhere in the world.

The system ensures that senior management and relevant safety personnel are kept abreast of incidents, and that immediate corrective measures are taken. Through a web portal, lessons can be systematically shared across the Group.

IMPLEMENTING AN EFFECTIVE MANAGEMENT SYSTEM

Individual business units will undergo a three-year self assessment programme to develop a safety roadmap and to identify measures needed to improve their safety performance. Assessors from across the Group will be trained and equipped with safety competencies to conduct the assessments.

ENHANCING OWNERSHIP

A year since the launch of the 'Safety Starts with Me, Together

"Our goals by 2018 are to have a strong WSH culture, to have WSH as an integral part of our business, to have a reduction in workplace incidents and to be a thought leader in safety in the relevant industries where we are in."

*CH Tong,
ED of Keppel Corporation and
CEO of Keppel O&M*

We Care' campaign, Keppel opened a safety training centre in June this year.

Core competency and safety leadership development programmes as well as Workforce Skills Qualifications courses certified by the Singapore Workforce Development Agency are some of the key training modules conducted by full-time qualified instructors at the centre. As of early-October, some 4,500 workers have benefited from the training at the centre.

Under this thrust, Keppel has also rolled out a programme where project leaders are placed on a stint to the safety department to better understand workplace safety management and to enable them to apply the safety knowledge acquired when they resume their regular duties.

STRENGTHENING PARTNERSHIPS

Keppel supports numerous

industry, client and national campaigns and conferences. Next year, it will be hosting the ASEAN Council on Petroleum (ASCOPE) Safety Conference which will draw participation from national oil companies across ASEAN countries. The Conference will be a forum to discuss the region's safety issues.

SIGNIFICANT STRIDES

The cumulative effect of Keppel's safety journey is seen in the improvement of its accident frequency rate (AFR), falling from 2.8 in 2006 to 0.40 reportable accidents for every million man-hours worked in the first half of 2010.

The Group's Accident Severity Rate (ASR) also reduced to 129 man-days lost per million man-hours worked in first half of 2010 from 560 man-days lost in 2006.

With the rollout of the Keppel WSH 2018 initiative, Keppel, together with its stakeholders, customers and subcontractors, demonstrate their continued commitment to ensure everyone goes home safely every day.

Crossing safety milestones

Through unwavering vigilance, project teams across Keppel O&M proudly mark good safety milestones.

VIGILANT EFFORTS

Work on the FPSO, Lewek Emas, for Emas Offshore Construction and Production (EOCP), achieved two million man-hours without lost-time incident (LTI).

In recognition of their efforts, a Safety Excellence Award was presented to the workforce and construction teams of Keppel Shipyard (Benoi) and EOCP. Representatives from Premier Oil, the client of EOCP, were also there to celebrate the occasion.

Held on 15 December, 2010, awards such as to the Best Safe Worker, Best Safe Technician,

Best Safe Supervisor, Best Safe Foreman, Best Safe Engineers and Best Safe Contractor were given out. A total of 20 awards were presented, including five for the subcontractors' safety performance.

Michel Nagel, Project Manager of EOCP, said, "Congratulations to both the Keppel and EOCP teams on achieving this outstanding achievement. The aim of the project will be to leave the yard without a blemish on an outstanding safety record."

SOUND CHARGE

On the same day, the project teams of Bumi Armada and Keppel Shipyard, along with the client of Bumi Armada, Hoang Long Joint Operating Company (HLJOC), commemorated one million

incident free man-hours during the conversion of the Te Giac Trang (TGT) FPSO.

Bumi Armada and HLJOC jointly presented a cheque of \$20,000 and a plaque to Keppel Shipyard in recognition and encouragement of the safety efforts on the FPSO conversion.

Work on the conversion includes life extension works as well as the fabrication and installation of accommodation blocks, turret support structure and topside modules.

DRILLING THROUGH

Marking two million safe man-hours worked on its semisubmersible drilling tender (SSDT), PetroVietnam Drilling & Well Services Corp (PV Drilling) awarded \$10,000 to Keppel FELS on 3 December 2010.

The achievement augments Keppel's strong partnership with PV Drilling built over the construction of three KFELS B Class jackup rigs, which were delivered early, within budget and with outstanding safety records in recent times.

STERN TAKE

Recognising the strong safety culture and competencies at Keppel FELS, Noble has awarded US\$10,000 to the yard's project team on 9 November 2010.

The commendation celebrates the achievement of one million safe man-hours worked on the fabrication of drillship Leo Segerius' new stern block.



Ronald Lee (right), Noble's Eastern Hemisphere Project Director, presenting the safety bonus to Johnny Ng, Project Manager



Hassan Basma (right), ED and CEO of Bumi Armada, commemorating the milestone with a cheque presentation to Louis Chow (left), Senior GM (Commercial), and Burt Loh, GM (Projects) of Keppel Shipyard

Teeming with innovations

Seeking to better its best, Keppel encourages innovation on all levels of the organisation.

UNLOCKING CREATIVITY

An annual event, this year's Keppel FELS Innovation Month took on the theme Unlock Creativity, Improve Productivity to impress upon employees that a company's efficiency is impacted by its innovation culture.

As part of the campaign, a total of 54 Innovation and Quality Circles (iQC) teams were formed, including six groups fielded by subcontractors. The teams conceptualised solutions which if implemented could potentially save Keppel FELS an impressive total of \$3.6 million a year.

At the closing ceremony on 3 November 2010, CH Tong, CEO of Keppel O&M, explained that an organisation's survival depends on how well it innovates. He added, "While investing in hardware like advanced equipment may increase our work efficiency, it is also important that we look at ways to reduce wastage in our current processes."

Project submissions were assessed based on the National iQC Assessment criteria, yielding results of 16 Gold, 26 Silver and 11 Bronze Awards winners, while one team garnered a Certificate of Participation.

PUSHING EFFICIENCY

From vacuum testing boxes to electronic work completion forms,



Wong Kok Seng, ED of Keppel FELS, was briefed on the details of Team Hopper Revolution's solution of filling grit into a hopper safely



Celebrating innovation as participants of IQC reap the rewards of diligence, imagination and teamwork

Keppel Shipyard's Innovation Quality Circles (IQC) convention held on 30 November 2010 showcased diverse innovations to enhance the efficiency and safety of the yard's operations.

21 teams from across the yards and Alpine Engineering participated in the annual convention organised by the Innovation Club. Awards were presented to 10 outstanding projects.

The Hull team from Keppel Shipyard (Gul) received Gold for their Multi Vacuum testing Box. They created boxes to

accommodate corners, curves and manholes, which formed a set of well-rounded tools for vacuum box testing. It is projected to help save 75% of the time required to conduct vacuum tests.

Keppel Shipyard (Gul) emerged as the winner for the Sustenance Challenge Trophy, which is given to the yard with the most points accumulated from various programmes such as IQC, Staff Suggestion Scheme (SSS), Safety improvement Team (SIT) and E-Ship (Small improvements in the workplace).

Energy fix



Professor Ash shared on nuclear energy prospects at the 25th Chua Chor Teck Memorial Lecture, held in remembrance of the late Chua Chor Teck, one of the pioneers of Singapore's marine industry

A re-ignition of interest in nuclear energy has taken place in recent years. Fuelling this development is the rising concern about climate change, shared Professor Sir Eric Ash, the former Rector of Imperial College (UK) and member of Keppel Technology Advisor Panel (KTAP), at the 25th Chua Chor Teck Memorial Lecture, held on 3 December 2010.

On the economic incentives that will speed up further adoption of nuclear energy – a low carbon emission option – Professor Ash said, “A lot depends on the future of the carbon tax. In my view, the carbon tax will have to go up to a vastly higher level than it is at the moment, and there’ll have to be international agreement so that it can be enforced.

“The kind of level I am talking about is US\$50 a tonne, the result of which will be to make fossil fuel power much more expensive.”

Professor Ash also shared on the application of nuclear energy to maritime activities. The era of nuclear engineering started with the nuclear-powered submarine, USS Nautilus. Over the years, nuclear power has been applied to a range of naval vessels; in particular, to aircraft carriers.

The nuclear-powered option provides a substantial power to weight ratio and allows continuous operations without the need for refueling for long periods. With these advantages, nuclear power has been adopted for civil maritime usage such as icebreakers.

In the longer term, the prospects of applying nuclear power to commercial vessels, including cargo ships and cruise liners, seems attractive. Beyond the absence of carbon dioxide emission, it eliminates the need for a smoke stack and liberates space, as fuel storage will no longer be required.

Partly impeding nuclear energy's proliferation is its undeserved reputation of being unsafe, according to Professor Ash. He elaborated, “In the last half century the nuclear industry has clocked up 14,000 Reactor years in 32 countries without a single fatality, other than in Chernobyl. If we compare this with other sources of energy, fossil fuels and even hydropower, it is evident that nuclear is the safest option.”

Today, 431 nuclear plants operating across 31 countries generate 16% of the planet's electric power. Meanwhile, in Japan, Korea, Finland, China and India, 50 plants are being built, and worldwide, 37 are on order or planned while 295 are being proposed.

Moving forward, nuclear reactors will play an increasing part in utility scale electricity generation, predicted Professor Ash. As for the role of nuclear technology in maritime activities, the advancement of mini and micro reactors – modular and transportable sealed units, which only require refuelling after several years and are passively safe – will be a driving force.

Rising in prominence



At the Keppel O&M booth, Minister Iswaran was given an overview of the company's track record and its capabilities at adapting solutions to suit various frontiers

Established three decades ago, OSEA 2010 is a platform for industry professionals to address the strategic, operational and technology aspects of the Asian oil and gas industry. Keppel O&M has had a strong presence at this exhibition and conference event, which is participating in for the 18th time.

Officiating the opening of OSEA 2010, Mr S Iswaran, Senior Minister of State for Trade & Industry and Education, said, "Despite the global downturn which created some short-term uncertainties, the fundamentals for long-term growth remain positive for Singapore's marine and offshore industry.

"With the global economy's recovery moving onto a firmer footing, the long-term prospects for the industry remain bright. In the last five years, the industry has grown at a compounded rate of 18%."

He added, "As the global market scales up, Singapore's offshore and marine industry will continue to sharpen its competitive edge. It is already committed to transformation, with an increasing focus on productivity and innovation. This is part of a broader effort for Singapore to shift towards productivity-driven growth over the next decade."

During his walkabout,

Minister Iswaran visited the Keppel O&M booth and was received by CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, together with other Keppel O&M senior management.

CB Choo shared that Keppel O&M had worked closely with its customers to develop its comprehensive suite of market-relevant offshore and marine solutions.

Organised biennially in Singapore, this year's event saw an increase in participation by some 15%, and achieved a record of over 25,000 attendees during its run from 30 November to 3 December.

Qatar's flagship yard opens its gates

Nakilat-Keppel Offshore & Marine signs service agreements with eight major fleet owners.



The 43-ha N-KOM shipyard is located in the industrial area of Ras Laffan in northern Qatar

“The launch of N-KOM today is a result of the strong desire by Singapore and Qatar to forge greater collaboration, and the years of hard work between our countries and companies.”

*Mr Lim Hng Kiang
Minister for Trade and Industry, Singapore*

Nakilat-Keppel Offshore & Marine (N-KOM), Qatar's premier offshore and marine facility jointly developed by Keppel O&M and Qatar Gas Transport Company Ltd (Nakilat), was launched by the Emir of Qatar, His Highness Sheikh Hamad bin Khalifa Al Thani, and Singapore's Minister for Trade and Industry, Mr Lim Hng Kiang on 23 November 2010.

On this occasion, N-KOM strengthened its credentials to be a leading shipyard in the Middle East with the signing of a three-year fleet servicing agreement with Shell International Trading and Shipping Company Limited (STASCo) for ship repair services.

N-KOM further signed a memorandum of understanding with Gulf Drilling International



“We chose to partner Keppel because they are the leaders in their field and with their proven experience, expertise, and the *Can-Do!* spirit, N-KOM will grow from strength to strength.

We are confident that with the leadership and endorsement of His Highness Sheikh Hamad bin Khalifa Al Thani, this landmark shipyard will establish Qatar as a centre of excellence in the marine and offshore industry.”

Muhammad A. Ghannam
MD of Nakilat and Chairman of N-KOM

(QSC) and also entered into letters of intent with, Idemitsu Tanker, Mitsui O.S.K. Lines, NYK Line, Kawasaki Kisen Kaisha (“K” Line), Ino Kaiun Kaisha (Ino Lines) and Marine Contracting Association (MARCAS) to provide shipyard and drydocking services for their vessels.

CB Choo, CEO of Keppel Corporation and Chairman of

Keppel O&M said, “When we embarked on this landmark collaboration with Nakilat in 2007, we had envisioned that it would be a best-in-class shipyard, and the preferred partner for marine and offshore solutions in the region.

“As N-KOM opens its doors to the world, we are on the journey to transform this vision into reality. We would like to thank our valued

customers for their confidence in us with the signing of these fleet servicing arrangements.

“We look forward to delivering our projects safely, on time and within budget. This is Keppel’s quality hallmark, which we bring close to our customers and markets, wherever they are.”

Continues on page 24...

Continues from page 23...



Keppelites in Qatar showing Minister Lim Hng Kiang around the new world-class yard

Singapore Minister for Trade and Industry Mr Lim Hng Kiang remarked, "The launch of N-KOM today is a result of the strong desire by Singapore and Qatar to forge greater collaboration, and the years of hard work between our countries and companies.

"This positive development reflects how Singaporean companies like Keppel can bring their successful operations into the Middle East. With Qatar's ambition and commitment to grow its energy sector, there are many opportunities for Singapore and Qatar companies to collaborate.

As part of the inauguration, N-KOM was also presented with certification from DNV (Det Norske Veritas) for its Integrated Management System covering ISO 9001 for Quality, OHSAS 18001 for Occupational Health & Safety and ISO 14001 for Environmental Management.



Singapore's Minister for Trade and Industry, Mr Lim Hng Kiang (left) and The Emir of Qatar, His Highness Sheikh Hamad bin Khalifa Al Thani (second from left) inaugurating the shipyard together with Dr Lee Boon Yang (third from left), Chairman of Keppel Corporation, and CB Choo (right), Chairman of Keppel O&M

His Excellency Abdullah Bin Hamad Al-Attiyah, Deputy Premier and Minister of Energy and Industry for the State of Qatar and Chairman of Nakilat, said, "The Nakilat Shipyard combines world-class facilities with outstanding international partners

which will establish Qatar as an internationally recognised centre of excellence in shipbuilding, repair and conversion along with new capabilities in industrial fabrication and construction".

Harmonious industrial relations



From left: Zulkifli B Mohammed, Union Advisor to KEU, Mohamed Yusop B Mansor, President of KEU, CH Tong, CEO of Keppel O&M, Lim Chin Siew, Executive Secretary of SMEEU, Wong Weng Ong, President of SMEEU and Nelson Yeo, MD (Marine) of Keppel O&M and MD of Keppel Shipyard

A healthy partnership between management, unions and government is cultivated by regular dialogue and mutual support.

OPEN DIALOGUE

In a visit to Keppel Shipyard on 22 October 2010, the Minister of State Prime Minister Office (PMO) and Deputy Secretary-General of National Trades Union Congress (NTUC) Mr Heng Chee How was introduced to new safety and productivity features implemented at the yard.



CH Tong (second from left), CEO of Keppel O&M, shows MOS Heng around the Keppel Safety Training Centre

MOS Heng was welcomed by CH Tong, CEO of Keppel O&M, Nelson Yeo, MD of Keppel Shipyard, and other Keppel management as well as the members of Keppel Employees Union (KEU).

Touring the yard's new semi-automated pipe shop and the Keppel Safety Training Centre, MOS Heng was introduced to how the facilities help to enhance productivity of the workforce as well as the safety of the work environment.

Following the tour, MOS Heng and members of the KEU delved into discussions on industrial relations and labour matters.

COLLECTIVE ACCORD

A collective agreement between Keppel Shipyard, Keppel Singmarine, Keppel Employees' Union (KEU) and Shipbuilding and Marine Engineering Employees' Union (SMEEU) was renewed for another 3 years on 26 November 2010.

The smooth progress of negotiations between management and unions was the result of mutual trust and understanding between the long-time partners who have worked closely over the years on overseeing the welfare of the workforce.

Some of the notable changes made include adjustments to salary ranges and expansion of medical coverage for employees.

Optimising design work

Simple-to-use design programs for topside equipment sizing can streamline design work and facilitate a fast-track generic FPSO project.



A topside view of FPSO Espirito Santo

A Floating Production Storage and Offloading (FPSO) vessel is essentially an anchored tanker that receives fluids from multiple underwater wells. The incoming fluids – often a mixture of oil, gas, water and sand – are managed by the FPSO's topside facilities, which separate the mixtures and treat the crude oil.

The initial basic engineering design phase for a typical FPSO project involves planning the process flow scheme (PFS). This involves detailing the major unit operations of the topsides facilities.

To size equipment for topside unit operations, many designers continue to use traditional engineering practices, such as carrying out calculations by hand and referring to enormous databases to retrieve values. These traditional practices are tedious and time-consuming, even if they are applied to only a small scope of design work.

Topside processes can be categorised into three main types of unit operations: crude oil processing and stabilisation, gas treatment and compression and water treatment and management.

Using available calculation software, Dr Ronald Chew Chee Yit, Senior Research Engineer at KOMtech, developed a suite of mini calculators to more efficiently complete basic design calculations.

The mini calculators were developed with Visual Basic for Applications (VBA) in Microsoft Excel.

The spreadsheet programme was selected as it is widely-used, good for performing simple calculations and can be used to create

databases with ease. Meanwhile, the user-friendly VBA allows programmers to implement simple graphical user interfaces (GUI), which makes it easier for the

user to generate a quick sizing task.

Beyond enabling equipment designers to respond to technical

queries quickly, improving their efficiency, these mini calculators can also serve as teaching and validation tools for equipment designers.

Case study

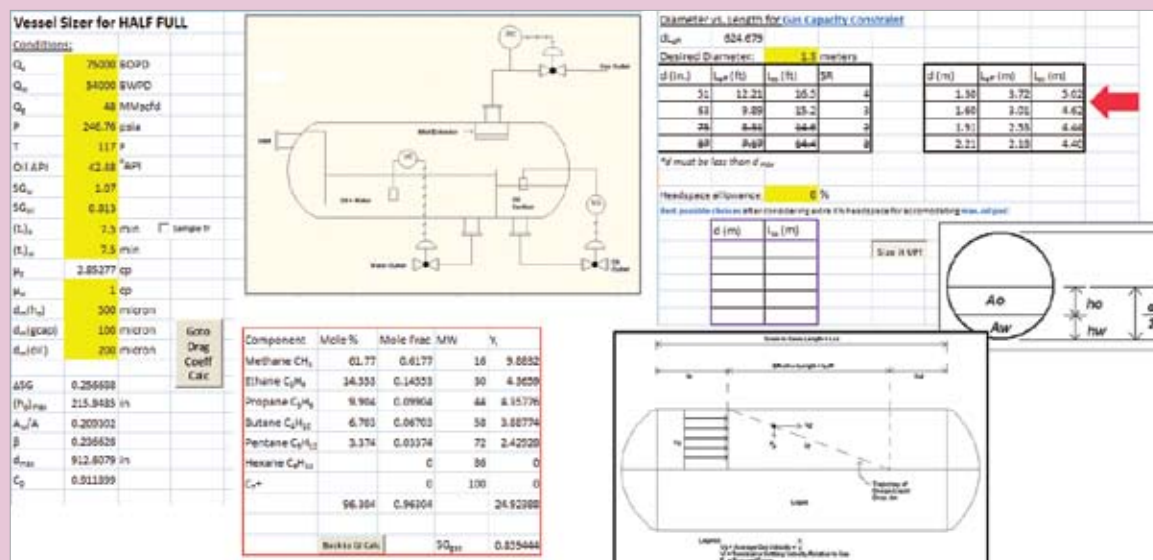


Figure 1: Input parameters for ½ full separator and component mole balance of gas data with sizing results

THREE-PHASE OIL AND WATER SEPARATOR SIZING

When produced fluids contain a large amount of gas, three-phase separators will usually be employed. The dimensions of such vessels are determined by gas capacity equations.

Because the fluids enter at high pressure, the vessel is designed

to separate the gases which flash from the liquids as well as separate oil and water.

The actual field oil °API (American Petroleum Institute) value can be calculated using the component mole balance from crude oil data (Figure 1). The droplet drag coefficient (C_d value) can be found in the gas compressibility charts from the Engineering Data Book

of the Gas Processor Suppliers Association (GPSA).

Finally, after a few steps of getting the sizing conditions, a horizontal three-phase separator can be sized by the click of an interactive button. In a typical case, the optimal dimensions are: $d = 1.3m$, $L = 5m$ or $d = 1.6m$, $L = 4.6m$ (for a specific given flow rate).

Strategic appointments

Keppel O&M saw a slew of new management appointments with effect from 1 January 2011.

Through these appointments, Keppel O&M grooms the next generation of leaders to ensure sustainable growth for the company.

KEPPEL O&M

Sit Peng Sang has relinquished his role as the CFO of Keppel O&M and has been appointed as ED of Keppel O&M.



From left: Sit Peng Sang, ED of Keppel O&M, Wong Ngiam Jih, CFO of Keppel O&M, Wong Kok Seng, MD of Keppel FELS.

Wong Ngiam Jih has been appointed as the CFO of Keppel O&M. Mr Wong was previously GM (Finance) of Keppel O&M.

Wong Kok Seng, previously ED of Keppel FELS, has been appointed as MD of Keppel FELS.

Abu Bakar Mohd Nor, previously Senior GM (Operations) of Keppel Shipyard, has been appointed as CEO of Nakilat-Keppel Offshore & Marine in Qatar.

Aziz Merchant will now serve as ED of Keppel FELS. He was previously GM (Engineering) of Keppel FELS.



From left: Dr Foo Kok Seng, Centre Director of KOMtech and ED of Offshore Technology Development, Chor How Jat, GM (Quality Assurance & Commissioning) of Keppel FELS and GM (Health, Safety and Environment) of Keppel O&M.

Dr Foo Kok Seng has been appointed as ED of Offshore Technology Development. He will concurrently serve as Centre Director of KOMtech.

Chor How Jat has taken on the role of ED of Keppel Shipyard. He was previously GM (Operations) of Keppel FELS.

Wong Fook Seng has been appointed as GM (Operations) of Keppel FELS.

Edmund Mah has ceased secondment to Group Control & Accounts of Keppel Corporation and now serves as GM (Finance) of Keppel O&M.

CH Tong, CEO of Keppel O&M, said, "My heartiest congratulations to all who have been given opportunity to take on new roles – with determination and hard work, I am confident that you will add to your wealth of experience and meet the challenges of your expanded portfolios."



FELS, Abu Bakar Mohd Nor, CEO of Nakilat-Keppel Offshore & Marine in Qatar, and Aziz Merchant, ED of Keppel FELS



t, ED of Keppel Shipyard, Wong Fook Seng, GM (Operations) of Keppel FELS, Edmund Mah, GM (Finance) of Keppel O&M,
ent) of Keppel O&M

IN SAFE HANDS

Chandru Sirumal Rajwani, GM (Quality Assurance & Commissioning) of Keppel FELS has assumed the role of GM (Health, Safety and Environment) of Keppel O&M. He will also take over as Secretary to Keppel Corporation's Board Safety

Committee and Coordinator for Group Safety from 1 January 2011.

Chandru took over from Abu Bakar who has held the role since 2009. As Coordinator for Group Safety, Chandru will chair the Inter-Business Unit Safety Committee.

He brings with him 30 years of collective shipboard and shipyard safety experiences. His career includes involvement in ensuring the safety of oceangoing vessels during his capacity as a Chief Engineer with Neptune Orient Lines.

Welding excellence

Two top welders from Regency Steel Japan (RSJ), a joint venture company between FELS Offshore Pte, Mitsui Bussan Steel Trade Co. Ltd and Nippon Steel Corporation, have done the company proud, winning recognition for their steadfast skills on 24 October 2010.

Kohei Tokuhisa and Ryo Sameshima, won the second and third position at the 51th Fukuoka Prefecture Welding Skill Contest held at Kitakyushu city in Japan.

112 participants went through two types of welding tests – Gas Metal Arc Welding (GMAW) and Shielded Metal Arc Welding – during the contest. Their welding test pieces are evaluated by visual inspection, X-ray and mechanical testings. In RSJ, about 90% of the welding is done using GMAW method.

Wong Chun Yu, President of RSJ, shared, "Welding is high-precision work that requires excellent hand-eye coordination and manual dexterity. In order to be proficient in welding skills and techniques, it takes great efforts to continuously fine tune and maintain good standard of welding practices. RSJ is committed to delivering the highest quality products to our customers."

RSJ has produced several winners from this contest in the past. It achieved first position in 2005 as well as second position in 2006 and 2008. Established in 2004, RSJ is a specialist in the fabrication of heavy steel structures and a solutions provider for the heat treatment of high-end steel products.



Regency Steel Japan won the second and third position at the 51th Fukuoka Prefecture Welding Skill Contest held at Kitakyushu city in Japan



Kohei Tokuhisa (second from left) and Ryo Sameshima (third from left), clinched second and third positions at the 51th Fukuoka Prefecture Welding Skill Contest held at Kitakyushu city in Japan

In honour of a Keppelite



Gene Cassidy, AVP of Production, will be remembered as a dedicated co-worker and a loyal friend

Gene exemplified hard work, dedication, discipline, *Can-Do!* spirit and perseverance.

GS Tan
President & CEO of Keppel AmFELS

Gene Cassidy was a big part of Keppel AmFELS and was top of the list of 20-year service employees. He was a dedicated co-worker and, more importantly, a friend to many at Keppel AmFELS.

He exemplified hard work, dedication, discipline, *Can-Do!* spirit and perseverance.

This was the fitting description of Gene Cassidy, AVP of Production, by GS Tan, President & CEO of Keppel AmFELS in memory of Gene, 60, who passed away on 17 November 2010.

Born and raised in Edcouch-Elsa, Texas, Gene was known as a great husband and father to his wife, Diana, and their only son, Chad.

Remembered as a tough man who loved challenges and remained jolly no matter what life threw at him, Gene had started out as a welder at the Marathon Letourneau yard in the 1970s. He worked his way up through supervisory levels and took on the role of AVP of Production in 2008.

"He will be missed very much by all at Keppel AmFELS and his spirit and legacy will live on in our hearts," added GS Tan.

Friends remember Gene

Filemon Perez, Field Engineer shared, "I can honestly say that I never knew a more dedicated individual. Gene was a fair supervisor who expected you to do your share of work in a timely manner.

"He often said 'don't come to me with problems, come to me with solutions'. Gene was a simple man who wouldn't ask for much but would give you the shirt off his back if you needed it."

Gene's supervisor of many years, Tom McCoy, now retired, also reminisced, "My experience with Gene was that he was 'all company' with the company coming before family many times.

"He was a very, very dependable and responsible person who always took care of his employees, but everyone knew not to interfere with his tasks unless you were prepared to inherit the work".

Gilberto Elizondo, VP, HR, summed it best, saying, "Gene will be remembered for being a good man."

Game on

The popular, two-month long Keppel Games 2010 closed with rousing applause from participants and spectators on 28 November.

On its eighth run, Keppel Games encourages an active lifestyle, cultivates sportsmanship and teamwork, and strengthens bonds between Keppelites from across Keppel Group.

For this year's event, Keppel's business units in Singapore were divided into three teams – Atlantic, Caspian and Pacific. The teams competed in nine sporting events and a series of telematches.

On his experience as the Team Manager of Caspian, Nam Yau Chai, Project Manager at Keppel FELS, said "As an athlete, I focused only on winning the game, but as a team manager I learnt to inspire my team members to work together to win. To some extent, I applied my project management skills in rallying Team Caspian together and it was a most fulfilling experience."

Keppel Games 2010 had also comprised fund-raising activities for Keppel's adopted charity Association for Persons with Special Needs (APSN). A total of \$41,800 in pledges and sponsorships was raised from Keppel's business units.

"The aim is to foster a stronger sense of identity for Keppelites. Keppel Games provides a platform that will bring interaction amongst Keppelites to another level and underscore the element of sportsmanship."

*Mr Chee Jin Kiong
Director (Group Human Resources) of Keppel Corporation*



Through fun fund-raising activities, \$41,800 was raised at Keppel Games for the Association for Persons with Special Needs



On its eighth run, Keppel Games encourages an active lifestyle, cultivates sportsmanship and teamwork, and strengthens bonds between Keppelites from across Keppel Group

Song and dance



Numerous Keppelites gamely dished out song and dance performances



CH Tong, CEO of Keppel O&M, handing the top prize for KRC Idol Search to the very talented Wong Mun Keong, a welder from Keppel Shipyard

It was an evening of imaginative, colourful disguises. More than 500 Keppelites from across all business units dressed up to the theme of Le Masquerade at Keppelite Recreation Club's (KRC)

Dinner and Dance, held on 30 October 2010.

Interactive performances and games kept these Keppelites in high spirits as they let their hair down at this annual social event.

The highlight of the evening was the KRC Idol Search. The six finalists, who were shortlisted from more than 30 enthusiastic participants, belted out popular tunes as the enthused crowd clapped and cheered in support.

For his sound quality, stage presence and pitch, Wong Mun Keong, a welder from Keppel Shipyard, emerged champion in the Idol Search competition, garnering a cash prize of \$1,000.

As for the rest of the event's attendees, they went home with good memories and stronger bonds with their fellow Keppelites.

Reeling it in

To encourage an active lifestyle and work-life harmony, KRC organises a range of sports and recreational activities for its 3,000 members throughout the year.

Recently, on 4 December, KRC hosted the annual KRC Fun Bowl at Starbowl Alley of CDANS Club. It also organised KRC Fun Fishing at Pasir Ris Event Fishing Pond the following day.

Both events were well-attended. 70 Keppelites from across Keppel Group participated in the Fun Bowl, where they had a ball of a time getting to know each other better and battling for several attractive prizes.

Meanwhile, 120 individuals, comprising Keppelites and their family and friends, had gathered for KRC Fun Fishing. The organisers added an interesting twist to the relaxing activity by giving anglers a chance to win a prize through a small Lucky Dip for every catch they made. While not everyone was a successful angler, it was a winning afternoon for all.



With his heavy-weight catch of a 3.57kg Taiwan Ngor, Chan Beng Guan (left), Project Manager, Keppel FELS, was crown the Champion Angler

An A.C.T.I.V.E. effort



Joined by Keppel O&M's senior management, Keppelites kicked into high gear with a rigorous morning workout

More than 2,000 Keppelites kicked into high gear with a workout at the Keppel FELS A.C.T.I.V.E. (All Companies Together in Various Exercises) Day event on 4 December 2010.

Guest of Honour for the event,

CB Choo, CEO of Keppel Corporation and Chairman of Keppel O&M, said, "Today, as we pause from our hectic work schedules to exercise together, we are reminded that a robust body and mind, as well as work-life balance are very important."

Throughout the year, the Keppel FELS Human Resources Department's Wellness Committee has been organising a wide range of initiatives, including health and wellness screenings, bazaars and talks.

Recognising the Committee's efforts, CB Choo said, "Staying healthy requires effort, and I am glad that our Wellness Committee is playing an active role in promoting the wellbeing of Keppelites."

Keppel FELS and Keppel Shipyard were conferred the Gold Award by the Health Promotion Board at the Singapore HEALTH Awards on 26 November 2010.

Longstanding partners

The seventh run of the Keppel FELS' Subcontractors Night, held on 22 October 2010, was well-attended by partners and subcontractors. This annual get-together allows all stakeholders to exchange ideas on raising safety and productivity at the yard.

Expressing his thanks to the subcontractors for their longstanding support, CH Tong, CEO of Keppel O&M, added, " We should all take on the challenge of getting jobs done quicker, better and safer at profitable means."

In addition to the need to manage costs, CH Tong also urged all subcontractors prioritise safety at all times, stressing that "one fatality is one too many".

At the event, Keppel FELS also recognised

Chua Industrial & Engineering Pte Ltd with the Best in Health, Safety & Environment (HSE) Award, and showed their appreciation for one 10-year, two 20-year and three 30-year subcontractors with Long-Term Partnership Awards.



Through initiatives such as Subcontractors Night, Keppel FELS builds strong partnerships with its subcontractors

Cultivating young minds

Exposure and education usher in work opportunities, and help to sustain a strong and vibrant community.

With this in mind, Keppel Philippines Marine's (KPMI) Keppel Batangas Shipyard and Subic Shipyard & Engineering actively support programmes seeking to inspire and empower the next generation.

STUDENT OUTREACH

Over the past few months, employees from Keppel Batangas Shipyard and Subic Shipyard & Engineering have been visiting in universities in Manila and Batangas to raise awareness of the offshore and marine industry and the career opportunities it presents.

Dr Leonardo C. Medina Jr., Dean, College of Engineering of Lyceum of the Philippines University, shared, "We thank Keppel's effort for strengthening industry-academe linkages as we envision that our engineers will play a crucial role in nation-building."

Keppel Batangas recently also hosted students and faculty members from Saint Louis University and Rizal Marine and Techno-Computer College. The visitors were glad to get up-close views of ship repair and shipbuilding activities.

WELL WORTH THE WALK

Volunteers from Keppel Batangas Shipyard (KBS) strode alongside community members in the Alay Lakad project on 16 October



KPMI's HR and Administrative Manager, Alan I. Claveria (right), shares on career prospects in the offshore and marine sector through exhibitions and talks at universities in Manila and Batangas



Volunteers from Keppel Batangas Shipyard strode alongside community members to raise funds for scholarships for out-of-school youths

2010 to raise funds for out-of-school youths.

The walk-for-a-cause event is an annual nation-wide initiative to provide scholarships.

"The presence and youthful enthusiasm of the Keppel Volunteers in this year's Alay Lakad are noteworthy. Keppel has been very supportive to the local government's community-based initiatives,"

acknowledged Hon. Ryan M. Dolor, Bauan's Municipal Mayor during the ceremony.

Kelvin Goh, VP of KBS, said, "Instead of just donating funds, we also opted to join this early morning walk with the other business groups, students and government employees, to show our solidarity with the local community in providing education to school leavers."

Season of giving



The third annual Keppel Group Blood Donation Drive garnered more than 450 packets of blood from Keppelites, subcontractors and the public



Giving blood for the 18th time was Steven Lye Kwok Keong, Senior Engineer at Keppel Shipyard

The spirit of giving was palpable at the third annual Keppel Group Blood Donation Drive, organised by Keppel Volunteers in collaboration with the Singapore Red Cross Society from 17 to 23 December.

With blood collection centres set up at Keppel Bay Tower and at the shipyards – namely, Keppel Shipyard (Tuas) and Keppel FELS – this year’s blood drive collected more than 450 packets of blood from Keppelites, subcontractors and the public.

“To be able to donate blood means I am fit; I consider this the biggest blessing that I can share with those in need. I will continue to donate blood for as long I am able to,” said regular donor Steven Lye Kwok Keong, Senior Engineer at Keppel Shipyard. This is the 18th time that Steven is donating blood, and the third time he is doing so this year.

Meanwhile, first-time donor Kamalroy Robyroy, a crane driver from India who joined Keppel



The nurses at the blood drive made a special effort to reassure and care for first-time donors such as Kamalroy Robyroy (foreground), a crane driver at Keppel Shipyard

Shipyard just four months ago, was eager to use this convenient platform to give blood.

He said, "I come from a family of regular donors. My father has donated blood more than 30 times, and my brothers and sister-in-laws regularly contribute to the blood bank. Inspired by them, I seized this opportunity to give blood. I am glad to be able to contribute to the community that I have adopted."

Keppel had chose to implement the blood drive in December as this is when many regular donors are away on a holiday and so are unable to contribute to the blood bank. From all walks of life, generous Keppelites made up for this shortfall in donors, making a difference to the well-being of patients who need blood this Christmas season.

A warm, furry feeling

Extending the Christmas goodwill to our animal friends, Keppel Volunteers lend its ardent support to the Society for the Prevention of Cruelty to Animals (SPCA) Flag Day, which took place on the 11 December 2010.

With an annual expenditure of more than \$2 million, SPAC requires donations from the public to fund its activities. The SPCA Flag Day is an important avenue for fundraising as well as to promote kindness to animals.

To help Keppelites gain a better understanding of how an animal shelter is managed and to highlight the plight of abused animals, Keppelites were given a tour of SPCA's facilities before they headed out to invite donations.



Thomas Leong, an engineer at Keppel Shipyard (Tuas), puts time aside to care for his furry friends

Lighting up the golden years



Keppel Volunteers in Singapore bent their backs and went on their knees to tidy up the homes for the elderly

It is the challenge of many graying nations to increase support for the elderly, ensuring that those in their golden age lead happy, healthy and secure lives.

In Singapore and Brazil, Keppelites extend a hand to help clean homes and plan social programmes for the aged.

LENDING A HAND

Keppel Volunteers in Singapore paired with the Moral Senior Activity Centre (Kaki Bukit) in November 2010.

One of three Senior Activity Centres under the Thye Hua Kwan Moral Society, Moral Senior Activity Centre (Kaki Bukit)

strives to offer community, social, recreational and welfare services to the elderly.

The pairing was made possible through SG Cares, an organisation which initiates and facilitates volunteer projects.

On 20 November 2010, more than 20 Keppel Volunteers trooped with scrubs, pails, detergents, mops and even insecticides to three houses in Bedok North, homes to elderly folks who needed assistance in cleaning their homes.

In addition to making the houses spick and span, the volunteers also injected a streak of fun and

entertainment. They sponsored a carom board and a bingo set that was on the Centre's wish list.

The home maintenance programme is part of a series of volunteer activities lined up by SG Cares in light of the United Nation's designated International Volunteer Day (IVD) on 5 December 2010.

This special day commemorates the spirit of volunteerism and honours volunteers around the world for sharing their good deeds.

Spearheading the house-cleaning activity were Lee Shwu Huey, Chairperson of Keppel Volunteers,



Volunteers from BrasFELS threw a tea party complete with sing-along sessions and a poetry recital for the folks at O Bem Querer A Casa do Idoso (Home for the Aged)

and Chia Wan Ting, a studying Keppel scholar.

A young girl with a big heart, Wan Ting shared, "In conjunction with IVD, we wanted to impact the lives of others by doing something meaningful, and eventually decided to volunteer for the elderly.

"Cleaning up their homes was an effective means of helping to provide the elderly folks with a cleaner and healthier environment, thus improving their living conditions."

Bringing smiles

Keppel FELS Brasil's BrasFELS

shipyard in Angra dos Reis, Brazil, has been rallying its employees, partners and vendors to bring aid to the aged.

Nineteen of its employees volunteered their time on their half-day off at O Bem Querer A Casa do Idoso (Home for the Aged) in Japuiba on 26 November 2010.

Throwing a tea party complete with sing-along sessions and a poetry recital, they brought smiles to the under-privileged senior citizens. Many of the elderly folk living at the home are handicapped or need help to move around.

Useful items such as walkers,

crutches, adult diapers, non-perishable food, personal care products were also donated by employees from BrasFELS and representatives from Petrobras and SBM. Adding joy to the party was BrasFELS' canteen operator, CJG, which contributed canapés, fruits and beverages.

Two of the volunteers also helped to do some electrical repair work at the home. Future plans are underway by the BrasFELS Volunteer Programme Committee to carry out painting and repairs for the home.



Witnessed by Singapore's Prime Minister Lee Hsien Loong and Vietnam's Prime Minister Nguyen Tan Dung, Kevin Wong, Group CEO of Keppel Land inks the JV agreement with Nguyen Thanh Lap, Chairman of Tien Phuoc

A PRINCELY WIN

Keppel Prince Engineering, the Australian subsidiary of Keppel Integrated Engineering (KIE), has won an A\$27 million contract from Vestas Towers A/S to build 80 of the 140 towers for the Macarthur Wind Farm in Victoria, Australia. It will be the largest wind farm in the southern hemisphere when completed.

Michael Chia, Deputy Chairman and CEO of KIE and MD (Offshore) of Keppel O&M, said, "As the world trends towards clean energy development, we look forward to more opportunities in the future where we can leverage on our wide engineering experience and expertise to make significant contributions to preserving a sustainable environment for a cleaner future."

PRIME DEVELOPER IN VIETNAM

Keppel Land has entered into joint

ventures (JV) with well-known local property developers, Tien Phuoc Company Limited (Tien Phuoc) and Hung Phu Real Estate Corporation (Hung Phu), to develop two prime sites in Ho Chi Minh City (HCMC), Vietnam.

The JV agreements were signed on 28 October 2010 between Kevin Wong, Group CEO of Keppel Land, Nguyen Thanh Lap, Chairman of Tien Phuoc, and Nguyen Anh Khiem, Chairman of Hung Phu, in the presence of Singapore's Prime Minister Lee Hsien Loong and Vietnam's Prime Minister Nguyen Tan Dung, at the Office of the Government in Hanoi.

The first agreement seals the collaboration between Keppel Land, through its wholly-owned subsidiary, Antiaris Pte. Ltd. (Antiaris), and Tien Phuoc for the development of a 13.5-ha

waterfront site in HCMC. Both Antiaris and Tien Phuoc will take equal stakes of the total development cost (TDC) of about US\$115 million.

The second agreement between Keppel Land, through Belwynn Pte. Ltd. (Belwynn), and Hung Phu is for the development of a 9.8-ha site into a gated villa development along Rach Chiec River. Under the arrangement, Belwynn will take up 60% stake of the US\$65 million TDC while Hung Phu will subscribe for the remaining interest.

Upon the issuance of the investment certificates and relevant government approvals, both villa developments are expected to launch their first phases in the fourth quarter of 2011.

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Bonus for a reliable delivery

Floatel's second accommodation rig on five-year contract to Petrobras.

"We are experiencing strong demand for our new-generation floatels with good term rates. Floatel Superior has proven its worth for efficient and safe deployment. We are confident that Floatel Reliance will deliver similar success and perform to expectations as soon as it arrives in Brazil."

Peter Jacobsson
CEO of Floatel International

Keppel FELS has surpassed its earlier track record for Floatel International (Floatel), with the delivery of the latter's second semisubmersible accommodation rig, Floatel Reliance, 63 days early, within budget and without any lost-time incidents, meriting a bonus of US\$1.1 million.

Floatel Reliance has been contracted to Petrobras for five years, with operations expected to commence early 2011. The rig is being wet-towed from Singapore to Rio de Janeiro on a voyage expected to last up to 65 days.

Peter Jacobsson, CEO of Floatel International, said, "Securing a long-term contract for Floatel Reliance even before completion is a strong sign of the market's assurance in the superiority of the new-generation KFELS SSAU™ 3600 design.

"Despite the stringent schedule, the Floatel and Keppel teams have worked safely together to



Keppel FELS' perfect track record delivering the Floatel Reliance earns it a bonus of US\$1.1 million from satisfied customer, Floatel International

complete the rig. We recognise the value in partnering a world leader like Keppel FELS, which we have leveraged successfully to become the premier contractor for new-generation and safe semisubmersible accommodation units."

Floatel Superior, of the DSS™ 20NS design was delivered by Keppel FELS in March this year 43 days early, safely and within budget. Having completed a three-month charter for ConocoPhillips Australia, it has arrived in Norway and is preparing for the charter with Talisman Energy Norge AS at the YME field this winter, followed by work for Statoil Petroleum AS.

Wong Kok Seng, ED of Keppel FELS, said, "We look forward to deepen

our win-win partnership with Floatel, which we have built up over two record-setting rig deliveries this year.

"We consider our projects successful only if they are completed safely. We thank Floatel for acknowledging our safety achievement with a good bonus."

Floating accommodation platforms provide additional living quarters for drilling and production personnel deployed for work in deepwater locations. Designed by Keppel O&M's Deepwater Technology Group, the KFELS SSAU™ 3600 accommodation semisubmersible was developed to meet growing demand for safe and greater-capacity living quarters.