LNG Shipping News

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Golden Pass gets go ahead

On 5th February, US Secretary of Energy, Rick Perry, Qatar's Minister of State for Energy Affairs, CEO and President of Qatar Petroleum, HE Saad Al-Kaabi, and ExxonMobil Chairman and CEO, Darren Woods announced that around $10 bill will be invested in the Golden Pass LNG terminal.

Qatar Petroleum will put in over $8 bill and ExxonMobil more than $2 bill in the project (see LNG Shipping News, 7th February, page 2).

Activities will begin in the near future, and are expected to create over 45,000 direct and indirect full-time jobs nationwide during the five-year construction period.

"Today's agreement is the latest example of the vital partnership between the US and Qatar - from American universities putting campuses in Qatar, to our strategic military relationship, and of course, our collaboration in the energy sector," said Secretary Perry. "The Golden Pass project is proof that two of the world's top energy producers can work together as allies to increase energy diversity, advance energy security, and support rather than subvert an open energy marketplace."

"The Golden Pass LNG export project is not our first investment in the US, and is certainly not going to be our last. It represents a significant part of the plans that Qatar Petroleum has announced to invest $20 bill in the US energy sector, which we believe would bring great benefits for both the US and the State of Qatar," said HE Al-Kaabi. "The development of the Golden Pass LNG export facility enhances the depth and flexibility of our global LNG supply portfolio, and reinforces the position of the US as a key contributor to meeting the world's growing demand for LNG."

Golden Pass President Sean Ryan speaks during the announcement of Qatar Petroleum and ExxonMobil's final investment decision to fund the $10 bill Golden Pass LNG export project

"Golden Pass will provide an increased, reliable, long-term supply of liquefied natural gas to global gas markets, stimulate local growth and create thousands of jobs," said Darren Woods, Chairman and CEO of ExxonMobil Corp. "The extensive experience of ExxonMobil and Qatar Petroleum provides the expertise, resources and financial strength needed to construct and operate an integrated liquefaction and export facility in the US."

Seventh largest

Once completed, Golden Pass will be the seventh large scale LNG export project in the US and will be capable of exporting more than 2 bill cu ft per day of LNG to any county not prohibited by US law or policy.

The companies said that construction would begin in the first quarter of this year and that the facility was expected to start up in 2024.

Golden Pass awarded the engineering, procurement and construction (EPC) contracts for the project to a joint venture of Chiyoda International Corp, McDermott International and Zachry Group.

The project will include three liquefaction trains, each of about 5.2 mill tonnes per year, as well as other associated utility systems, interconnections to the existing facility and the expansion of the facility's storm protection levee system.

It will use the existing infrastructure including five 155,000 cu m LNG storage tanks, two marine berths to accommodate the largest LNGCs, and the existing 69-mile Golden Pass pipeline system with access to US markets. ■

SHIPPING NEWS AGENDA

LNG Croatia agrees FID

In accordance with planned deadlines for the construction of the floating LNG terminal on the Croatian Island of Krk, a final investment decision (FID) was agreed by LNG Croatia on 31st January, 2019.

The FID was adopted based on the results of the binding open season procedure, which determines the project's future revenues, the capital expenditure forecasts in relation to the procurement procedures for an FSRU and EPC work, including the construction of a jetty with facilities and high-pressure connecting gas pipeline for the receiving LNG terminal, plus the required investment projections by the shareholders of LNG Croatia.

The procurement procedure for the FSRU was carried out in November, 2018. A bid from Golar was evaluated as the most economically advantageous. Golar offered a new conversion of an existing LNGC to an FSRU worth €159.6 mill.

The 'Golar Viking' LNGC, which was built in 2005, has been earmarked for the conversion project.

At the time of her delivery, which is scheduled between 30th September and 30th October, 2020, the FSRU will arrive at the terminal's location from the shipyard as a new FSRU conversion in accordance with the highest technical and environmental protection standards.

The procurement procedure for the EPC of the jetty with facilities and connecting high-pressure gas pipeline for the receiving terminal was carried out in January, 2019.

LNG Croatia finished the binding process for booking the LNG terminals' capacity - open Season procedure-, which resulted in capacity booking of around 0.52 bill cu m per annum.

In addition to a grant of €101.4 mill received from the European Commission, additional grant of €100 mill was received as per the Croatian Government's decision on financing the first phase of the project, which was adopted on 30th January, 2019. ■

Excelerate terminal ramps up LNG imports

Excelerate Energy LP's Northeast Gateway deepwater terminal, located offshore Boston (Mass), reached a peak send-out flow rate of over 800,000 mill Btu per day of natural gas on 1st February, 2019, a first for the terminal.

The operation was completed by two Excelerate FSRUs, 'Exemplar' and 'Express' discharging in parallel through Excelerate's proprietary offshore buoys.

During the coldest days of the year, demand for natural gas from New England residential customers rises. Historically, during these times, as natural gas delivery becomes constrained, power generators have been forced to burn dirtier fuels, such as oil.

The terminal is designed to respond to local market conditions and can increase service to ensure energy providers meet customer demand. At a flow rate of 800,000 mill Btu per day, this represents about the average gas demand of power generators during recent January/February periods.

"Excelerate's Northeast Gateway has helped New England prepare for the winter months by supplying natural gas to meet the increased energy demand of the region," said Excelerate's Managing Director, Steven Kobos. "Deliveries of LNG directly into the Algonquin system helps to bring much-needed market stability and fuel security to the Northeast, an added benefit for consumers."

Located 13 miles offshore Boston (Mass), Excelerate commissioned Northeast Gateway in 2008. The facility includes a dual submerged turret-loading buoy system, which allows for the connection of FSRUs that have been specifically designed to meet the challenging conditions of the North Atlantic.

The FSRUs deliver natural gas directly into the existing subsea HubLine pipeline operated by Enbridge's Algonquin Gas Transmission. ■

Anadarko announces more SPAs

Anadarko has followed up its recent SPA signings by adding three more energy companies to its list.

The latest deal is with Indonesia's Pertamina to sell 1 mill tonnes per year of LNG from its planned Mozambique LNG project for 20 years, bringing the project one step closer to a final investment decision (FID), the US-based company said this week.

This deal is the fifth SPA signed for the 12.88 mill tonnes per year Mozambique LNG project in February alone, and brings the total SPAs signed to seven, for an aggregate of more than 9.5 mill tonnes per year.

Last week, Anadarko Petroleum Corp's Mozambique LNG1 Co, the jointly owned sales entity of the Mozambique Area 1 co-venturers, signed an SPA with Bharat Gas Resources, a wholly owned subsidiary of Bharat Petroleum Corp (BPCL).

This SPA is for 1 mill tonnes per annum for 15 years.

About 10 days before, the company announced that it had signed an SPA with Shell International Trading Middle East.

Shell's SPA is for 2 mill tonnes per annum of LNG for 13 years.

These agreements follow the recently announced deals signed with CNOOC, Centrica and Tokyo Gas (see LNG Shipping News, 7th February, page 3). ■

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OLT terminal at full capacity

OLT Offshore LNG Toscana regasification terminal is working at almost 100% of its full capacity.

After less than a year from the implementation of the new allocation mechanism via auction, OLT reached several important milestones.

For example, from October, 2018, 38 out of 41 slots available in the gas years 2018/2019 have been allocated. These will come from six different countries, giving a total of about 5,848,343 cu m of capacity allocated, equivalent to about 92% of the terminal's annual regasification capacity.

The offshore FSRU plant can receive different types of gas, guaranteeing a geographic coverage from Europe to America and Africa to the Middle East, being able to accept about 90% of LNGCs available on the market of up to about 180,000 cu m capacity.

From the start up of its commercial operations, the terminal has received LNG from 10 different countries - Algeria, Cameroon, Egypt, Equatorial Guinea, Nigeria, Norway, Peru, Qatar, Trinidad & Tobago, US, plus cargoes coming from other European terminals (The Netherlands and Spain). ■

OLT offshore Italy is running at full capacity

German LNG signs another agreement

German LNG Terminal GmbH, a joint venture involved in Germany's first LNG terminal at Brunsbuettel, has signed another long-term commercial capacity agreement with an undisclosed global LNG supplier.

The parties agreed to commit a substantial part of the terminal's capacity.

Negotiations with other interested parties are ongoing, the operator said.

As a result of strong market demand, German LNG Terminal will apply for permits for a total terminal capacity of 8 bill cu m per annum.

Rolf Brouwer, German LNG Terminal GmbH managing director, said; "GermanLNG Terminal is strongly moving forward. This additional commercial agreement demonstrates that the market has confidence in the prospects of LNG in Germany. The added value of the proposed multi-services terminal we offer to the market has been recognised and adopted by the global LNG community.

"The German Federal Government has clearly recognised the benefits of LNG and, accordingly, has stipulated in its coalition treaty to develop LNG infrastructure in Germany.

"Preparations for the terminal's permitting approval process are well under way: a 'scoping meeting', organised and chaired by the approving authorities, took place at the end of January. At this meeting approving authorities, environmental organisations, experts and further relevant third parties discussed with German LNG Terminal the subject, scope and method of the necessary environmental impact assessment with regard to water and emissions legislation as part of the overall planning approval process.

"Obtaining construction approval for the planned LNG terminal is one of the conditions for being able to make the final investment decision (FID) in late 2019. Construction work will then start in 2020 with the terminal being fully operational by the end of 2022," he explained. ■

USCG inspects Cameron LNG

The US Coast Guard's Marine Safety Unit (MSU) Lake Charles conducted a facility safety inspection at the Cameron Liquefied Natural Gas (LNG) facility recently, in preparation for the loading of the first LNG export cargo.

USCG has regulatory jurisdiction in the Marine Transfer Area (MTA) for all waterfront facilities handling LNG in bulk quantities to or from a vessel.

The safety inspection included a review of the facility's design, construction, equipment, operations, maintenance, personnel training and fire fighting systems.

Cameron LNG also submitted its Marine Operations Manual and Emergency Manual to the USCG for examination.

"Facility safety inspections are a key part of the Coast Guard's mission to facilitate safe and secure commerce on our nation's marine transportation system," said Lt William Hickey, MSU Lake Charles' Chief of Prevention. "Thanks to the transparent communication and diligent preparation by Cameron LNG, the inspection went smoothly, and we applaud Cameron LNG's ongoing commitment to safety."

Cameron LNG's partners are Sempra LNG & Midstream, Mitsui & Co, Mitsubishi Corp, Total, and NYK Line. ■

Chevron agrees SPA

Chevron USA Inc, a wholly owned subsidiary of Chevron Corp, has signed a sales and purchase agreement (SPA) with GS Caltex Corp for the delivery of LNG to South Korea.

GS Caltex, a joint venture between Chevron and GS Energy, has signed a long-term agreement and will begin receiving LNG in October, 2019.

Chevron's President of Global Gas, Hugh Connett said that the agreement is another indication of the significance of the long-standing relationship between Chevron and GS Caltex.

"We're proud of our partnership with GS Caltex and we welcome this opportunity to build on that relationship by supplying LNG to South Korea's growing market," Connett said.

Chevron already has an LNG SPA with GS Caltex, which was agreed in 2009. ■

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Nakilat increases profit

Nakilat has reported a net profit of QAR892 mill for 2018 (QAR1.61 per share), an increase of 5.3% on the previous year.

Excluding the 2017 one-off item (available for sale investments), the 2018 net profit increased by 14%.

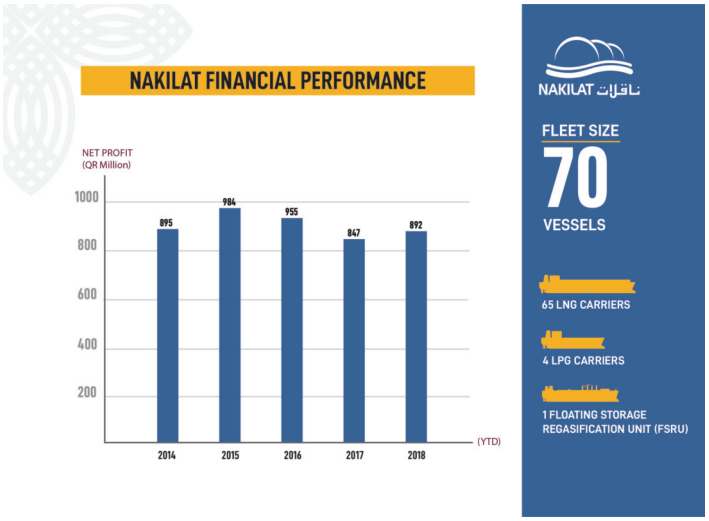
As a result, Nakilat's Board recommended a cash dividend at QAR1 per share and to invite shareholders to the annual general assembly taking place on 19th March, 2019.

The key drivers of the company's stronger financial performance were the successful implementation of its strategic long-term plans to diversify and seek new business opportunities with a measured balanced risk.

In addition, the company achieved positive results across its operations that exceeded planned expectations last year through enhanced operational efficiency and cost effectiveness, the company claimed.

During the year, Nakilat expanded its fleet with the addition of two LNGCs and acquired a major stake in its first FSRU. This opened a new horizon and business avenue for the company to grow its international outreach, which in turn will further maximise value and returns for its shareholders, the company said.

Complemented by strategic long-term agreements with well-established charterers and its own determination to operate sustainably, Nakilat has managed to maintain a steady cash flow and generate positive value for its shareholders.



The Board expressed their gratitude to Qatar Petroleum, as well as to Qatargas, the main charterer of Nakilat's fleet, for their continued support and significant role in contributing towards the achievement of the company's strong financial results. ■

GasLog Ltd's record results

GasLog Ltd has reported record quarterly results.

Revenues, profit, earnings per share, EBITDA, adjusted EBITDA, adjusted profit and record adjusted earnings per share of $188.6 mill, $30.4 mill, $0.14, $145 mill, $145 mill, $62.5 mill and $0.54, were recorded, respectively for the fourth quarter of last year.

The figurers for the whole year of $618.3 mill, $126.4 mill, $0.47, $447.5 mill, $447.7 mill, $134.8 mill and $0.57, respectively, were also a record, the company claimed.

In addition, the company recorded the highest ever quarterly net pool performance from its vessels trading in the spot market under the LNGC pooling agreement (Cool Pool), following a significant increase in LNG shipping spot rates and utilisation.

During 4Q18, GasLog Ltd signed two seven-year charterparties with a wholly-owned subsidiary of Cheniere Energy for two newbuilding LNGCs.

The vessels, 180,000 cu m LNGCs fitted with dual fuel 2-stroke engine propulsion (LP-2S) and GTT Mark III Flex Plus containment systems, were ordered from Samsung Heavy Industries and are scheduled for delivery in the second and third quarters of 2021, respectively.

Also during the quarter, the company completed the sale of the 'Methane Becki Anne' to GasLog Partners for $207.4 mill on 14th November, 2018 with an attached multi-year charter to a Shell subsidiary.

Company CEO, Paul Wogan, said: "GasLog delivered another set of record results in the fourth quarter of 2018 driven in large part by very strong earnings from our spot vessels against a backdrop of extreme tightness in the LNG shipping market. These spot earnings, combined with our fleet growth during the year, our strong operational performance and strict cost control, delivered record annual results for revenues, EBITDA and profit and allowed us both to increase our common dividend by 7.1% and to declare our first special dividend in November.

"During 2018, we continued to execute our growth strategy. We announced seven newbuilding orders, six of which are committed to long-term charters, four with Cheniere and two with a wholly owned subsidiary of Centrica. We are very pleased to continue to develop and strengthen our relationship with these two important customers.

"GasLog Partners issued over $320 mill of new equity in 2018, of which over $200 mill was recycled to GasLog as consideration for the two dropdowns and the modification of the IDRs, which will permanently reduce the Partnership's expected cost of capital. The equity recycled to GasLog and our declining leverage mean that we are well placed to fund our newbuilding vessels under construction.

"The continued growth of our fleet, the improvement in spot earnings and our cost control measures mean we have made significant progress towards meeting our target of more than doubling consolidated annualised EBITDA over the 2017-2022 period.

"While spot rates have recently moderated from fourth quarter peaks, in line with historical seasonal trends, we expect tightness in LNG shipping markets to return given forecast LNG supply growth through 2020 and relatively few uncommitted newbuild vessels delivering in that period.

"As we look beyond 2020, additional shipping capacity will be required if consensus LNG demand and supply forecasts are realised. However, whilst we now believe that the LNG shipping market is heading towards a balanced state early next decade, the long-term secular growth of LNG supply and demand mean that, over the medium and long-term, GasLog will continue to serve a dynamic and growing industry," he concluded. ■

'K' Line LNGC in first Naoetsu call

Kawasaki Kisen Kaisha's ('K' Line) LNGC 'Oceanic Breeze' made her maiden call at Naoetsu LNG terminal operated by INPEX Corp with a cargo from the Ichthys gas facility.

'Oceanic Breeze' is owned by 'K' Line and INPEX Shipping Co, Ltd, a fully-owned subsidiary of INPEX, and is a dedicated LNGC built to carry 0.9 mill tonnes of LNG per year from the Ichthys LNG project in Darwin, Australia to Naoetsu, Niigata, Japan.

Ichthys is the first large-scale LNG project operated by INPEX. The project is characterised as 'All Japan' due to 70% of about 8.9 mill tonnes per year of LNG produced at the facility will be supplied to Japanese customers.

Japanese companies are also involved in crucial parts of the project's value chain, including exploration and production, the building of liquefaction plants and receiving terminals, laying pipelines, and maritime transportation.

In addition to LNG, Ichthys will produce LPG (about 1.65 mill tonnes per year), as well as around 100,000 barrels of condensate per day at peak periods

The project's first LNG cargo was shipped by 'K' Line's LNGC 'Pacific Breeze' in October, 2018 and the first LPG was also carried by the company's VLGC 'Grace River.'

It is further planned that Afra-max tankers operated by a 'K' Line subsidiary in Singapore will carry condensate products. ■

'Oceanic Breeze' has become the first 'K' Line LNGC to berth at Naoetsu, Niigata

Bahamas STS LNG transfer

On 7th February, 2019, Excelerate Energy and Equinor Energy completed the first LNG ship-to-ship (STS) transfer in The Bahamas.

Using Excelerate's FSRU 'Exemplar' and Equinor's LNGC 'Arctic Voyager', a full LNG cargo was transferred using the double-banked LNG transfer system while moored at Equinor's South Riding Point storage and transhipment terminal, which is strategically located for storage and transshipment of crude, products and LNG.

"Excelerate conducted the industry's first commercial STS transfer of LNG in 2007, and since then, STS transfers have been completed and proven safe in a wide range of environments, now including The Bahamas," said Excelerate's CCO, Daniel Bustos. "This new STS location allows us to provide additional commercial flexibility to our customers and respond to prompt market needs in a safe and reliable manner."

On 3rd February, Excelerate completed its 1,500th commercial STS transfer at the Engro Elengy Terminal in Port Qasim, Pakistan.

Of the 1,500 operations, over 1,300 have used third-party vessels. ■

The FSRU 'Exemplar' and the LNGC 'Arctic Voyager' seen conducting the Bahamas LNG transfer operation

NEWS NUDGE

Burckhardt appoints Dübi to lead services division

Burckhardt Compression Holding has appointed Rainer Dübi as President of the Services Division and a member of the Executive Board.

He replaced Martin Wendel on 15th February, 2019. Wendel, has held this position since September, 2016.

Dübi has been with Burckhardt Compression since 2003 and is highly familiar with the company's reciprocating compressor manufacturing and services business. He served as the Head of Design and Manufacturing since 2012 and is a member of the Systems Division management team.

Wendel will leave the company at the end of August, 2019.

FERC reopens EIS comment periods

The US Federal Energy Regulatory Commission (FERC) has issued at least three notices recently, regarding proposed US export terminals, following the Government department shut down.

One said it was reopening, until 25th February, the period within which to submit comments regarding the draft Gulf LNG Energy LLC environmental impact statement (EIS), the same date as the draft Eagle LNG Partners Jacksonville LLC EIS comments are needed.

Another confirmed the re-opening, until 13th March, the period within which to submit comments regarding the draft Annova LNG Brownsville LLC EIS.

Yamal reaches milestone

Yamal LNG has shipped 10 mill tonnes of LNG since production began in December, 2017, according to a Reuters report.

It said the 136th cargo was loaded on the Arc7 'Vladimir Vize'. ■

NEWS NUDGE

Newbuildings, deliveries and deletions

GasLog has confirmed it had placed an order for two 180,000 cu m LNGCs thought to be valued at $189 mill each at Samsung on the back of seven year charters to Cheniere.

Elsewhere, Daewoo has said that it had received an order from Maran Gas for another 174,000 cu m LNGC for delivery in the first half of 2021.

However, some sources indicated that this contract could be a conversion of a previously ordered FSRU for the Angelicoussis Group company.

Believed to be leaving the fleet is the 1980-built Sonatrach operated LNGC 'Mourad Didoude', which has been reported sold to Bangladesh recyclers.

On 15th February, Kawasaki Heavy Industries handed over the 'Shinshu Maru' to Trans Pacific Shipping 7 Limited, a joint venture between JERA and Nippon Yusen Kabushiki Kaisha (NYK Line).

She is the second of Kawasaki's series of 177,000 cu m capacity MOSS-type LNGCs to be commissioned. She has been designed to transit the newly expanded Panama Canal.

Oman Trading delivers first Bangladesh cargo

Oman Trading International (OTI), the trading arm of state-owned Oman Oil Co, was to deliver its first LNG to Bangladesh last week, according to a report by S&P Global Platts.

Under an SPA, signed on 13th May, 2018, OTI agreed to supply a base volume of 1 mill tonnes per year, following the completion of the first two LNG import terminals, currently being constructed in Bangladesh.

The deliveries were originally due to commence in May, 2019.

However, the LNGC 'Cape Ann', loaded with 136,000 cu m of Nigerian LNG, was expected to reach Bangaldesh's floating LNG terminal at Moheshkhali Island last week, said S&P Global Platts. ■

NAPA to monitor Ichthys LNGCs

NAPA, the maritime software, services and data analysis provider, has announced that after a competitive tender, INPEX Corp is to install NAPA's solution for monitoring and follow-up of ship operations.

ClassNK-NAPA GREEN will be installed on two LNGCs built to service the INPEX-operated Ichthys LNG project and one LNGC for the Prelude LNG project.

With the aim of accurately verifying the technical performance of these highly complex ships, INPEX chose ClassNK-NAPA GREEN for the combination of its LNGC design understanding and performance monitoring software.

The vessels- 'Oceanic Breeze', 'Pacific Breeze', and 'Symphonic Breeze' - are amongst the world's largest MOSS-type LNGCs. ClassNK-NAPA GREEN will enable INPEX to monitor how well the promises made by their shipbuilders match the reality of operations, as well as the gas carriers' performance over time.

Akihiko Itoh, INPEX Manager of Transportation Group, LNG Trading Unit, commented, "The propulsion system of an LNGC is far more complex than that of any other vessel type, which is why a fundamental understanding of elements, including the cargo containment and management systems, as well as the ultra steam turbine, is critical to efficiency.

"From system configuration to setting KPIs, NAPA's in-depth LNG knowledge, spanning design, engineering and operations enables us to effectively collaborate with them for transparent fleet performance and voyage reporting that delivers genuine value," he said.

Itoh concluded, "ClassNK-NAPA GREEN will effectively give us live sea trial results throughout the vessels' working lives. This will help us to realise substantial operational savings across our entire fleet through timely evaluation of, and reaction to ship performance, which underpins our ability to provide a consistent, reliable, and efficient supply of LNG in support of Japan's long-term energy security."

INPEX has a major stake in Ichthys LNG project. Other shareholders include CPC Corp, Taiwan and Japanese utilities Tokyo Gas, Osaka Gas, Kansai Electric Power, JERA and Toho Gas.

Naoki Mizutani, NAPA Executive Vice President, Shipping Solutions, added, "As an advanced player in the LNG space, INPEX needs a performance monitoring software solution to match. The Ichthys LNG project is fundamentally changing the LNG landscape and we are proud to be supporting INPEX's trademark ingenuity to make this vision a reality.

"As well as monitoring speed and fuel consumption performance, ClassNK-NAPA GREEN also helps to increase awareness of environmental factors to increase vessel safety. This capability was tested during the first shipment when a heavy storm approached from east of the route. However, the ship made it safely past and was able to safely navigate away from waves as high as 10 m that were in close proximity," he said. ■

'Tango' FLNG arrives at Bahia Blanca

The 16,100 cu m 'Tango' FLNG has arrived in Bahia Blanca, Argentina, following a 45-day voyage from China, Exmar has confirmed.

Tango FLNG was transported from China to Argentina on board a heavy lift vessel.

According to Exmar, the next major milestone will involve outfitting and commissioning the unit. Departure of the first fully-loaded conventional LNGC is expected in the second quarter of this year.

The FLNG will remain at Bahia Blanca for the next 10 years, producing LNG for export for Argentine energy company, YPF. It has been designed for a liquefaction capacity of about 0.5 mill tonnes per year.

Up to eight LNG cargoes per year are due to be produced over the 10-year period, the Belgian company said.

This project will turn Argentina into an LNG exporter, Exmar said.

Previously known as 'Caribbean', the 2017-built 'Tango' FLNG measures 144 m in length, 32 m in width and has a draught of 5.4 m.

The contract with YPF was signed in November, 2018. ■

Exmar's FLNG 'Tango' has arrived in Argentina

Klaw LNG delivers transfer system to Montego Bay

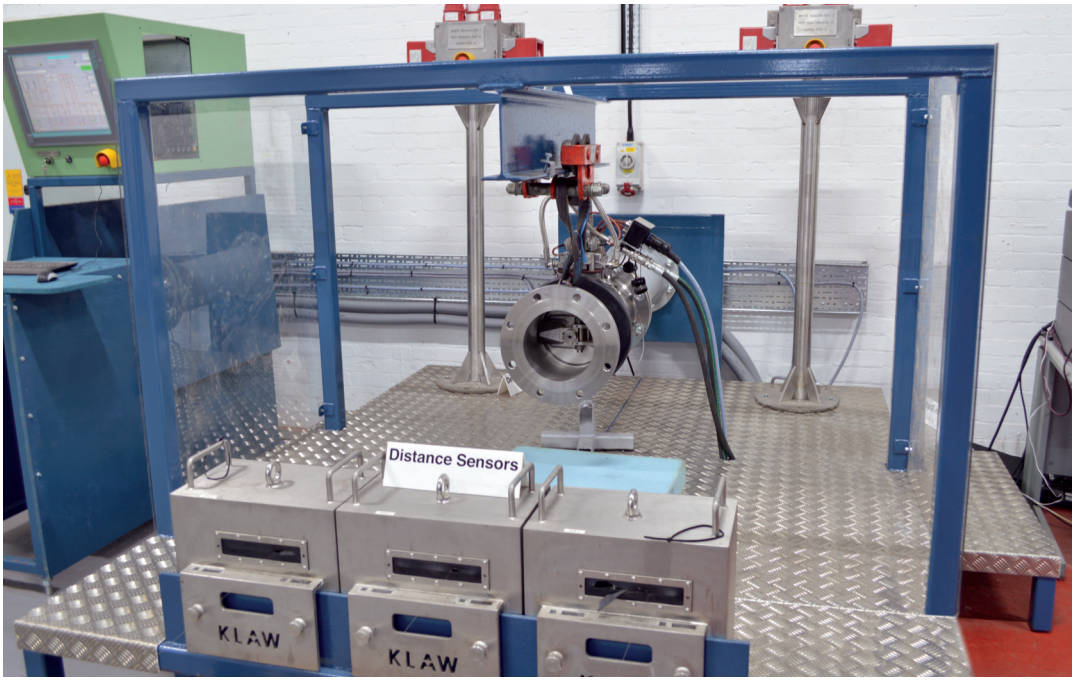
Signum Technology Group company, KLAW LNG, has delivered what it claims is the world's first fully automated LNG safety transfer system to Montego Bay, Jamaica.

Working in partnership with Exida and Siemens for Jamaican company, Fortress Energy, the specialist in the design and engineering of ship-to-ship and ship-to-shore LNG transfer systems, designed, engineered and manufactured a safety integrity level and safety instrumented system (SILSIS).

The question of safety was the main driver behind the technology employed by KLAW LNG in the design of this system.

"LNG has to be kept at very low temperatures in order to be transferred. When heated it will expand instantly by 700%, so it is especially vital to engineer groundbreaking safety systems when dealing with delivery to an urban community," explained Julian Fairman, KLAW LNGs Technical Manager – Control Systems. "At a very early stage in the project we took the view that it was necessary to innovate and drive the technology forward so that we could provide a solution that was far in advance of the accepted standards.

Fairman added; "We are very proud that SILSIS is the world's first fully-automated, programme logic controlled (PLC), safety instrumented system, designed to continuously guarantee the highest levels of safety and operational readiness. It is also the world's first SIL2 compliant safety delivery system, which is highly significant. ■



KLAW has won a contract for Montego Bay LNG terminal

Air Products wins Golden Pass contract

Air Products is to provide its proprietary LNG technology, equipment, and related process license to Golden Pass Products LLC, a joint venture between Qatar Petroleum and ExxonMobil, for the Golden Pass LNG export project in Sabine Pass, Texas (see page 1).

The company will supply the APC3MRTM natural gas liquefaction technology and equipment, and three of its MCR® Main Cryogenic Heat Exchangers, to be installed at the propane pre-cooled mixed refrigerant liquefaction process for the three-train facility.

Air Products' LNG technology, which will be integral in producing around 16 mill tonnes per year of LNG, is to be operational when the Golden Pass facility starts-up in 2024.

"Air Products is very honoured to be selected for the Golden Pass project involving ExxonMobil and Qatar Petroleum. Our company has a long and successful history of serving the needs of the LNG industry and we intend to remain the leader in LNG equipment and liquefaction technology," said Dr Samir Serhan, executive vice president at Air Products.

Air Products LNG heat exchangers and related equipment for the Golden Pass project will be manufactured at its Port Manatee, Florida facility. ■

More GTT orders

The spate of recent LNGC orders continues to bring good news for GTT.

For example, the company recently received an order from Samsung Heavy Industries (SHI) concerning the tank design of a new 174,000 cu m LNGC, ordered by Minerva Gas.

GTT's membrane containment system Mark III Flex+ has been selected for the design of the tanks and the delivery of the ship is planned during 3Q21.

In addition, the company has received an order from SHI concerning the tank design of a new 174,000 cu m LNGC, on behalf of an undisclosed European shipowner.

Her delivery is scheduled during the first half of 2021.

GTT's membrane containment system Mark III Flex has been selected for the design of the tanks.

Another order was received from SHI for a 174,000 cu m Navigare newbuilding.

The tanks of this unit will be fitted with the Mark III Flex membrane containment system.

The vessel's delivery is scheduled during the first half of 2021. ■

NEWS NUDGE

IOC buys Ennore commissioning cargo

Indian Oil Corp (IOC) has bought an LNG commissioning cargo for its new Ennore terminal in south India, according to industry sources talking with Reuters.

State-owned IOC was believed to have purchased a partial LNG cargo for delivery on 25th February from commodities trader Gunvor.

It bought the cargo at about $9.50-9.90 per mill British thermal units, one source told Reuters. ■

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WORLD LNG CARRIER ORDERBOOK

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
Jmu Tsu 5072	JMU	SPB	165000	TFDE	Mar-19	Feb-14	MOL
Jmu Tsu 5073	JMU	SPB	165000	TFDE	Jul-19	Feb-14	MOL
Jmu Tsu 5071	JMU	SPB	165000	TFDE	Mar-19	Feb-14	NYK
Gaslog Gladstone	Samsung	TZ Mk. III	174000	XDF	Jan-19	May-14	GasLog
Maran Gas Syros	DSME	GT NO 96	173400	MEGI	Apr-19	Jun-14	Maran Gas Maritime
Daewoo 2430	DSME	GT NO 96	172000	TFDE - Azipod	Jul-19	Jul-14	Teekay LNG
Daewoo 2431	DSME	GT NO 96	172000	TFDE - Azipod	Aug-19	Jul-14	Teekay LNG
Daewoo 2433	DSME	GT NO 96	172000	TFDE - Azipod	Oct-19	Jul-14	Teekay LNG
Daewoo 2434	DSME	GT NO 96	172000	TFDE - Azipod	Nov-19	Jul-14	Teekay LNG
Daewoo 2432	DSME	GT NO 96	172410	TFDE - Azipod	Sep-19	Jul-14	MOL
Kawasaki Sakaide 1729	Kawasaki	Moss	155000	TFDE	Dec-19	Sep-14	MOL
Samsung 2150	Samsung	GTT Mark III Flex	174000	XDF	Jan-19	Oct-14	MOL
British Mentor	DSME	GT NO 96	173400	MEGI	Feb-19	Nov-14	BP
British Sponsor	DSME	GT NO 96	173400	MEGI	Mar-19	Nov-14	BP
Daewoo 2444	DSME	GT NO 96	173400	MEGI	Jan-19	Nov-14	BP
Nikolay Zubov	DSME	GT NO 96	172410	TFDE - Azipod	Mar-19	Dec-14	Dynagas
Mitsubishi Nagasaki 2322	Mitsubishi H.I.	Moss	177000	STaGE	Sep-19	Jan-15	MOL
Marvel Crane	Mitsubishi H.I.	Moss	177000	STaGE	Dec-18	Jan-15	NYK
Mitsubishi Nagasaki 2323	Mitsubishi H.I.	Moss	177000	STaGE	Jan-19	Mar-15	MOL
Maran Gas Chios	DSME	GT NO 96	173400	MEGI	Jan-19	Jun-15	Maran Gas Maritime
Maran Gas Hydra	DSME	GT NO 96	173400	MEGI	Jan-19	Jun-15	Maran Gas Maritime
Hyundai Samho S856	Hyundai Heavy	TZ Mk. III	174000	MEGI	Jan-19	Jun-15	Teekay LNG
Yamal Spirit	Hyundai Heavy	TZ Mk. III	174000	MEGI	Jan-19	Jun-15	Teekay LNG
Daewoo 2489	DSME	GT NO 96	173400	MEGI	Nov-19	Sep-15	BWGas
Shinshu Maru	Kawasaki	Moss	177000	STRH	Feb-19	Sep-15	MOL
Sohshu Maru	Kawasaki	Moss	177000	STRH	Jul-19	Sep-15	MOL
Diamond Gas TBN	Mitsubishi H.I.	Moss	165000	STaGE	May-19	Nov-15	Mitsubishi
Bushu Maru	Mitsubishi H.I.	Moss	180000	STaGE	Jun-19	Nov-15	NYK
Nohshu Maru	Mitsubishi H.I.	Moss	180000	STaGE	Feb-19	Nov-15	NYK
Hyundai Ulsan 2937	Hyundai Heavy	GTT Mark III Flex	180000	XDF	Apr-19	May-16	SK Shipping
Hyundai Ulsan 2938	Hyundai Heavy	GTT Mark III Flex	180000	XDF	Jul-19	May-16	SK Shipping
Daewoo 2466	DSME	GT NO 96	173400	MEGI	Oct-19	Jun-16	Maran Gas Maritime
Daewoo 2467	DSME	GT NO 96	173400	MEGI	Nov-19	Jun-16	Maran Gas Maritime
Samsung 2213	Samsung	GTT Mark III Flex	180000	XDF	Jun-20	Sep-16	GasLog
Daewoo 2469	DSME	GT NO 96	173400	MEGI	Apr-20	Dec-16	Maran Gas Maritime
Hyundai Ulsan 2964	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	May-19	Mar-17	Knutsen
Flex Constellation	DSME	GT NO 96	173400	MEGI	Jun-19	Mar-17	Flex LNG
Flex Courageous	DSME	GT NO 96	173400	MEGI	Aug-19	Mar-17	Flex LNG
Hyundai Ulsan 2963	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	Jun-19	May-17	Knutsen
MOL HUDONG-ZHONGHUA 1/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Dec-19	Jul-17	MOL
MOL HUDONG-ZHONGHUA 2/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Mar-20	Jul-17	MOL
MOL HUDONG-ZHONGHUA 3/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Jul-20	Jul-17	MOL

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
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MOL HUDONG-ZHONGHUA 4/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Oct-20	Jul-17	MOL
Gaslog Windsor	Samsung	GTT Mark III Flex	180000	XDF	Jul-19	Dec-17	GasLog
Daewoo 2478	DSME	GT NO 96	173400	MEGI	May-20	Dec-17	Maran Gas Maritime
HHI NYK/EDF	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Apr-20	Jan-18	NYK
HHI / Total	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Jan-18	Cardiff Marine
HHI / Total / Sovc	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Jan-18	Sovcomflot
DSME 2490	DSME	GT NO 96	173400	MEGI	Feb-20	Feb-18	BWGas
DSME 2491	DSME	GT NO 96	173400	MEGI	May-20	Feb-18	BWGas
HHI / Cardiff #1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Feb-18	Cardiff Marine
HHI / Cardiff #2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Feb-18	Cardiff Marine
DSME 2479	DSME	GT NO 96	173400	MEGI	Aug-20	Feb-18	John Fredriksen
DSME 2480	DSME	GT NO 96	173400	MEGI	Sep-20	Feb-18	John Fredriksen
Flex America	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Aug-20	Mar-18	Flex LNG
Flex Aurora	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Mar-18	Flex LNG
SHI Gaslog #1	Samsung	GTT Mark III Flex	180000	XDF	Jun-20	Mar-18	GasLog
Samsung 2271	Samsung	GTT Mark III Flex	174000	XDF	Apr-20	Mar-18	Cardiff Marine
DSME Minerva #1	DSME	GT NO 96	173400	MEGI	Mar-21	Mar-18	Minerva Marine
DSME Minerva #2	DSME	GT NO 96	173400	MEGI	Jul-21	Mar-18	Minerva Marine
Hyundai Ulsan 3086	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	Jun-20	Mar-18	Knutsen
DSME 2483	DSME	GT NO 96	173400	MEGI	Oct-20	Mar-18	Alpha Gas
DSME 2484	DSME	GT NO 96	173400	MEGI	Dec-20	Mar-18	Alpha Gas
SHI Gaslog #2	Samsung	GTT Mark III Flex	180000	XDF	Sep-20	May-18	GasLog
Maran Gas DSME	DSME	GT NO 96	173400	MEGI	Oct-20	Jun-18	Maran Gas Maritime
DSME 2487	DSME	GT NO 96	173400	TFDE	Apr-21	Jun-18	Maran Gas Maritime
DSME 2485	DSME	GT NO 96	173400	MEGI	Mar-21	Jun-18	Alpha Gas
HHI Thenamaris #1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Nov-20	Jun-18	Thenamaris
HH 8012	Hyundai Heavy	GTT Mark III Flex	174000		Feb-21	Jun-18	Flex LNG
HH 8013	Hyundai Heavy	GTT Mark III Flex	174000		May-21	Jun-18	Flex LNG
HHI Capital Gas #1	Hyundai Heavy	GTT Mark III Flex	174000		Sep-20	Jul-18	Capital Gas
HHI Capital Gas #2	Hyundai Heavy	GTT Mark III Flex	174000		Dec-20	Jul-18	Capital Gas
HHI Capital Gas #3	Hyundai Heavy	GTT Mark III Flex	174000		Mar-21	Jul-18	Capital Gas
HHI Capital Gas #4	Hyundai Heavy	GTT Mark III Flex	174000		Jun-21	Jul-18	Capital Gas
DSME 2492	DSME	GT NO 96	173400	MEGI	Nov-20	Jul-18	John Fredriksen
SHI Celcius #1	Samsung	GTT Mark III Flex	180000	XDF	Oct-20	Aug-18	Celcius Shipping
SHI Celcius #2	Samsung	GTT Mark III Flex	180000	XDF	Jan-21	Aug-18	Celcius Shipping
HHI 3037	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jul-20	Aug-18	Cardiff Marine
SHI 2300	Samsung	GTT Mark III Flex	174000	XDF	Nov-20	Aug-18	GasLog
SHI 2301	Samsung	GTT Mark III Flex	174000	XDF	Dec-20	Aug-18	GasLog
HHI / Cardiff	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Feb-21	Sep-18	Cardiff Marine
HHI/ Thenamaris	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Feb-21	Sep-18	Thenamaris
Samsung/NYK	Samsung	GTT Mark III Flex	174000	XDF	Mar-21	Sep-18	NYK
Samsung/Minerva 1	Samsung	GTT Mark III Flex	174000	XDF	Feb-21	Oct-18	Minerva Marine
Samsung/Minerva 2	Samsung	GTT Mark III Flex	174000	XDF	Aug-21	Oct-18	Minerva Marine

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Samsung/Cardiff 1	Samsung	GTT Mark III Flex	174000	XDF	Dec-20	Nov-18	Cardiff Marine
Samsung/Cardiff 2	Samsung	GTT Mark III Flex	174000	XDF	Jan-21	Nov-18	Cardiff Marine
HHI / Cardiff 1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Mar-21	Nov-18	Cardiff Marine
HHI / Cardiff 2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Apr-21	Nov-18	Cardiff Marine
HHI/Latsco 1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jan-21	Nov-18	Latsco Shipping
HHI/Latsco 2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Mar-21	Nov-18	Latsco Shipping
Samsung/NYK 1	Samsung	GTT Mark III Flex	174000	XDF	Aug-21	Dec-18	NYK
Samsung/NYK 2	Samsung	GTT Mark III Flex	174000	XDF	Nov-21	Dec-18	NYK
DSME BW 1	DSME	GT NO 96	174000	MEGI	Feb-21	Dec-18	BWGas
DSME BW 2	DSME	GT NO 96	174000	MEGI	Jun-21	Dec-18	BWGas
DSME Maran Gas	DSME	GT NO 96	173400	MEGI	Jun-21	Dec-18	Maran Gas Maritime
HHI NYK 1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Nov-20	Dec-18	NYK
HHI NYK 2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Mar-21	Dec-18	NYK
HHI NYK 3	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-21	Dec-18	NYK
DSME MOL 1	DSME	GT NO 96	180000	MEGI	May-21	Dec-18	MOL
DSME MOL 2	DSME	GT NO 96	173400	MEGI	Jun-21	Dec-18	MOL
HHI Sov 1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Sep-20	Dec-18	Sovcomflot
HHI Sov 2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Feb-21	Dec-18	Sovcomflot
Samsung GasLog 1	Samsung	GTT Mark III Flex	180000	XDF	Jun-21	Dec-18	GasLog
Samsung GasLog 2	Samsung	GTT Mark III Flex	180000	XDF	Aug-21	Dec-18	GasLog
Samsung Cardiff	Samsung	GTT Mark III Flex	174000	XDF	Mar-21	Dec-18	Cardiff Marine
DSME Alpha	DSME	GT NO 96	174000	MEGI	Oct-21	Dec-18	Alpha Gas
Samsung/ Navigare	Samsung	GTT Mark III Flex	174000	XDF	Mar-21	Dec-18	Navigare

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Fearnley LNG

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	Triputra (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 Conception	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Invention	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Vision Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2011	Unikum Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
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 Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
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	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvovation	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

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*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 = 10th January 2019

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Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
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
2016	Ocean Yield TBN**	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Cardissa	6,500	LNG	Northwest Europe	Yes	Shell
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	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	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	Yuan He 1	30,000	LNG	China	Yes	CSR
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	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
2018	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2018	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	Qi Yuan	28,000	LNG	China	Yes	Dalian Inteh Group
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
2018	Bunker Breeze	0	LNG	Barcelona	Yes	Suardiaz Energy Shipping
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	Shell Bunker Barge	4,000	LNG	US Coast	Yes	Q-LNG Transport / Harvey Gulf
2020	Stolt TBN (option) **	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Total TBN	18,600	LNG	NWE	Yes	MOL
2020	FuelLNG TBN	7,500	LNG	Singapore	Yes	FuelLNG
2020	CLS TBN	3,500	LNG	Japan	Yes	CLS
2020	Eesti Gaas TBN	6,000	LNG	NWE	Yes	Eesti Gaas
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Gazprom Neft TBN	5,800	LNG	Russia	Yes	Gazprom Neft

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