

LNG Shipping News

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10 May 2018

LNG market update and outlook

Global LNG production continued to grow in 1Q18, registering a 10% year-on-year increase and a 2% increase over 4Q17, according to the latest Wood Mackenzie report analysed by GasLog Ltd.

The ramp-up of the Russian Yamal project has outperformed expectations, the first commercial cargo from the US Cove Point loading terminal was exported in April and legacy liquefaction capacity operated at high utilisation to take advantage of the high prices caused by strong demand growth partly driven by the cold Northern Hemisphere winter.

However, new supply growth was partly offset by several plant outages, principally at PNG LNG following the earthquake in late February, and shorter outages of other projects in Malaysia, Russia and Peru.

While a number of projects expected on stream in 2018 have experienced delays, Wood Mackenzie said around 29 mill tonnes per annum of capacity was expected to enter commercial service between the second and fourth quarters of this year, underpinning the forecast 2018 supply of 325 mill tonnes per year - a 9% growth over 2017.

During 1Q18, 10 mill tonnes per annum of long-term supply contracts were agreed, bringing the total volume of long-term supply contracts signed since the beginning of 2017 to 37 mill tonnes per annum, which demonstrated the strengthening interest from LNG buyers and potential support for sanctioning of further liquefaction capacity.

Also during the quarter, a number of potential new projects continued to make good progress towards FID.

Demand growth

LNG market participants continue to forecast significant growth in



Yamal has outperformed expectations

LNG demand. For example, annual growth rate of 6% in demand is forecast over the 2017-2025 period.

Based upon Wood Mackenzie's forecasts of supply either on stream or under construction, this suggests the market may be short of LNG as soon as 2020, reiterating the need for further LNG supply projects to be sanctioned in the near-term.

As measured by Poten & Partners, 1Q18 tonne/miles were 18% higher year-on-year, continuing the significant growth trend seen in 2017. Structural changes in the LNG market, such as fragmentation of market participants, the increasing market share of portfolio suppliers, such as Shell, Total and BP and commodity traders, plus a move away from destination clauses in supply contracts, are all increasing the amount of LNG traded and bode well for further tonne/miles increases.

Headline spot TFDE LNG shipping rates as reported by Clarksons have shown seasonal weakness in recent months, declining to \$38,000 per day in late

April from around \$80,000 per day at the beginning of the year.

This decline was exacerbated by a number of one-off factors, including the unplanned downtime at LNG facilities, delays in the commissioning of new liquefaction supply and the delivery of 18 newbuild LNGCs during 1Q18. Nonetheless, current spot rates of \$42,000 are 40% ahead of levels seen a year ago.

We remain optimistic that a tightening shipping market, driven by the positive outlook for LNG demand growth and the evolving LNG shipping market, will result in spot rates improving from current levels over time, GasLog said.

This positive outlook and the perceived requirement for new ships have resulted in 18 firm LNGC orders so far in 2018, of which two were for GasLog. Based on our analysis of expected LNG demand, between 35 and 62 additional LNGCs will be needed by the end of 2022 and potentially as many as 117 vessels by 2025 to satisfy projected market growth, GasLog concluded. ■

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Anadarko positive on Mozambique project

Anadarko has claimed that “in principle” it has enough customers to proceed with the Mozambique LNG project, eight years after making a major deepwater discovery in the region.

The company signed a 15-year supply deal with Electricite de France in February this year and now needs to finalise contracts with other potential clients, Steven Wilson, vice president and country manager in Mozambique said, talking with Bloomberg.

“We effectively have agreement in principle for the volumes we need,” Wilson said in an interview with Bloomberg in Maputo. “Now the intention is to follow the EDF transaction to be able to convert all those into binding sales and purchase agreements.”

Anadarko has also received government approvals for onshore facilities needed to export the gas. The project, estimated to require an investment of \$20 bill,

will start with two trains with a capacity of more than 12 mill tonnes a year, with a view of increasing to as many as eight trains producing 50 mill tonnes.

While Wilson was optimistic about project financing, he said the resumption of the IMF’s programme in Mozambique would further boost investor sentiment, Bloomberg reported. Some of the biggest natural gas discoveries in a decade off Mozambique’s northern coast were overshadowed by the disclosure of hidden government debt in 2016, which prompted the IMF to halt funding.

“We’re confident that the project will be able to raise financing in the current environment,” Wilson said. “That being said, we believe that the resumption

of an IMF programme would be a very powerful signal to the global markets that Mozambique is committed to transparent governance; it would encourage foreign direct investment and obviously would benefit the Mozambique economy.”

Eni’s onshore Mozambique LNG project also gained momentum in 2017 when Exxon acquired a 50% stake in the Area 4 offshore gas field. The Italian company also made an investment decision on a floating LNG unit.

“It’s very positive news that ExxonMobil has joined Area 4. One could view it as further validation that Mozambique will become a major global supplier of LNG in the future,” Wilson concluded. ■

Pieridae to buy Goldboro gas

Pieridae Energy has entered into a term sheet to negotiate a binding LNG sale and purchase agreement (SPA) to supply Canadian-sourced LNG to Europe from the Nova Scotia Goldboro liquefaction facility’s second train.

Under the term sheet, the offtaker will purchase up to 1 mill tonnes per annum of LNG. This contract is scheduled to begin from the start of commercial deliveries, currently estimated to be the first quarter of 2023 and will cover a 10-year period.

“After having contracted the entire output from train 1 with Uniper, this agreement moves Pieridae another step closer to the final investment decision on train 2, which would bring much-needed jobs and other economic benefits to Nova Scotia and Canada,” said Alfred Sorensen, Pieridae Energy CEO.

“We are seeing a growing interest from utilities in Europe and beyond, for reliable and stable LNG offtakes, that can contribute to increase security of supply, as well as diversify price and volume risk in their portfolios,” said Riccardo Bortolotti, Pieridae’s Managing Director of Business Development based in London. ■

Yamal LNG gas transhipped at Zeebrugge

On 1st May, LNG from Sabetta was transhipped in Zeebrugge for the first time from an Arc7 into a conventional LNGC for onward

shipment to Asia.

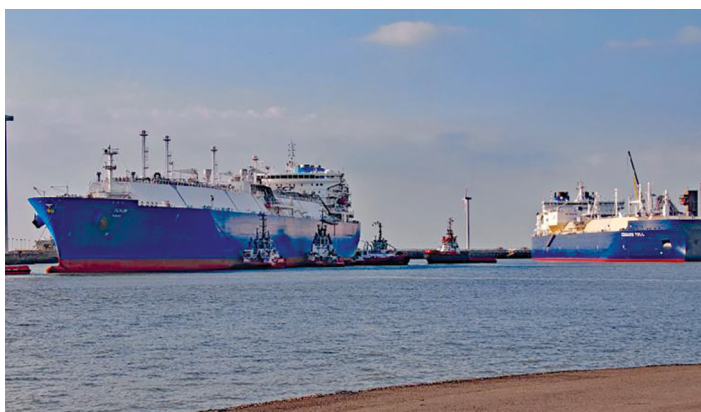
The Russian Arc7 ‘Eduard Toll’ transferred gas into the ‘Pskov’ via shore pipelines. The operation

took place at quays Nos 615 and 616 of the Fluxys terminal in the outer harbour area.

In 2015, the Fluxys terminal was chosen as a transhipment hub for Siberian LNG from the Yamal gas field.

This contract called for Zeebrugge to handle 107 LNG transhipments annually from ice class vessels to conventional LNGCs, or 214 LNGC movements per year in the port.

This operation will primarily take place during the winter when the Northern Sea Route is frozen over. Ice class LNGCs will shuttle gas from Sabetta to Zeebrugge. ■



‘Eduard Toll’ offloaded her cargo to ‘Pskov’

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India's first FSRU terminal inaugurated

H-Energy Gateway Private launched India's first FSRU-based LNG terminal at JSW Jaigarh Port in Ratnagiri District, Maharashtra on 1st May.

Jaigarh Port is owned & operated by JSW Infrastructure.

H-Energy's LNG terminal was developed for an annual capacity of 4 mill tonnes per annum. It is scheduled to start commercial operations by the fourth quarter of this year and will be capable of transshipping gas into LNGCs.

The LNG terminal will offer storage, re-gasification, re-loading, fuel bunkering and truck loading facilities to cater to the growing energy demand of Indian industries. When operational, the re-gasified LNG will be supplied to customers, through a 60 km tie-in pipeline, which will be connected to national gas grids at Dabhol.

Niranjan Hiranandani, chairman Hiranandani Group, the parent company of H-Energy, said, "Setting up India's first FSRU is an honour for our company. We are pleased that the first of our LNG ventures is getting completed on schedule; we also continue to work on our other projects at a steady pace. We would like to reiterate our commitment towards creating infrastructure that will help improve the lives of the people."

Darshan Hiranandani, H-Energy



Hoegh LNG's 'GDF Suez Cape Ann' has been chartered for five years

managing director & CEO, said, "We are happy to see our vision turning into reality. Inaugurating the first FSRU project and jetty infrastructure is a key milestone towards completion of this LNG terminal project. The FSRU-led approach will usher a sectoral change in terms of reducing the time taken for commissioning such re-gasification projects.

"This project enables H-Energy to become a large scale provider of natural gas to India, a much desired green fuel. My sincere thanks to Government of Maharashtra, Ministry of Petroleum and Natural Gas, Ministry of Shipping and the Petroleum and Natural Gas Regula-

tory Board, for their continued help and guidance. I also congratulate my team on the dedication and hard work put in to achieve such a feat," he said.

Capt BVJK Sharma, joint managing director & CEO, JSW Infrastructure, said, "JSW's collaboration with H-Energy and the launch of India's first FSRU-based LNG terminal reiterates our commitment to enable development of state-of-the-art maritime infrastructure facilities in India. In the near future, Jaigarh Port is getting ready for a giant leap to handle 80 mill tonnes per annum of cargo and is aiming for direct berthing of next generation ves-

sels ie largest drybulk carrier (valemex), LNG carrier (Q-Max), largest container vessels (EEE Series) and very large crude carriers. This LNG terminal will enable development of local port-based industries in Maharashtra region."

Last year, H-Energy Gateway signed a contract with ENGIE to charter its FSRU 'GDF SUEZ Cape Ann' for five years. The FSRU has a storage capacity of 145,000 cu m and is equipped with re-gasification capacity and will be able to tranship gas to the LNGCs.

The companies have an option to extend the charter beyond the initial term by mutual agreement. ■

Galp signs SPA with Venture Global

Portuguese energy company Galp has signed a sales and purchase agreement (SPA) with Venture Global LNG for 1 mill tonnes per annum of LNG over a 20-year period.

The gas will be shipped from the Calcasieu Pass LNG export facility in Cameron Parish, Louisiana.

This agreement is still subject to a final investment decision (FID) by Venture Global LNG for the construction of the facility, which is currently under development and expected to start in 2022.

It is also subject to the satisfaction of customary conditions, including the approval of the rele-

vant competent authorities, such as the issuance of export authorisations and the Federal Energy Regulatory Commission (FERC) order.

Galp said that this agreement fits the company's global strategy by securing a balanced and competitive long-term sourcing for its international natural gas activities, contributing to the development of efficient and environmentally sustainable energy solutions. ■

GAC Taiwan lands LNGC agency contract

GAC Taiwan has secured an agency contract from Indonesian LNG supplier, Donggi Senoro Liquefied Natural Gas (DSLNG), to handle vessels' calls and provide discharge agency and husbandry services at Taichung and Yung An.

Managing Director, Kenny So, said the contract comes after the steady growth of agency business for all types of vessels, including LNGCs, since the opening of GAC Taiwan's office in Kaohsiung in 2017.

"Our established track record in providing ship agency services and strong commitment to HSSE (Health, Safety, Security and the Environment) enable us to meet the

specialised and safety requirements of sophisticated LNG carriers.

"Winning the DSLNG business reinforces our optimism about the future of the LNG agency business in Taiwan, which is the world's fifth largest LNG buyer. We expect the number of LNG calls to rise, as Taiwan increases its LNG imports to drive power sector growth," he said. ■

GasLog reports record quarterly revenues

GasLog Ltd has reported record quarterly revenues for the first quarter of this year of \$138.5 mill and a profit of \$42.5 mill, compared with \$128.3 mill and \$23.4 mill in 1Q17, respectively.

PNG LNG plant resumes normal production

ExxonMobil PNG Limited, operator of PNG LNG, restarted its second LNG train on the island at the end of last month.

The plant is now operating at normal production rates, and exports of LNG have resumed, the oil major said, following the devastating February earthquake.

Production has been gradually increasing since the Hides gas conditioning plant and one train at the PNG LNG plant restarted earlier in April. The company expects to reach full capacity this month.

ExxonMobil PNG Managing Director, Andrew Barry, said; "I am extremely proud of the spirit of partnership and commitment that has been displayed by so many in recent weeks to help our business and communities through these events.

"We know there is a lot of work to be done and communities are still struggling. It will take some time to restore homes, food gardens, health centres and education services, and we remain committed to working with the government, our community partners and aid organisations to continue providing assistance and support in the weeks and months ahead," he said.

In addition, PNG LNG aims to finalise supply agreements with short listed companies for up to 1.3 mill tonnes per year of LNG in the first half of 2018, project partner Oil Search recently said. ■

The company also recorded record quarterly EBITDA of \$95.9 mill and adjusted EBITDA of \$95.5 mill, compared with \$89.1 mill and \$89.3 mill in 1Q17, respectively.

Adjusted profit was \$25.3 mill, compared to \$21.9 mill for 1Q17 and in 1Q18, GasLog reported an adjusted loss per share of \$0.01, compared to adjusted earnings per share of \$0.06 for the corresponding quarter of 2017.

On 8th January, the company took delivery of the 'GasLog Houston' and, following her completion of a short-term timecharter with a major LNG producer, she is scheduled to commence a period timecharter with a subsidiary of Royal Dutch Shell in December of this year.

On 20th March, GasLog also took delivery of the 'GasLog Hong Kong' followed by the 'GasLog Genoa' on 29th March, 2018 - two 174,000 cu m LNGCs fitted with low pressure dual-fuel 2-stroke engine propulsion units. Upon their delivery, they commenced their timecharter agreements with Total Gas & Power Chartering and Shell, respectively.

Also during the quarter, the company ordered two 180,000 cu m LNGCs from Samsung Heavy Industries also fitted with LP-2S propulsion, with scheduled deliv-

ery in the second quarter of 2020.

At the post quarter-end, GasLog completed the sale of the 'GasLog Gibraltar' to GasLog Partners for \$207 mill. Part of the sale price was satisfied by the private issuance of \$45 mill of common units in GasLog Partners to GasLog.

In addition, on 23rd February, 2018, GasLog signed an operation and maintenance (O&M) agreement to provide services to the Alexandroupolis FSRU project.

New charters

GasLog Partners also agreed charters, plus an option for two more, with a new customer.

These were an around three-and-a-half-year charter for the 'GasLog Santiago', commencing in either August or September, 2018 and a one-year charter for either the 2006-built 'Methane Jane Elizabeth' or the 2007-built 'Methane Alison Victoria' commencing in either November or December, 2019.

Options are in place to extend the first charter by up to another seven years and the second charter by up to another four years, both at escalating rates.

CEO Paul Wogan, said: "I am pleased to report another record quarter of revenues and EBITDA for GasLog, driven by the initial

contribution of our 2018 newbuild deliveries and the stronger performance of the vessels operating in the LNG carrier pooling arrangement. On the back of our improving financial performance, our strong balance sheet and our confidence in the long-term prospects for the company, I am delighted to announce a 7.1% increase in our quarterly dividend to \$0.15 per share.

"During the quarter, we continued to execute on our business plan, taking delivery of three newbuilds, the 'GasLog Houston', the 'GasLog Genoa' and the 'GasLog Hong Kong', all on time and on budget. Due to their fuel efficient engines and low boil-off rate, these vessels will have highly competitive unit freight costs. We also continued to execute on our long-term growth strategy, recycling capital through the dropdown of the 'GasLog Gibraltar' to GasLog Partners and ordering two newbuild LNG carriers for delivery in the second quarter of 2020.

"In addition, GasLog Partners announced two charter agreements with a new customer, simultaneously meeting key objectives of increasing the Partnership's contracted revenues and diversifying its customer base," he concluded. ■



Gaslog has taken delivery of the 'Gaslog Genoa' among other LNGCs during 1Q18

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Ship sales boost EXMAR

Belgian LNG and LPG carrier owner, EXMAR reported EBITDA of \$41.5 mill as per the proportionate consolidation method for the first quarter 2018, compared to \$14.6 mill in 1Q17.

This included a capital gain of \$30.7 mill on the sale of the 2005-built, 138,000 cu m LNGRV 'Excelsior' and \$1.1 mill on the sale of the LPG carrier 'Courcheville'.

EBIT for 1Q18 was \$31.3 mill, compared to \$3.4 mill in 1Q17.

EBIT for the LNG Division was \$29.6 mill, compared to \$5 mill in 1Q17. This included \$30.7 mill capital gain on the sale of the 'Excelsior'.

The LNGC 'Excalibur' remains under charter until early 2022 at rewarding rates, the company said.

Four FSRUs - 'Excelerate', 'Explorer', 'Express' and 'Excelsior' operated under long-term charter - were acquired by Excelerate Energy at the end of 2017/early 2018. EXMAR Shipmanagement has retained the operation and maintenance of the four FSRUs, as well as the conversion supervision for 'Excel', which was sold in October, 2017.

The world's first FSRU barge was contracted on the only long-term employment awarded in 2017 and was delivered in December, 2017. The unit is undergoing site specific modifications in Singapore before the start of its operations in the second half of 2018.

The floating liquefaction barge 'CFLNG' left Wison shipyard to a temporary location at Cosco shipyard in China for lay-up awaiting final deployment with several candidate projects under consideration. ■

GasLog Partners clears debts

GasLog Partners also reported its highest ever quarterly revenues, profit, adjusted Profit and EBITDA during the first quarter of this year, coming in at \$77.1 mill, \$32 mill, \$26.5 mill and \$55.8 mill, respectively.

The company also increased cash distribution to \$0.53 per common unit for 1Q18, 1.2% higher than the 4Q17 and 6% higher than 1Q17.

During the quarter, the company completed a public offering of 8.2% series B cumulative redeemable perpetual fixed to floating rate preference units, raising gross proceeds of \$115 mill and net proceeds of \$111.2 mill.

GasLog Partners also prepaid in full the \$45 mill outstanding amount of the term loan facility with GasLog Ltd, which was due in March, 2022 and repaid in full the remaining \$29.8 mill balance of the junior tranche of the credit agreement entered into on 18th February, 2016, due in April, 2018.

In addition, the Partnership successfully re-chartered the 'GasLog Santiago' for about three and a half years commencing in either August or September, 2018 at the Partnership's option and either of the 'Methane Jane Elizabeth' or the 'Methane Alison Victoria' (to be nominated by the Partnership) for one year, commencing in either November or

December, 2019 at the Partnership's option.

The Partnership also announced and, post quarter-end, completed the acquisition of the 'GasLog Gibraltar' from GasLog for \$207 mill, with attached multi-year charter to a subsidiary of Royal Dutch Shell. The acquisition was partially financed through the private issuance of \$45 mill of common units to GasLog.

CEO Andrew Orekar, commented: "In the first quarter, GasLog Partners continued to execute its growth strategy, delivering our highest-ever partnership performance results for revenues, profit, adjusted profit, EBITDA and distributable cash flow. Following this strong performance, we are increasing our cash distribution for the sixth consecutive quarter to \$0.53 per unit, or \$2.12 per unit annualised, while maintaining prudent distribution coverage.

"On 21st March, 2018, we announced approval to enter into an agreement with GasLog for the dropdown of the 'GasLog Gibraltar', our fourth acquisition in the

last 12 months. The acquisition closed on 26th April, 2018, expanding the Partnership's fleet to 13 wholly owned LNG carriers and increasing our average remaining charter duration. Furthermore, the financing of this transaction, with GasLog receiving \$45 mill newly issued, privately placed common units as partial consideration for the vessel, demonstrates the clearly aligned interests of GasLog Partners and GasLog.

"We also announced multiple charter agreements with a new customer, including a three-and-a-half year charter for the 'GasLog Santiago', as well as a one-year charter for one of our modern steam-powered vessels. Pro forma for the 'GasLog Gibraltar' acquisition, these charters increase our contracted days to 90% in 2018 and 83% in 2019.

"Lastly, we strengthened our balance sheet by retiring over \$100 mill in debt during the quarter. These actions support our year-on-year distribution growth guidance of 5% to 7% in 2018 while positioning GasLog Partners to successfully execute future growth initiatives," he said. ■

Fluor gets Kitimat LNG export facility contract

Fluor Corps' joint venture partnership with JGC has been chosen as the engineering, procurement and construction (EPC) contractor for LNG Canada's proposed LNG export facility at Kitimat, British Columbia, Canada.

The award is conditional on a positive final investment decision (FID) later this year at which point Fluor will book its share of the contract value.

"We thank LNG Canada for the opportunity to participate in developing the first world-class LNG facility in British Columbia," said Jim Brittain, group president of Fluor's Energy & Chemicals business. "Our team has developed an innovative design and execution strategy that improves the pro-

ject's competitiveness and predictability and positions it for a final investment decision.

"We look forward to building on the strong relationships that LNG Canada has established with the local community. Our team is committed to developing this facility safely, sustainably and with lasting benefits for the local community and British Columbia," he said.

The proposed LNG export facility will liquefy surplus Canadian natural gas so that it can be safely

exported to help meet global energy demands. The facility will initially consist of two LNG trains, each with the capacity to produce at least 6.5 mill tonnes per annum of LNG per train. An option exists to expand to four trains in the future.

LNG Canada is a joint venture comprised of Shell Canada Energy (50%), an affiliate of Royal Dutch Shell plc, and affiliates of PetroChina (20%), Korea Gas Corp (15%) and Mitsubishi Corp (15%). ■

Jumbo completes work on Bangladesh terminal

Last year, Jumbo was awarded a contract by Geocean for the Bangladesh Moheshkhali project.

This is the country's first floating LNG import terminal being developed offshore near Moheshkhali Island in the Bay of Bengal, Bangladesh.

It will include an FSRU, a sub-sea buoy system and a subsea pipeline, which will connect the terminal to an onshore pipeline system.

Heavy lift contractor, Jumbo was contracted to transport and install the FSRU's mooring system. This involved installing eight suction piles/anchors, one pipeline end terminal (PLEM) and one Pad, as well as scouring protection.

Mobilisation began in mid-December, 2017 with the installation starting in early January, 2018. Work has now been completed by the Jumbo offshore

team, which included the crew on board the heavy lift vessel, 'Jumbo Javelin'.

Tom Rijnders, Jumbo project manager, said: "Conditions on this project were at times challenging due to strong currents and poor visibility, however, the crew on board managed to perform outstandingly with a lot of ingenuity and persistence to complete the project within specifications."

This project builds on Jumbo's mooring system installations for FLNG project expertise and track record, the company claimed.

Meanwhile, Excelerate Energy's FSRU 'Excellence' arrived at Moheshkhali on 23rd April with a commissioning cargo from Qatar.

The FSRU will have annual capacity of 3.8 mill tonnes.

Excelerate Energy will operate the terminal for 15 years receiving a fee of \$90 mill per year. After this, ownership will transfer to Petrobangla. An onshore gas pipeline connects the FSRU to the main demand centre in Chittagong.

QatarGas will supply 1.8 mill tonnes of LNG per year between 2018 and 2022 and 2.5 mill tonnes of LNG between 2023 and 2032.

The \$180 mill project was co-developed by Petrobangla, Excelerate Energy and the International Finance Corp, a member of the World Bank Group.

The country's second terminal is expected to start up in 2019. It will also include a 3.8 mill tonnes per year Excelerate FSRU, which will be located at Moheshkhali. ■

“

Conditions on this project were at times challenging due to strong currents and poor visibility, however, the crew on board managed to perform outstandingly with a lot of ingenuity and persistence to complete the project within specifications

”

- Tom Rijnders, Jumbo project manager



Heavy lift contractor Jumbo has delivered units for Bangladesh first floating unit

NEWS NUDGE

FERC looks at Sabine Pass expansion project

The US Federal Energy Regulatory Commission (FERC) has issued a notice saying that it intends to prepare an environmental assessment (EA) regarding the proposed Sabine Pass liquefied natural gas (SPLNG) third berth expansion project in Cameron Parish.

Comments must be received by 21st May, FERC said.

Bharat Petroleum seeks four LNG cargoes

India's Bharat Petroleum Corp (BPCL) has issued a tender seeking four LNG cargoes for July, 2018 to March, 2019 delivery, according to a Reuters report.

The cargoes are for delivery in July, September, December and March into the Dahej terminal.

The tender closed on 26th April with offers to remain valid until 10th May.

Gastrade to exhibit at Posidonia

At the forthcoming Posidonia exhibition, Greek utility company Gastrade, backed by Gaslog Ltd, will be exhibiting for the first time.

Gastrade will manage the Alexandroupolis independent natural gas system (INGS), which comprises an FSRU and a subsea and an onshore gas transmission pipelines through which the natural gas will be shipped into the Greek National Natural Gas System (NNGS). ■

MISC welcomes last LNGC

MISC Group recently took delivery of the 150,200 cu m 'Seri Cemara' from Hyundai Heavy Industries, the final LNGC in a series of five MOSS-type vessels.

Upon her delivery, 'Seri Cemara' joined her four sister on long-term charter to PETRONAS.

They were designed to enable them to call at all major LNG terminals in the world, as well as loading from FLNGs. 'Seri Camellia', the first in the series, made history in 2017 as the first to use the PETRONAS FLNG Satu.

PETRONAS President & Group CEO, Tan Sri Wan Zulkiflee, said: "PETRONAS is committed to deliver safe and reliable supply of energy. It is therefore of utmost importance that we have access to the most reliable, safe and operationally efficient fleet of LNG carriers to serve the needs of our customers worldwide," he said.

MISC Chairman, Dato' Ab Halim said the vessel, along with her sisterships, is a reflection of the principles that MISC stands by - strong, capable and dynamic.

"The new generation of carriers is highly significant for MISC as we forge ahead in fulfilling our vision to consistently provide better energy-related maritime solutions and services. This project is especially meaningful as it represents our commitment to exceed the expectation of our customers, conducting our business in a responsible and sustainable manner,



MISC has taken delivery of the last of five Seri C MOSS-type LNGCs

as well as in ensuring optimum value creation over time. She is fortified to meet the challenges that lie ahead, and, along with the rest of the Seri C vessels, will support MISC's continuous journey towards sustainable LNG shipping," he said.

The MOSS type series have been built with an integrated hull structure (IHS), whereby a continuous cover encloses and shields four separate spherical tanks.

The IHS provides additional protection for the temperature-sensitive cargoes, as well as a more robust and superior cargo containment system, ensuring a higher degree of operational flexibility for MISC to operate in harsh meteorological conditions, the company claimed.

Each of the LNGCs complied with and will carry an ECO Notation in recognition of their environmental credentials. The

MOSS-type vessels have been specifically designed to minimise hull resistance, increase propulsion efficiency, reduce power requirements, and lower CO2 emissions.

For example, they have pre-swirl ducts and propeller boss cap fins (PBCF) fitted that are able to provide around 4% energy savings at design draft, along with X-twister rudders for improved manoeuvring performance. ■

Lloyd's Register classes first Indian-based FSRU

Lloyd's Register (LR) recently signed a contract to class the first FSRU to be ordered for Indian operations.

To be stationed at Jafrabad port, it will be built to LR's Rules for the Classification of Offshore Units by Hyundai Heavy Industries (HHI) for Swan LNG (SLPL). It is due for delivery in December, 2019.

The new 180,000 cu m FSRU project will help meet the demand for LNG in the region, as natural gas is projected to make up 20% of India's total energy

consumption by 2030.

The Indian gas market is expected to be one of the fastest growing in the world over the next two decades, as the country is the fourth largest energy consumer in the world behind the US, China and Russia, LR said.

SLPL's Bhavik Merchant said: "Our FSRU based LNG terminal at Jafrabad will help India's push to increase the proportion of gas in

its energy mix to power its economic expansion. SLPL is pleased to be working with Lloyd's Register on this prestigious project as they have a wealth of expertise in large gas projects and we have been impressed by their desire to constantly improve the overall quality during construction to ensure uninterrupted operation."

LR's marine & offshore area manager for South Asia, Middle

East and Africa, Piet Mast, commented: "LR is delighted to be working with SLPL on this first of its kind project in India. This success is owed to the real global collaboration of all LR teams involved. LR is expanding its scope of work in this area with a number of other FSRU and gas related opportunities in India, Sri Lanka and Bangladesh." ■

First Cove Point cargo transits Panama Canal

At the end of April, the Panama Canal welcomed the inaugural transit of the 'LNG Sakura' carrying the first LNG shipment from the US Dominion Cove Point terminal to Japan.

The transit, which occurred on 28th April, marks the beginning of a new LNG commercial route between the US and Asia from the recently inaugurated Dominion Cove Point terminal in Maryland, the second US LNG export terminal to come online after Sabine Pass began operations in 2016, the

Panama Canal Authority said.

Dominion Cove Point has two main clients - ST Cove Point, a consortium involving Sumitomo Corp and Tokyo Gas, plus Gail Global LNG, a subsidiary of GAIL of India.

'LNG Sakura' carried the first shipment of the 0.8 mill tonnes of

LNG contracted per year by the Japanese energy company Kansai Electric (KEPCO).

KEPCO is the majority stakeholder in the LNGC with 70%, while NYK owns the remaining stake.

The Panama Canal has emerged as an important link in the global LNG supply chain since the inauguration of the Neopanamax locks in 2016, when the waterway first began to host LNGCs.

There are seven booking slots available to LNG shippers per week - who have thus far averaged 5.5 transits up to the end of April - but can handle more transits when needed during uncharacteristically high periods of use.

For example, on 17th April, the Canal handled the transits of three LNGCs in a single day, representing a first for the waterway.

In FY 2018, the canal's LNG traffic is expected to grow by 50%, compared to FY 2017, increasing from 163 to around 244 transits. The canal has worked closely with industry partners to communicate its willingness to offer shippers

additional capacity, commensurate with demand, as is warranted, the Panama Canal Authority said.



The Panama Canal Authority is planning for a ramp up of LNGC transits following the opening of Dominion's Cove Point

NEWS NUDGE

Yamal reaches another milestone

Yamal LNG has shipped 2 mill tons of LNG produced at its first LNG train.

This was also the 27th cargo to be loaded at Sabetta.

The first LNG train commenced LNG production in the fourth quarter of 2017 with the loading of the inaugural 170,000 cu m Arc7 on 8th December, 2017.

LNG deliveries under long-term contracts commenced last month, with four LNG cargoes shipped.

Furthermore, in April, the first firing of compressor gas turbines was performed at the second LNG train of 5.5 mill tons per annum, which represents one of the key milestones in the preparation of the train's forthcoming launch.

Excelerate abandons FSRU orders

According to Daewoo Shipbuilding and Marine Engineering (DSME), the shipyard has lost the contract for up to seven FSRUs from US-based Excelerate Energy.

Following a Letter of Intent (LOI), which the parties signed in February, 2017, DSME said that the deal expired on 8th May without any firm contracts being agreed.

The LOI was for 173,400 cu m capacity units with a baseload send-out capacity of 1 Bcf/d.

TMC to equip Swan Energy FSRU

TMC Compressors of the Seas (TMC) has signed two contracts to supply five marine compressors to an FSRU under construction at Hyundai Heavy Industries for Swan Energy.

TMC signed a contract directly with Hyundai Heavy Industries to provide three service and control air compressors to the South Korean shipyard. The compressors will be delivered in the third quarter 2018.

In addition, TMC signed a sub-contract deal with another supplier to provide two feed air compressors to a nitrogen system to be delivered to the FSRU. These compressors will be delivered in July, 2018.

"To secure one contract for this

FSRU is great, and to win two contracts is fantastic. I believe this confirms that shipyards and subcontractors to the big yards are increasingly moving away from marinised land-based compressors and instead opting for compressed air systems that have been designed and developed solely for offshore and marine applications," said Hans Petter Tanum, TMC's director of sales and business development.

The Swan Energy FSRU will have a storage capacity of 180,000

cu m with an ultimate gas send out rate of 1,000 MMSCFD. The unit will be used at Swan Energy's LNG import terminal in Jafrabad, Gujarat, India.

Once completed, the FSRU will be moored to a fixed jetty and re-gasify imported LNG to enable distribution by pipeline grid and road tanker.

The terminal, with the capacity to handle 5 mill tonnes of LNG per annum, is being set up by Swan Energy's subsidiary, Swan LNG Pvt. Ltd.



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WORLD LNG CARRIER ORDERBOOK

Name	Containment System	Propulsion	Yard	Ordered	Delivery Date	Capacity	Primary Owner
Oceanic Breeze	Moss	STRH	Mitsubishi H.I.	2013	31/03/2018	155300	K-Line
Myrina	GT NO 96	MEGI	DSME	2014	01/04/2018	173400	Teekay LNG
British Partner	GT NO 96	MEGI	DSME	2014	01/04/2018	173400	BP
Marvel Falcon	GTT Mark III Flex	XDF	Samsung	2014	15/04/2018	174000	MOL
Castillo De Merida	TZ Mk. III	MEGI	Imabari	2014	01/05/2018	178000	Elcano
CESI Lianyungang	Membrane	TFDE	Hudong-Zhonghua	2012	01/05/2018	174000	China LNG Shipping Holdings
Flex Ranger	TZ Mk. III	MEGI	Samsung	2013	01/05/2018	174000	Flex LNG
Pacific Breeze	Moss	TFDE	Kawasaki	2013	01/06/2018	180000	K-Line
Mitsubishi Nagasaki 2316	Moss	STRH	Mitsubishi H.I.	2014	01/06/2018	153000	NYK
Diamond Gas Orchid	Moss	STaGE	Mitsubishi H.I.	2015	01/06/2018	165000	NYK
Pan Europe	GT NO 96	TFDE	Hudong-Zhonghua	2014	01/06/2018	174000	Teekay LNG
Megara	GT NO 96	MEGI	DSME	2014	01/07/2018	173400	Teekay LNG
Flex Rainbow	TZ Mk. III	MEGI	Samsung	2013	25/07/2018	174000	Flex LNG
Energy Liberty	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/08/2018	165000	MOL
Rudolf Samoylovich	GT NO 96	TFDE - Azipod	DSME	2014	01/08/2018	172410	Teekay LNG
Diamond Gas Rose	Moss	STaGE	Mitsubishi H.I.	2015	01/08/2018	165000	NYK
Enshu Maru	Moss	STRH	Kawasaki	2014	30/08/2018	164000	K-Line
Castillo De Caldelas	TZ Mk. III	MEGI	Imabari	2014	01/09/2018	178000	Elcano
Daewoo 2462 MOL E.On	GT NO 96	TFDE	DSME	2015	01/09/2018	180000	MOL
Vladimir Vize	GT NO 96	TFDE - Azipod	DSME	2014	01/09/2018	172410	MOL
Kinisis	GT NO 96	MEGI	DSME	2015	15/09/2018	173400	Chandris
Daewoo 2442	GT NO 96	MEGI	DSME	2014	01/10/2018	173400	BP
Daewoo 2427	GT NO 96	TFDE - Azipod	DSME	2014	01/10/2018	172410	Dynagas
Marvel Eagle	Moss	TFDE	Kawasaki	2014	15/10/2018	155000	MOL
Daewoo 2443	GT NO 96	MEGI	DSME	2014	01/11/2018	173400	BP
Boris Davydov	GT NO 96	TFDE - Azipod	DSME	2014	01/11/2018	172410	Dynagas
Marvel Hawk	GTT Mark III Flex	XDF	Samsung	2014	01/12/2018	174000	MOL
Mitsubishi Nagasaki 2321	Moss	STaGE	Mitsubishi H.I.	2015	01/12/2018	177000	NYK
Nikolay Zubov	GT NO 96	TFDE - Azipod	DSME	2014	01/12/2018	172410	Dynagas
Jmu Tsu 5071	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/01/2019	165000	NYK
Samsung 2150	GTT Mark III Flex	XDF	Samsung	2014	01/01/2019	174000	MOL
Maran Gas Spetses	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Daewoo 2444	GT NO 96	MEGI	DSME	2014	01/01/2019	173400	BP
Mitsubishi Nagasaki 2323	Moss	STaGE	Mitsubishi H.I.	2015	01/01/2019	177000	MOL
Maran Gas Chios	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Pan Africa	GT NO 96	TFDE	Hudong-Zhonghua	2014	01/01/2019	174000	Teekay LNG
Maran Gas Hydra	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Hyundai Samho S856	TZ Mk. III	MEGI	Hyundai Heavy	2015	01/01/2019	174000	Teekay LNG
Gaslog Gladstone	TZ Mk. III	XDF	Samsung	2014	01/01/2019	174000	GasLog
Hyundai Samho S857	TZ Mk. III	MEGI	Hyundai Heavy	2015	01/01/2019	174000	Teekay LNG

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 = 29th March 2018

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
Daewoo 2445	GT NO 96	MEGI	DSME	2014	01/02/2019	173400	BP
Kawasaki Sakaide 1734	Moss	STRH	Kawasaki	2015	01/03/2019	177000	MOL
Kawasaki Sakaide 1735	Moss	STaGE	Kawasaki	2015	01/03/2019	177000	MOL
Daewoo 2446	GT NO 96	MEGI	DSME	2014	01/03/2019	173400	BP
Mitsubishi Nagasaki 2326	Moss	STaGE	Mitsubishi H.I.	2015	01/03/2019	180000	NYK
Mitsubishi Nagasaki 2327	Moss	STRH	Mitsubishi H.I.	2015	01/03/2019	180000	NYK
Hyundai Ulsan 2937	GTT Mark III Flex	XDF	Hyundai Heavy	2016	01/04/2019	180000	SK Shipping
Jmu Tsu 5073	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/05/2019	165000	MOL
Diamond Gas TBN		STaGE	Mitsubishi H.I.	2015	01/05/2019	165000	Mitsubishi
Hyundai Ulsan 2964	GTT Mark III Flex	MEGI	Hyundai Heavy	2017	01/05/2019	180000	Knutzen
Flex Constellation	GT NO 96	MEGI	DSME	2017	01/06/2019	173400	John Fredriksen
Hyundai Ulsan 2963	GTT Mark III Flex	MEGI	Hyundai Heavy	2017	01/06/2019	180000	Knutzen
Hyundai Ulsan 2938	GTT Mark III Flex	XDF	Hyundai Heavy	2016	01/07/2019	180000	SK Shipping
Daewoo 2430	GT NO 96	TFDE - Azipod	DSME	2014	01/07/2019	172000	Teekay LNG
Maran Gas Syros	GT NO 96	MEGI	DSME	2014	01/07/2019	173400	Maran Gas Maritime
Gaslog Windsor	GTT Mark V	XDF	Samsung	2016	01/07/2019	180000	GasLog
MOL HUDONG-ZHONGHUA 1/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/07/2019	174000	MOL
Kawasaki Sakaide 1729	Moss	TFDE	Kawasaki	2014	01/08/2019	155000	MOL
Daewoo 2431	GT NO 96	TFDE - Azipod	DSME	2014	01/08/2019	172000	Teekay LNG
Flex Courageous	GT NO 96	MEGI	DSME	2017	01/08/2019	173400	John Fredriksen
Jmu Tsu 5072	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/09/2019	165000	MOL
Daewoo 2432	GT NO 96	TFDE - Azipod	DSME	2014	01/09/2019	172410	MOL
Mitsubishi Nagasaki 2322	Moss	STaGE	Mitsubishi H.I.	2015	01/09/2019	177000	MOL
Daewoo 2466	GT NO 96	MEGI	DSME	2016	01/10/2019	173400	Maran Gas Maritime
Daewoo 2433	GT NO 96	TFDE - Azipod	DSME	2014	01/10/2019	172000	Teekay LNG
MOL HUDONG-ZHONGHUA 2/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/10/2019	174000	MOL
Daewoo 2467	GT NO 96	MEGI	DSME	2016	01/11/2019	173400	Maran Gas Maritime
Daewoo 2489	GT NO 96	MEGI	DSME	2015	01/11/2019	173400	BWGas
Daewoo 2434	GT NO 96	TFDE - Azipod	DSME	2014	01/11/2019	172000	Teekay LNG
Marvel Swan	GTT Mark III Flex	MEGI	Imabari	2015	01/01/2020	178000	K-Line
MOL HUDONG-ZHONGHUA 3/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/01/2020	174000	MOL
MOL HUDONG-ZHONGHUA 4/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/04/2020	174000	MOL
HHI NYK/EDF	GTT Mark III Flex	XDF	Hyundai Heavy	2018	30/04/2020	174000	NYK
Daewoo 2478	GT NO 96	MEGI	DSME	2017	31/05/2020	173400	Maran Gas Maritime
Samsung 2213	GTT Mark V	XDF	Samsung	2017	01/06/2020	180000	GasLog
HHI Cardiff		XDF	Hyundai Heavy	2018	01/06/2020	174000	Cardiff Marine
HHI Sovcomflot		XDF	Hyundai Heavy	2018	01/06/2020	174000	Sovcomflot
Daewoo 2469	GT NO 96	MEGI	DSME	2016	30/06/2020	173400	Maran Gas Maritime

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 = 29th March 2018

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	Teekay
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	Teekay
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

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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 = 12th February 2018

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
2017	Cardissa	6,500	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 Skargas	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
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
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	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
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
2020	Shell Bunker Barge	4,000	LNG	US Coast	Yes	Q-LNG Transport / Harvey Gulf
2020	Total TBN	18,600	LNG	NWE	Yes	MOL
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas

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