

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

12 October 2017

BP to expand LNG shipping portfolio

BP Shipping's finance partners, KMarin and ICBC Leasing, are investing over \$1 bill in six newbuilding LNGCs.

The 173,400 cu m LNGCs will join BP Shipping's fleet in 2018 and 2019 and are being built at Daewoo.

They will service a 20-year liquefaction contract with the Freeport LNG facility in Texas, as well as other international LNG projects in BP's global portfolio, the company said.

"These vessels will significantly increase BP's ability to safely transport LNG to anywhere in the world, directly supporting BP's global natural gas strategy," said BP Shipping CEO, Susan Dio. "They also will be among the most fuel-efficient and technically advanced LNG tankers ever built."

Equipped with new engine technology, the LNGCs are designed to be about 25% more fuel efficient than their predecessors. They will also be fitted with a reliquefaction plant, meaning evaporated natural gas in the cargo tanks can be returned to the

tanks as LNG, allowing the ships to deliver more LNG to the market.

Long term contract

BP has a long term contract for 230 trill BTUs per year of LNG from the Freeport LNG facility. This facility is currently under construction and the first train is expected to be operational by the end of 2018.

BP also participates in LNG projects in Australia, UAE, Indonesia, Trinidad and Angola. This portfolio includes a mix of long-term, mid-term and short-term supply to enable BP to best meet the ever-changing needs of its global portfolio of customers, the company said.

"BP has built a diverse LNG portfolio spanning both established and emerging markets," said Alan Haywood, CEO of BP's global supply and trading business. "Freeport is the latest example of how BP continues to expand the



BP Shipping's head Susan Dio

reach of our LNG business and serve our customers with flexible solutions through leveraging our scale, connectivity and relationships - and another sign of our commitment to remaining at the forefront of this rapidly growing and important global business."

The 2017 BP Energy Outlook said that global LNG trade will grow seven times faster than pipeline gas trade. By 2035, it is forecast to account for around half of all globally traded gas. ■

FLEX LNG appoints CFO

FLEX LNG has appointed Øystein Kalleklev as CFO.

Prior to joining the company, he served as CFO of Knutsen NYK Offshore Tankers from 2013 and Chairman of the General Partner of NYSE-listed KNOT Offshore Partners until earlier this year.

Kalleklev also worked for industrial investment company Umoe Group from 2006 to 2011, acting as CFO from the beginning of 2008. At Umoe he was also a Board Member of Umoe Gas Carriers, as well as the Managing Di-

rector of the investment company Umoe Invest.

In addition, from 2011-2013, he was a Partner at investment bank Clarksons Platou and a business consultant for various energy companies while working for Accenture from 2005 to 2006.

CEO Jonathan Cook, said: "I am pleased to announce that Øystein has joined FLEX LNG. We expect that the breadth of his industry and corporate finance experience will add significant value to the company, as we

work towards building the business into a leading player in the LNG shipping and floating regasification markets."

Kalleklev, added: "This is an exciting time for FLEX LNG. The company has rapidly established a presence in the market ahead of the scheduled deliveries of its state of the art fleet of LNG carriers. I look forward to helping FLEX LNG continue to execute its strategic growth plan and become a market leader in the LNG shipping and regasification market." ■

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BW Gas gets financing for second FSRU

Credit Agricole Corporate and Investment Bank (CA-CIB) and KfW-IPEX Bank (KfW) have provided a \$191.8 mill post-delivery finance facility to a subsidiary of BW Gas for the company's second FSRU - 'BW Integrity'.

CA-CIB and KfW acted as mandated lead arrangers and lenders and were advised by Watson Farley & Williams (WFW) on the export credit agency-backed financing.

Named in January this year, the FSRU has a storage capacity in excess of 170,000 cu m and a peak regasification capacity of 750 mill cu ft per day and will serve Pakistan's second LNG terminal at Port Qasim.

The unit is currently employed by PGP Consortium, a subsidiary of Pakistan GasPort Consortium.

'BW Integrity' is to provide

600 mill cu ft per day of regasified LNG to state-owned Pakistan LNG Terminals under a 15-year contract.

The WFW team was led by Partner Madeline Leong, WFW's Hong Kong Office and Finance Head, supported by Melissa Hoh and Dongchen Shi.

Leong commented "This transaction highlights BW Gas' commitment in providing state-of-the-art LNG shipping and regasification solutions, this being their second FSRU after 'BW Singapore'. It also shows the support of

the lenders towards BW Gas and the energy space.

"We are delighted to have advised CA-CIB and KfW in this dynamic and complex transaction, which accentuates the increasing demand for LNG regasification and storage in Pakistan. The country's current LNG regasification capacity will be more than doubled with this transaction. The WFW team ensured strong co-ordination between CA-CIB, K-Sure, KfW and other relevant parties involved to bring this transaction to a successful close," she said. ■

Training an issue going forward

Due to the lack of the number of LNGCs or LNG fuelled vessels in comparison to the overall worldwide tonnage, there is a shortage of trained/experienced seafarers (officers and ratings) for the carriage and handling (loading and discharging) of LNG cargoes.

In addition, there are probably even fewer seafarers (especially engineers) trained in operating and/or bunkering vessels using non-hydrocarbon burning engines, ECM Training Services (ECMTS) told *LNG Shipping News*,

"So in our opinion, there is a strong demand for training or will be soon," said Jo Ann Cantú, Chief Operating Officer, ECMTS, which is based in Houston, Texas.

Although the courses do not

offer simulation training, there is plenty of video training and true life experiences incorporated in the e-learning programmes. DNV GL accredited ECMTS is also capable of offering on board training and/or the ability to travel worldwide to deliver a company specific course at a venue of a client's choice.

Within the next few years, the US is expected to become the world's largest exporter of LNG.

That means more LNGC port calls

to the US and LNG fuelled vessels calling in the US for bunkers.

"Our advice would be to start the programmes sooner, rather than later while there is still ample time to have seafarers trained. Our courses will touch base on LNG equipment, LNG ancillary systems, the basics of LNG, LNG cargo operations, including bunkering, engine control systems, as well as logistics and commercial uses," Cantú advised. "Operators who select training now will be more attractive to owners who have LNGCs or LNG fuelled vessels for management."

ECM Training Services (ECMTS) is currently offering two 90-day LNG courses - LNG Cargo Operations and LNG as a Marine Fuel - as on line training programmes. ■

“Operators who select training now will be more attractive to owners who have LNGCs or LNG fuelled vessels for management”

- Jo Ann Cantú, Chief Operating Officer, ECMTS

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NEWS NUDGE

FLNG 'Hilli Episeyo' leaves Keppel Shipyard

Golar LNG's FLNG conversion 'Hilli Episeyo' left Keppel Shipyard on 1st October.

Having successfully reached her mechanical completion, the vessel has been moved to a deepwater anchorage where Keppel will complete the final marine commissioning.

The FLNG is expected to leave Singapore between 15th and 20th October.

MOL names FSRU

Mitsui OSK Lines (MOL) held a naming ceremony for the 'MOL FSRU Challenger' at the Okpo shipyard of Daewoo Shipbuilding on 28th September.

This is the first FSRU that MOL independently built, owned and operated.

She will provide storage and regasification services to a project in Turkey after delivery this month. The operation is due to commence this year.

The 'MOL FSRU Challenger' has a LNG storage capacity of 263,000 cu m and also has LNG re-shipment and gas transfer capabilities. Her specifications allow for the re-export of LNG and supply of LNG to neighbouring regions to where the vessel is located.

In addition to owning and operating the FSRU, MOL announced its decision to participate in an FSRU project in India, reflecting its ongoing strategy to "pursue vertically integrated businesses that are not limited to transportation in the LNG business," as laid out in its new 'Rolling Plan 2017' management plan. ■

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Panama Canal works to double LNGC transits

The Panama Canal Authority (PCA) is working with LNG interests in order to double the capacity set aside for LNGC transits by next October.

According to the PCA, it is working towards allowing two LNGCs per day to transit the canal, from the single slot currently available.

"Currently all LNG transits are limited to daylight hours. We are working towards lifting some transit restrictions by the third quarter of next year," the PCA said in a statement. "There are currently no transit delays."

LNG transit slots have been booked through the third quarter of next year by stakeholders, with offtake from the US Gulf, including Shell, Cheniere, Gas Natural Fenosa and Kogas, according to one shipping source, talking with Platts.

These slots can be cancelled by an advanced notice at the

higher of varying discount percentages to the booking fee of \$35,000 or a fixed amount.

According to a Panama-based port agent, only one or two LNGCs have arrived without a booking in

anticipation of a cancelled slot.

Around 171 LNGCs have transited the Panama Canal as at the beginning of October, or some 8.6% of transits through the Neopanamax locks, Platts said. ■



The Panama Canal Authority is aiming to double the number of LNGC transits. Photo credit-Teekay

Thenamaris LNGCs to be fitted with Dualog email and data transfer software

Dualog has won a contract to handle the business email and data transfer needs for 90 vessels managed by Thenamaris of Greece, which includes three LNGCs.

Thenamaris selected Dualog for its email platform, as well as the ease of installation, service availability and customer support, the company said.

Services associated with the contract, which will involve changing and installing the fleet's new email platform, should be completed by the end of this month.

Konstantinos Stais, IT&T Operations Supervisor at Thenamaris (Ships Management) and his team chose Dualog as their new airtime independent partner for business email and data transfer.

"The key reason choosing Dualog was the support services and experience that Dualog provides and which were clearly demonstrated throughout the evaluation process," he said. "The response received from the Dualog team on all technical matters raised was strong, resulting in the Thenamaris team assessing this solution as the preferred option."

Lars Martinussen, Dualog Sales Manager for Europe, said, "Our agreement with Thenamaris is the result of an extensive process between two competent and forward-looking parties. Thenamaris has a very clear idea about purpose, direction and expectations and we are very proud to have been chosen as the platform provider of services for mission critical email and data transfer." ■

Edison to take Venture Global's LNG

Italian energy group Edison and Venture Global Calcasieu Pass (Venture Global) have entered into an LNG Sales and Purchase Agreement (SPA).

Under the agreement, Edison will purchase 1 mill tonnes per annum of LNG from the Calcasieu Pass LNG export facility, currently being developed in the US by Venture Global in Cameron Parish, Louisiana.

Under this SPA, Edison will purchase the gas on a free on board basis (FOB) for a 20-year term starting from the commercial operation date of the Calcasieu Pass facility, currently expected in 2021.

Venture Global Calcasieu Pass and TransCameron Pipeline applied to the US Federal Energy Regulatory Commission (FERC) two years ago for authorisation to construct the LNG terminal and associated natural gas pipeline laterals. The projects were proposed by Venture Global LNG.

Since then, the US Department

of Energy has authorised Venture Global Calcasieu Pass to export up to 620 bill cu ft per year of LNG from the Calcasieu Pass terminal to free trade agreement (FTA) countries.

The company's current schedule projects FERC approval early next year, along with DoE authorisation for non-FTA exports, and a final investment decision by the second quarter of 2018.

If authorised, the \$4.5 bill Calcasieu Pass project will be built on a 506-acre site near where the Calcasieu Ship Channel meets the Gulf of Mexico. It would include two loading berths for LNGCs, two full-containment LNG storage tanks and an on-site combined-cycle gas turbine power plant.

Calcasieu Pass would have a nameplate capacity of 10 mill

tonnes per annum of LNG.

In February, Venture filed an application at FERC for a second LNG export terminal and related pipeline project in Louisiana. The 20 mill tonnes per annum Plaquemines LNG facility would be constructed on a 632-acre site in Plaquemines Parish at river mile marker 55 on the Mississippi River, about 30 miles south of New Orleans.

This facility is expected to include up to three marine loading berths, capable of receiving LNGCs of up to 185,000 cu m in capacity.

Venture is expected to make a final investment decision (FID) on the Plaquemines project in 2019, with Phase 1 commercial operations scheduled for 2022 and full commercial operations a year later. ■

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Wheatstone up and running

Chevron Corp has started producing LNG at the Wheatstone Project in Western Australia.

The first cargo is on track to be shipped in the coming weeks, the oil major said.

"First LNG production is a significant milestone and is a credit to our partners, contractors and the many thousands of people who collaborated to deliver this legacy asset," said Chevron Chairman and CEO, John Watson. "Wheatstone adds to our legacy gas position in Australia that will be a significant cash generator for decades to come."

At full capacity, the Wheatstone project's two train LNG facility will supply 8.9 mill tonnes per year of LNG for export to

Asian customers. The LNG facility is located 7.5 miles west of Onslow, Western Australia and processes natural gas from the Chevron-operated Wheatstone and Iago fields.

Wheatstone is a joint venture between Australian subsidiaries of Chevron (64.14%), Kuwait Foreign Petroleum Exploration Co (KUFPEC) (13.4%), Woodside Petroleum (13%), and Kyushu Electric Power Co (KEPCO) (1.46%), together with PE Wheatstone, part owned by JERA (8%).

Chevron holds an 80.2% interest in the offshore licenses containing the Wheatstone and Iago fields. ■

Suez Canal introduces LNGC toll discounts

The Suez Canal Authority is to introduce toll reductions for LNGCs operating between the US Gulf, Arabian Gulf zone, India and its eastern ports.

The toll reductions will include both loaded or ballasting LNGCs.

A 30% cut will be offered to LNGCs sailing to the Arabian Gulf and west coast of India up to Kochi. A reduction of 40% will be provided for gas carriers transiting East of up to Singapore, while a reduction of 50% will be in place for Singapore and ports further east.

In order to obtain the discount, an LNGC owner or operator will have to submit a request before the vessel's transit through its shipping agency, the Suez Canal Authority (SCA) said.

In addition, the ship must not call at any port in between the

port of origin and port of destination for commercial purposes.

This needs to be verified by a formal declaration from the ship's operator.

If calling at a port in between for non-commercial purposes, the port authorities will have to submit a certificate to the SCA, stating the reasons for calling.

The company must also submit a certificate from the last port of call stating the date of sailing and a certificate from the first port of arrival stating the date of arrival. All of the documentation should be submitted within 60 days from the date of transit. ■

EXMAR opts for ECOLOCK protection

Subsea Industries has applied Ecolock protective coating to the hull of Exmar's 26,320 cu m FSRU nearing completion at a shipyard in Nantong, China.

It is the second major coatings project Subsea Industries has completed in China recently for Exmar.

Following the company's approach to applying hard coating technology to its barge-type floating assets, in combination with the success of the 2013 Ecospeed application to the 16,100 cu m 'Caribbean FLNG', the decision was taken to specify Ecolock for the hull of the newbuild FSRU.

The experience of the shipyard gained from the 'Caribbean FLNG' application - the first time it had applied a Subsea Industries' product - resulted in the hard coating being applied more quickly.

Block construction

Similar to the first project, the FSRU was built in blocks, which were coated prior to assembly. Weld seams and inaccessible areas were coated after the unit was assembled.

Manuel Hof, Subsea Industries' production executive, said: "The shipyard was very satisfied with

the coating, due to the ease and speed of application, as well as the quality of the coating. I am told that had the hull been coated with a traditional coating system it would have taken at least seven days from surface preparation to the final coat. The yard was able to apply two coats in a single day, which minimised the risks associated with multi-layer applications. It also saved the yard time and labour costs."

Ecolock is single, homogenous protective covering for static steel structures that provides a tough, durable coating designed to remain intact throughout the vessel's life without drydocking, repair or replacement.

"The glass-flake reinforced coating is ideally suited to this kind of application," said Hof. "Combined with long-term protection, the coating can be cleaned underwater without any damage to the coating. As long as correctly applied and maintained, Ecolock can be guaranteed for up to 20



Exmar has opted for Subsea Industries' hard coating technology for its barge-type floating assets. Photo credit- Exmar

years for this type of application. This puts it in a league of its own."

Prior to application, preparation work has to be carried out to ensure a structural profile of at least 75µm (SA2.5 or better). Ecolock is then applied but requires no primer or other type of coating. Typically, just two 500µm coats are applied with minimum curing time of three hours between each application.

An Exmar spokesperson said; "Ecolock is a strong contender for

being the best choice of protection of offshore vessels and structures that need to be kept on site in production for extended periods of time without drydocking. The guarantee and the environmental safety of the coating make it even more attractive for companies like Exmar."

Shortly after the Ecolock application, the FSRU was floated out for completion of the topsides installation and pre-commissioning of the unit. ■

BV addresses FSRUs

Bureau Veritas (BV) has published a new Rule (NR645) for the classification of FSRUs.

This move was in response to industry demand and following close engagement with FSRU stakeholders, BV said.

Demand for FSRUs is growing. They are a fast, cost effective route to meet growing demand for LNG as a clean and cost competitive energy source.

The new BV rules enable the classing of all types of floating storage and regasification assets in a comprehensive and pragmatic manner by building on BV's extensive experience in the LNG sector.

They set out requirements to address FSRU technical and operational issues. These requirements span demand for units that may operate as floating terminals for one or more decades to FSRUs that may be required for much shorter periods and whose operators may want the option of trading as an LNGC.

The rules are claimed to address these needs while applying a unified approach to safety and design challenges and providing clarity in terms of classification requirements by offering two distinct class notations:

Liquefied Gas Carrier - FSRU notation - Based on rules for LNGC classification, this enables gas trading in addition to floating storage and regasification terminal operations.

The notation provides the possibility for exemptions from the traditional class survey regime - such as five year drydocking survey requirements - when the vessel is in use as an FSRU.

FSRU notation - For units dedicated to pure gas storage and regasification terminal operations and not intending to trade.

This notation provides full optimisation for site conditions and a class survey regime as applicable to permanent units with continuous operation requirements. No drydocking would be required and some exemptions from IGC Code requirements, compared to typical LNGCs, are allowed. For example, no bottom damage stability requirements would be necessary having addressed specific operational circumstances.

Jean-François Segretain, BV's Marine Technical Director, said: "FSRUs are a special market with both 'marine' and 'offshore' approaches and requirements involved. So, FSRU projects raise a lot of questions from all stakeholders. These new rules take into account the specific technical, regulatory, operational and environmental requirements of FSRU stakeholders to provide a much higher level of confidence when making significant commercial decisions." ■

Tellurian charts LNGC

A wholly-owned subsidiary of Tellurian has entered into a six-month timecharter contract with Maran Gas Maritime for the LNGC, 'Maran Gas Mystras'.

Tellurian took delivery of the LNGC at Galle, Sri Lanka on 1st October, 2017.

Tellurian President and CEO, Meg Gentle, said, "At Tellurian, we are building a global natural gas business and proactively shaping the company to build long term value amid a robust and dynamic market.

"As winter approaches, we will begin buying and delivering LNG on the 'Maran Gas Mystras', one

of the most efficient vessels in the Maran Gas fleet. Developing our LNG marketing capabilities now prepares us to be one of the most flexible, competitive, and reliable LNG suppliers when Driftwood LNG begins operations in 2022."

Built in 2015, 'Maran Gas Mystras' is a tri-fuel diesel electric (TFDE) propulsion vessel of 160,000 cu m.

No charter rate was revealed. ■

Coldharbour closes in on LNGC contracts

UK-based ballast water treatment system (BWTS) and inert gas supplier Coldharbour Marine is close to winning orders to fit equipment on newbuilding LNGCs, CEO Andrew Marshall said.

In recent years, Coldharbour has developed the patented Sea Guardian - a clean, green, compact, third generation inert gas generator technology for use in LNGCs and large tankers.

Sea Guardian generators incorporate a range of patented features that ensure stable, reliable, low maintenance operation and they are also integral to Coldharbour's patented GLD BWTS, the company said, giving owners and operators the option to use a combined system on board large vessels, such as LNGCs.

The inert gas system can be configured for use with either LSMDO/MGO or LNG boil-off-gas (BOG) and can provide the gas output linked to specially designed Gas Lift Diffusion (GLD) pipe assemblies inside the water ballast tanks forming the BWTS.

Key features of the GLD BWTS are that treatment takes place in-tank and in-voyage and without the need for any form of in line filtration. This approach ensures no disruption to terminal operations during ballasting and no risk



Coldharbour Marine CEO Andrew Marshall

of re-growth of marine organisms on long ballast voyages.

The BWTS is fully type-approved by IMO, with testing undertaken by both the UK's Maritime and Coastguard Agency (MCA) and Lloyd's Register. It also has US Coast Guard Alternate Management Systems (AMS) acceptance and is currently undergoing the full USCG type approval process.

Marshall warned that owners need to do their homework before selecting the correct BWTS for their vessels, taking into account the vessel types and areas of operation. He also thought that only around 15 BWTS manuf

acturers will survive, following the demise of OceanSaver.

NEWS NUDGE

Teekay LNG Partners declares distribution

Teekay GP, the general partner of Teekay LNG Partners, has declared a cash distribution of \$0.14 per unit for the quarter ended 30th September, 2017.

The cash distribution is payable on 10th November, 2017 to all unitholders of record as at 3rd November, 2017.

Fourth out of six newbuildings enters SINOPEC charter

On 26th September, the LNGC 'CESI Tianjin', which was ordered by a joint venture involving MOL, China COSCO Shipping

Corp and China Petroleum & Chemical Corporation (SINOPEC), was delivered by Hudong-Zhonghua Shipbuilding.

The 'CESI Tianjin' is the fourth vessel out of six newbuildings to serve a SINOPEC LNG transport project and will sail under a long-term charter to ship LNG that will be purchased from the Australia Pacific LNG Project.

The first vessel, the 'CESI Gladstone' was delivered in October, 2016, the second, the 'CESI Qingdao' in January, 2017, and the third, the 'CESI Beihai', in June this year. The remaining two are due for delivery by 2018. ■

'SK Audace' maiden voyage success

The newly delivered LNGC 'SK Audace' owned by SK shipping and Marubeni has completed her first cargo carrying voyage (see *LNG Shipping News*, 14th September, page 6).

The Samsung-built LNGC loaded a full cargo of 180,000 cu m of LNG at Ras Laffan for discharge at Sines, Portugal, sailing via the Cape of Good Hope. The vessel is on charter to Total.

'SK Audace' is the first ship fitted with the WinGD X-DF low pressure, low speed dual-fuel engines. After the success of the Wärtsilä medium-speed dual-fuel engine, which took over the leadership for LNGC propulsion in the mid-2000's with the TFDE concept from the

former steam turbine dominated market segment, the next generation change has started, the engine manufacturer said.

WinGD, which at the time of starting the development of the X-DF engine concept was still part of Wärtsilä Corp, brought the low-pressure gas technology to the low speed 2-stroke engines.

Today WinGD is an independent company co-operating with CSSC as a shareholder. Since the split in 2013, more than 70 X-DF engines

have been ordered. Out of these, 34 are or will be fitted into 17 LNGCs - two per vessel.

Twin engine configuration

'SK Audace' was ordered at Samsung Heavy Industries in 2013 and delivered in July 2017. She is fitted with 2x 6X62DF main engines each developing more than 13,000 kW.

The engines were manufactured by Doosan Heavy Industries where they passed factory acceptance test (FAT) in spring 2016, before being delivered to the yard for installation into the vessel's hull.

The LNGC passed sea trials and gas trials as planned in the Summer and she was delivered to her owners on 28th July, 2017.

After operating on MDO as fuel while sailing towards Ras Laffan, the vessel changed over to run on Boil-off-Gas (BOG) from the cargo tanks. Thus far, about 700 running hours was achieved and the first voyage ended to the full satisfaction of her owners and charterer.

The engines were running at between 40% - 68% nominal load capacity. The gas supply pressure was constantly below 7 bar well below the design level. This low

supply pressure results in low operating costs for the BOG's compression from the cargo tanks.

During her first voyage, a WinGD engineer on board further optimised the parameter settings to adapt the load acceptance and gas supply to the various dynamic load variations, which occur during the voyage, due to the changing environmental and sea conditions. Some other minor issues with clogging fuel filters and failing sensors were also be rectified.

'SK Audace's' next voyages will also be closely monitored by WinGD, as operational engines give the best learning curve as to how they can be further improved, the company said. ■



The LNGC is fitted with two of the new WinGD 6X62DF dual fuel engines

Ship-to-shore transfer system in service

During the unveiling of the first Universal Transfer System (UTS) on 7th October, Gas Natural Fenosa and Connect LNG carried out an LNG transfer from Skangas' small scale LNGC 'Coral Energy' to the onshore LNG terminal at Herøya, Norway.

From the finalisation of the detailed design to successful hook-up of the ship-to-shore terminal took less than six months. The system was installed at the Herøya terminal a day after arriving from the dockyard and was in full operation by the following day, Connect LNG claimed.

The UTS' design and fabrication involved the highest safety standards and the complete system underwent an extensive classification process by DNV GL, the company said.

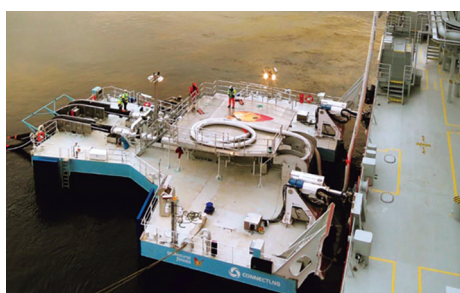
A UTS is a floating solution for

LNG transfer between ship and shore that replaces the need for a harbour and jetties. The solution allows for the transfer of LNG at locations where it was previously not possible, due to environmental and economic constraints.

It is a plug & play solution, which requires no modifications to the LNGC.

The aim of the system is to enable rapid expansion of the LNG value chain by allowing end users access to

cheaper and cleaner energy, Connect LNG stressed. It is also a direct link that will enable the rapidly escalating LNG demand for power generation in emerging markets to be met. ■



The UTS seen alongside the 'Coral Energy'

NEWS NUDGE

'Excel' changes hands

EXMAR has announced the sale of the 2003-built 138,107 cu m LNGC 'Excel'.

She was delivered to her new owners on 6th October, 2017.

EXMAR said that the net cash proceeds realised for its 50% share in the joint venture owning the vessel will be about \$23 mill.

No other details were available at press time.

SHI to delay delivery of two LNGCs

Samsung Heavy Industries (SHI) is believed to be in talks to push back the deliveries of two LNGCs with an undisclosed Asian shipowner.

The two ships were ordered in January, 2015 and were originally to be delivered at the end of last month. They were priced at \$395 mill in total.

SHI said in a regulatory filing that once the new delivery schedule is agreed, it would arrange for the necessary refunding to be carried out resulting from the delay.

WORLD LNG CARRIER ORDERBOOK

Name	Segment	Yard	Containment System	Propulsion	Capacity	Delivery Date	Ordered	Primary Owner
Flex Constellation	LNGC	DSME	GT NO 96	MEGI	173,400	Jun-19	2017	John Fredriksen
Flex Courageous	LNGC	DSME	GT NO 96	MEGI	173,400	Aug-19	2017	John Fredriksen
Hyundai Ulsan 2964	LNGC	Hyundai Heavy	TZ Mk. III Flex	MEGI	180,000	May-19	2017	Knutsen
Hyundai Ulsan 2963	LNGC	Hyundai Heavy	TZ Mk. III Flex	MEGI	180,000	Jun-19	2017	Knutsen OAS Shipping AS
Samsung SLNG 1	LNGC	Samsung	KC-1		7,500	May-19	2017	Korea Line
Samsung SLNG 2	LNGC	Samsung	KC-1		7,500	Dec-19	2017	Korea Line
MOL HUDONG-ZHONGHUA 1/4	LNGC	Hudong-Zhonghua	GT NO 96	MEGI	174,000	Jul-19	2017	MOL
MOL HUDONG-ZHONGHUA 2/4	LNGC	Hudong-Zhonghua	GT NO 96	MEGI	174,000	Oct-19	2017	MOL
MOL HUDONG-ZHONGHUA 3/4	LNGC	Hudong-Zhonghua	GT NO 96	MEGI	174,000	Jan-20	2017	MOL
MOL HUDONG-ZHONGHUA 4/4	LNGC	Hudong-Zhonghua	GT NO 96	MEGI	174,000	Apr-20	2017	MOL
KEPPEL NANTONG 2	LNGC	Keppel Nantong			7,500	Aug-19	2017	Stolt-Nielsen
KEPPEL NANTONG 1	LNGC	Keppel Nantong			7,500	May-19	2017	Stolt-Nielsen Gas
Hyundai Mipo 8250	LNGC				7,500	Sep-18	2016	
Samsung 2212	LNGC	Samsung	GTT Mark V	XDF	180,000	Jun-19	2016	GasLog
Samsung 2213	LNGC	Samsung	GTT Mark V	XDF	180,000	Sep-19	2016	GasLog
Daewoo 2466	LNGC	DSME	GT NO 96	MEGI	173,400	Oct-19	2016	Maran Gas Maritime
Daewoo 2467	LNGC	DSME	GT NO 96	MEGI	173,400	Nov-19	2016	Maran Gas Maritime
Hyundai Ulsan 2937	LNGC	Hyundai Heavy	TZ Mk. III Flex	XDF	180,000	Feb-19	2016	SK Shipping
Hyundai Ulsan 2938	LNGC	Hyundai Heavy	TZ Mk. III Flex	XDF	180,000	Apr-19	2016	SK Shipping
Coral Energice	LNGC				18,000	Nov-17	2015	
Daewoo 2489	LNGC	DSME	GT NO 96	MEGI	173,400	Feb-19	2015	BWGas
Kinisis	LNGC	DSME	GT NO 96	MEGI	173,400	Sep-18	2015	Chandris
China Merchants Jiangsu CMHI-188	LNGC	China Merchant	Membrane		45,000	Feb-18	2015	Landmark Capital
Daewoo 2458	LNGC	DSME	GT NO 96	MEGI	173,400	Jan-19	2015	Maran Gas Maritime
Daewoo 2456	LNGC	DSME	GT NO 96	MEGI	173,400	Jan-19	2015	Maran Gas Maritime
Daewoo 2459	LNGC	DSME	GT NO 96	MEGI	173,400	Apr-19	2015	Maran Gas Maritime
Mitsubishi Nagasaki 2332	LNGC	Mitsubishi H.I.		STaGE	165,000	Feb-19	2015	Mitsubishi
Daewoo 2462	LNGC	DSME	GT NO 96	TFDE	180,000	Jul-17	2015	MOL
Kawasaki Sakaide 1731	LNGC	Kawasaki	Moss	TFDE	177,000	Dec-17	2015	MOL
Kawasaki Sakaide 1734	LNGC	Kawasaki	Moss	STaGE	177,000	Jun-18	2015	MOL
Mitsubishi Nagasaki 2323	LNGC	Mitsubishi H.I.	Moss	STaGE	180,000	Aug-18	2015	MOL
Kawasaki Sakaide 1735	LNGC	Kawasaki	Moss	STaGE	177,000	Sep-18	2015	MOL
Mitsubishi Nagasaki 2322	LNGC	Mitsubishi H.I.	Moss	STaGE	177,000	Jun-19	2015	MOL
Diamond Gas Orchid	LNGC	Mitsubishi H.I.	Moss	STaGE	165,000	Feb-18	2015	NYK
Mitsubishi Nagasaki 2326	LNGC	Mitsubishi H.I.	Moss	STaGE	180,000	Mar-18	2015	NYK
Mitsubishi Nagasaki 2325	LNGC	Mitsubishi H.I.	Moss	STaGE	165,000	May-18	2015	NYK
Mitsubishi Nagasaki 2327	LNGC	Mitsubishi H.I.	Moss	STRH	180,000	Jun-18	2015	NYK
Mitsubishi Nagasaki 2321	LNGC	Mitsubishi H.I.	Moss	STaGE	177,000	Dec-18	2015	NYK
Hyundai Samho S856	LNGC	Hyundai Samho	TZ Mk. III	MEGI	174,000	Jan-19	2015	Teekay LNG
Hyundai Samho S857	LNGC	Hyundai Samho	TZ Mk. III	MEGI	174,000	Jan-19	2015	Teekay LNG
Imabari Saijo 8200	LNGC	Imabari		MEGI	178,000	Oct-21	2015	Trinity LNG Transport SA
Daewoo 2441	LNGC	DSME	GT NO 96	MEGI	173,400	Apr-18	2014	BP
Daewoo 2442	LNGC	DSME	GT NO 96	MEGI	173,400	Oct-18	2014	BP
Daewoo 2443	LNGC	DSME	GT NO 96	MEGI	173,400	Nov-18	2014	BP
Daewoo 2444	LNGC	DSME	GT NO 96	MEGI	173,400	Jan-19	2014	BP
Daewoo 2445	LNGC	DSME	GT NO 96	MEGI	173,400	Feb-19	2014	BP
Daewoo 2446	LNGC	DSME	GT NO 96	MEGI	173,400	Mar-19	2014	BP
Bw Tulip	LNGC	DSME	GT NO 96	MEGI	173,000	Sep-17	2014	BWGas
Bw Lilac	LNGC	DSME	GT NO 96	MEGI	173,000	Dec-17	2014	BWGas
Patris	LNGC	DSME	GT NO 96	MEGI	174,000	Jan-18	2014	Chandris
Boris Vilkitsky	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Aug-17	2014	Dynagas
Fedor Litke	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Sep-17	2014	Dynagas
Daewoo 2427	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Oct-18	2014	Dynagas
Daewoo 2428	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Nov-18	2014	Dynagas
Daewoo 2429	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Dec-18	2014	Dynagas

DFDE = dual fuel diesel engines, STRH = steam turbine reheat / ultra steam turbine, MEGI = marine electric gas injection, DRL = slow speed diesel, FSRU = vessel with regas capacity, FLNG = floating LNG production unit
Data last updated = 16 August 2017

Name	Segment	Yard	Containment System	Propulsion	Capacity	Delivery Date	Ordered	Primary Owner
Castillo De Caldelas	LNGC	Imabari	TZ Mk. III	MEGI	178,000	Aug-17	2014	Elcano
Castillo De Merida	LNGC	Imabari	TZ Mk. III	MEGI	178,000	Nov-17	2014	Elcano
Gaslog Houston	LNGC	Hyundai Heavy	TZ Mk. III	XDF	174,000	Jan-18	2014	GasLog
Samsung 2130	LNGC	Samsung	TZ Mk. III	XDF	174,000	Jan-18	2014	GasLog
Gaslog Hong Kong	LNGC	Hyundai Heavy	TZ Mk. III	XDF	174,000	Feb-18	2014	GasLog
Samsung 2131	LNGC	Samsung	TZ Mk. III	XDF	174,000	Jan-19	2014	GasLog
Flex Endeavour	LNGC	DSME	GT NO 96	MEGI	172,400	Jan-18	2014	John Fredriksen
Flex Enterprise	LNGC	DSME	GT NO 96	MEGI	172,400	Jan-18	2014	John Fredriksen
Kawasaki Sakaide 1720	LNGC	Kawasaki	Moss	TFDE	164,000	Mar-18	2014	K-Line
Daewoo 2457	LNGC	DSME	GT NO 96	MEGI	173,400	Apr-19	2014	Maran Gas Maritime
Seri Cemara	LNGC	Hyundai Heavy	Moss	STRH	150,000	Apr-18	2014	MISC
Jmu Tsu 5070	LNGC	Japan Marine United Corp	SPB	TFDE	165,000	Jul-17	2014	MOL
Daewoo 2424	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Dec-17	2014	MOL
Samsung 2148	LNGC	Samsung	Mark III Flex	TFDE	177,000	Feb-18	2014	MOL
Jmu Tsu 5073	LNGC	Japan Marine United Corp	SPB	TFDE	165,000	Apr-18	2014	MOL
Kawasaki Sakaide 1729	LNGC	Kawasaki	Moss	STRH	155,000	Apr-18	2014	MOL
Samsung 2149	LNGC	Samsung	Mark III Flex	TFDE	177,000	May-18	2014	MOL
Kawasaki Sakaide 1728	LNGC	Kawasaki	Moss	STRH	155,000	Jun-18	2014	MOL
Samsung 2150	LNGC	Samsung	Mark III Flex	TFDE	177,000	Aug-18	2014	MOL
Daewoo 2426	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Sep-18	2014	MOL
Jmu Tsu 5072	LNGC	Japan Marine United Corp	SPB	TFDE	165,000	Dec-18	2014	MOL
Daewoo 2432	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Sep-19	2014	MOL
Jmu Tsu 5071	LNGC	Japan Marine United Corp	SPB	TFDE	165,000	Aug-17	2014	NYK
Mitsubishi Nagasaki 2316	LNGC	Mitsubishi H.I.	Moss	STRH	153,000	Jan-18	2014	NYK
Sk Spica	LNGC	Samsung	KC-1	TFDE	174,000	Sep-17	2014	SK Shipping
Sk Serenity	LNGC	Samsung	KC-1	TFDE	174,000	Jan-18	2014	SK Shipping
Pan Asia	LNGC	Hudong-Zhonghua	GT NO 96	TFDE	174,000	Sep-17	2014	Teekay LNG
Eduard Toll	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Oct-17	2014	Teekay LNG
Magdala	LNGC	DSME	GT NO 96	MEGI	173,400	Jan-18	2014	Teekay LNG
Pan Americas	LNGC	Hudong-Zhonghua	GT NO 96	TFDE	174,000	Jan-18	2014	Teekay LNG
Myrina	LNGC	DSME	GT NO 96	MEGI	173,400	Apr-18	2014	Teekay LNG
Pan Europe	LNGC	Hudong-Zhonghua	GT NO 96	TFDE	174,000	Jun-18	2014	Teekay LNG
Megara	LNGC	DSME	GT NO 96	MEGI	173,400	Jul-18	2014	Teekay LNG
Rudolf Samoylovich	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Aug-18	2014	Teekay LNG
Pan Africa	LNGC	Hudong-Zhonghua	GT NO 96	TFDE	174,000	Jan-19	2014	Teekay LNG
Daewoo 2430	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Jul-19	2014	Teekay LNG
Daewoo 2431	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Aug-19	2014	Teekay LNG
Daewoo 2433	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Oct-19	2014	Teekay LNG
Daewoo 2434	LNGC	DSME	GT NO 96	TFDE - Azipod	172,410	Nov-19	2014	Teekay LNG
Yuan He 1	LNGC	Ningbo Xinle Shipbuilding			30,000	Aug-17	2013	
Cesi Tianjin	LNGC	Hudong-Zhonghua	Membrane	TFDE	174,000	Sep-17	2013	China LNG Shipping Holdings
Hudong-Zhonghua H1719a	LNGC	Hudong-Zhonghua	Membrane	TFDE	174,000	Jan-18	2013	China LNG Shipping Holdings
Qi Yuan	LNGC	Dalian Inteh		DFDE	28,260	Aug-17	2013	Dalian Inteh
Samsung 2107	LNGC	Samsung	TZ Mk. III	MEGI	174,000	Jan-18	2013	Flex LNG
Samsung 2108	LNGC	Samsung	TZ Mk. III	MEGI	174,000	Mar-18	2013	Flex LNG
Oceanic Breeze	LNGC	Mitsubishi H.I.	Moss	STRH	155,300	Jul-17	2013	K-Line
Kawasaki Sakaide 1718	LNGC	Kawasaki	Moss	TFDE	180,000	Aug-17	2013	K-Line
Bishu Maru	LNGC	Kawasaki	Moss	TFDE	164,700	Sep-17	2013	K-Line
Seri Camar	LNGC	Hyundai Heavy	Moss	STRH	150,000	Oct-17	2013	MISC
SK Resolute	LNGC	Samsung	TZ Mk. III	XDF	182,000	Oct-17	2013	SK Shipping
Macoma	LNGC	DSME	GT NO 96	MEGI	173,400	Sep-17	2013	Teekay LNG
Hudong-Zhonghua H1720a	LNGC	Hudong-Zhonghua	Membrane	TFDE	174,000	May-18	2012	China LNG Shipping Holdings
Trinity J/V (Mitsui & Co.)	LNGC	Imabari	GTT Mark III Flex	MEGI	178,000	Jan-20		K-Line
MOL E.On.	LNGC	DSME	GT NO 96	TFDE	179,900	Apr-18		MOL

WORLD SMALL SCALE LNG FLEET*

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
1974	Seagas	187	LNG	Sweden	Yes	AGA
1988	Kayoh Maru	1,517	LNG	Japan	Yes	Daiichi
1993	Aman Bintulu / Lucia Ambition	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1996	Surya Aki	19,475	LNG	Indonesia - Japan	Yes	MCGC
1997	Aman Sendai	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1998	Aman Hakata	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Tripura (ex Surya Satsuma)	23,096	LNG	Indonesia - Japan	Yes	MCGC
2003	Pioneer Knutsen	1,100	LNG	Norway	Yes	Knutsen
2003	Shinju Maru No.1	2,540	LNG	Japan	Yes	Shinwa
2005	North Pioneer	2,500	LNG	Japan	Yes	Japan Liquid Gas
2007	Sun Arrows	19,531	LNG	Malaysia - Russia - Japan	Yes	Mitsui
2008	Kakurei Maru	2,536	LNG	Japan	Yes	Hogaki Zosen
2008	Shinju Maru No.2	2,540	LNG	Japan	Yes	Shinwa
2009	Coral Methane	7,551	LNG/LPG/Ethylene	Northwest Europe/Baltics	Yes, sometimes	Anthony Veder
2010	Norgas Creation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2010	Norgas Innovation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Norgas Bahrain Vision	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Conception	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Invention	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Unikum	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	JS Ineos Ingenuity	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Insight	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Intrepid	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	LNG bunker barge 1†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 2†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 3†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2015	TBN	14,000	LNG	China	Yes	Zhejiang Huaxiang
2015	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	Dalian TBN	28,000	LNG	China	Yes	Dalian Inteh Group
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2016	Navigator Aurora	35,000	Ethane/Ethylene	Markus Hood - Stenungsund	Ethane, for Borealis	Navigator
2016	Gaschem Beluga	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Gaschem Orca	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services

For more information please visit <http://small-lng.com>

*Includes multi-gas, ethylene and LNG bunker ships with 40,000 cubic metres LNG cargo capacity or less

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † = Data to be verified Data last updated = 24th May 2017

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Ocean Yield TBN**	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Shell Bunker Barge TBN 1	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
2017	Yuan He 1	30,000	LNG	China	Yes	CSR
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	JS Ineos Invention	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	JS Ineos Intuition	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	Navigator Eclipse	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Nova	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Prominence	35,000	Ethane/Ethylene	US	Ethane	Navigator
2018	Bernhard Schulte TBN	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas

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