

LNG Unlimited

LNG JOURNAL PUBLICATION

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Woodside carries world No. 1 torch for Australia LNG sector

Perth-based company posts 40 percent jump in LNG sales revenue to US\$3.76 billion

LNG Journal editor

Woodside Petroleum, the operator of the North West Shelf and Pluto liquefied natural gas plants in Western Australia and a stakeholder in the state's newest Wheatstone facility, posted a more than 40 percent jump in LNG sales revenue in 2018 to US\$3.76 billion on increased demand from Asian customers and higher prices.

Woodside said in its fourth-quarter report to the end of December that the 2018 total compared well with the US\$2.67Bln of LNG sales revenue received in 2017.

Plants

Woodside said its quarterly revenue from LNG sales amounted to US\$1.17Bln compared with US\$881 million in the previous three months to September and US\$717M in the fourth quarter of 2017.

Woodside said demand was higher from the North West Shelf, Pluto and Wheatstone plants in Western Australia because of a combination of factors including customer demand, ongoing plant optimization and in the case of Wheatstone, higher output after the commissioning of the second liquefaction Train.

Woodside said its overall quarterly sales revenue, including oil and condensates, came in at US\$1.42 billion, an increase of 43 percent compared with the fourth quarter of 2017.

The company's average LNG price during the quarter was US\$10.40 million British thermal units, with US\$9.20 per MMBtu for



Woodside CEO plans 'next wave of projects' for LNG growth

North West Shelf, US\$10.80 per MMBtu for Pluto and US\$11.20 per MMBtu for Wheatstone volumes.

Woodside's total sales revenue for 2018, including oil, condensate and other products was US\$4.82 billion versus US\$3.68Bln in 2017.

Woodside's one-sixth share of LNG sales from the North West Shelf plant amounted to 667,682 tonnes, an increase from 593,338 tonnes posted in the previous quarter, though down on the 728,453 tonnes logged in the same three months of 2017.

Its Pluto LNG quarterly sales volumes rose to 1.21 million tonnes versus 1.02MT in the previous quarter and 1.07MT in the 2017 quarter.

Woodside's volumes from the Chevron Corp.-operated Wheatstone LNG plant were also ramped up to 308,547 tonnes from 191,869 tonnes in the previous quarter and 19,291 in the same three months a year before.

Chief Executive Peter Coleman said the base business turned in another strong performance in the fourth quarter, with Wheatstone's production continuing to exceed expectations and Pluto achieving almost full reliability.

"Production rose 10 percent compared to the fourth quarter of

2017, while sales revenue climbed 43 percent to US\$1,419 million on the back of higher prices," said Coleman.

"A highlight of the quarter was the start-up of the Greater Western Flank Phase 2 project in October, six months ahead of schedule and \$630M under total budget," added the CEO.

"In addition to the outstanding result in delivering Greater Western Flank Phase 2, we achieved significant milestones in the development of our next wave of projects, which will underpin Woodside's future growth," he said.

In the company's West African operations offshore Senegal, it commenced front-end engineering design activities for its SNE Field Development Phase 1.

"Subsequent to the end of the quarter, the Senegalese Government approved the development's Environmental and Social Impact Assessment," said Coleman.

He added that key steps were also taken during the quarter towards the realisation of the company's vision for the Burrup Hub development, involving the proposed Pluto-North West Shelf Interconnector gas pipeline for the expanded Pluto LNG facilities.

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Woodside awards four engineering contracts for Scarborough gas to back Pluto LNG expansion

LNG Journal editor

Woodside Petroleum, the operator of the North West Shelf and Pluto LNG export plants in Western Australia, has awarded four contracts for front-end engineering and design activities for the proposed Scarborough natural gas project to underpin expansion at the Pluto facility on the Burrup Peninsula.

Woodside said the contracts were for engineering activities related to the upstream development's floating production unit, the export trunkline and the sub-sea umbilical risers.

Concept

Woodside's preferred concept for development of the Scarborough gas resources of 7.3 trillion cubic feet is through new offshore facilities connected by 430 kilometres of pipeline to the Burrup Peninsula, with onshore processing at the expanded Pluto liquefaction facility.

"Each contract includes an op-



Scarborough gas field for Pluto LNG is next development

tion to progress to execute phase activities, which is subject to, among other conditions, a positive final investment decision being taken on the project by the Scarborough joint venture," said Woodside, operator of the gas field and whose licence partner is commodities firm BHP Billiton.

Woodside said US energy engineering company McDermott had been awarded a contract to undertake engineering studies for the floating production unit, which in-

cludes the option to progress to an engineering, procurement and construction contract.

A consortium called, Subsea Integration Alliance, including One-Subsea and Subsea 7, has been awarded a contract to undertake engineering studies for the umbilical risers and flowlines, with the option to progress to an engineering, procurement, construction and installation contract.

The Australian subsidiary of Italian energy engineer Saipem

was awarded the contract to provide export trunkline engineering support services with an option to execute pipeline coating and installation activities.

The fourth contract went to Intecsea, a subsidiary of Australian company WorleyParsons, for export trunkline engineering.

"Each contract was awarded by Woodside in its corporate capacity as a Scarborough titleholder and will be funded initially by Woodside on a 100 percent basis," said Woodside.

Woodside Chief Executive Peter Coleman said the award of these contracts would support the project schedule and Woodside's FID scheduled for 2020.

"We have made good progress since announcing last year that we had increased our stake in Scarborough. The award of these contracts brings us closer to unlocking the Scarborough resource," said Coleman.

LNG Canada to press ahead while recognizing that unanimous support in BC was not possible

LNG Canada, the Royal Dutch Shell-led export joint venture in British Columbia, said Shell was pressing ahead while recognizing that it was likely not possible to get unanimous support for a major infrastructure venture project in the Canadian province.

Andy Calitz, Chief Executive of LNG Canada, said he believed that the Canadian economy would find it difficult to prosper without a growing and healthy resource sector.

"Projects like our own provide an opportunity that many First Nations and northern communities have not had before and may not see again," said Calitz.

Calitz was speaking after protests and arrests in the province over the construction of the Coastal GasLink feed-gas pipeline to connect with the LNG

Canada liquefaction plant proposed for the town of Kitimat.

The US\$5-billion pipeline of 670 kilometres is being developed by TransCanada Corp. to bring the feed-gas from the Montney shale basin in northeast BC to the Pacific Coast.

The LNG Canada project is the largest private sector investment in Canada's history with spending of C\$40 billion (US\$30.2Bln).

Shell and its four partners, Mitsubishi Corp. of Japan, Malaysian energy company Petronas, Chinese major PetroChina and Korea Gas Corp., had agreed in October 2018 to start immediate construction at the brownfield site near Kitimat that had been an energy products terminal before being acquired by Shell in 2011.

"With a final investment deci-

sion made in October providing a green light to both the LNG Canada export facility and Coastal GasLink's pipeline to proceed into construction, the years of work with First Nations, including elected and Hereditary Chiefs, municipal, provincial and federal governments, northern communities, and thousands of people working in industry in BC, came to fruition," explained Calitz.

"The level of support received by LNG Canada and Coastal GasLink has been described as unprecedented for a resource development project," he said.

"Despite opposition Coastal GasLink is currently facing, LNG Canada has every intention to continue to advance our project and maintain our construction schedule to deliver jobs and economic

benefits to First Nations, local residents and British Columbians," added the LNG Canada CEO.

"We are also conscious that any delay can erode confidence in British Columbia and Canada to deliver energy projects. We recognize it may not be possible to get unanimous support for a major infrastructure project in BC, but we believe Canada's economy cannot prosper without a growing and healthy resource sector," the CEO said.

"There needs to be recognition and respect for the decisions that have been made by 25 First Nations, their members, northern communities and the individuals living there that have put considerable effort and due diligence to come to a decision to support our project," stated Calitz.

Ophir Energy holds out hope for Tanzania LNG exports

Ophir Energy, the UK company that lost its Equatorial Guinea licence in West Africa and the potential Fortuna floating liquefied natural gas project, is still holding out hope of securing revenue from its stake in an on-shore LNG export project in the East African nation of Tanzania.

Ophir was informed by the Equatorial Guinea Ministry of Mines and Hydrocarbons that the Block R Licence, which contains the Fortuna gas discovery, had expired on 31 December 2018.

The UK company had been unable to meet its schedule for a final investment decision on the Fortuna floating LNG project.

"As we announced on 5 January, the Block R licence in Equatorial Guinea has not been extended," said interim Chief Executive Alan Booth.

"We remain mindful of the potential value of our gas assets in Tanzania, notwithstanding the uncertainty over timing for their development," stated Booth.

Ophir retains a 20 percent interest in Blocks 1 and 4 and sold 60 percent to BG Group in 2010, now owned by Royal Dutch Shell, and sold a further 20 percent to Pavilion Energy of Singapore in 2014 for US\$1.3 billion.

Ophir's exploration offshore Tanzania and that of other companies has led to discoveries of 15 trillion cubic feet of gross contingent natural gas resources.

The assets have entered the pre-development phase for the Tanzania LNG project.

In 2014 the joint venture partners in Blocks 1 and 4 and the partners in Block 2, Equinor of Norway and ExxonMobil, signed an agreement to co-operate on a combined onshore LNG plant.

LNG producer Abu Dhabi signs deal for Italian-Thai concession venture

LNG Journal editor

The United Arab Emirates, the LNG producer that is expanding its natural gas and oil exploration in Abu Dhabi, has signed two concession agreements with Italian energy company Eni and its joint venture partner from Thailand, PTTEP Exploration and Production Company.

Eni has acquired a 70 percent stake in the Offshore Block 1 and Offshore Block 2 exploration areas in Abu Dhabi waters for a duration of 35 years while PTTEP has a 30 percent share.

Blocks

The two blocks, located in the northwest of the Abu Dhabi emirate, are the first blocks to be awarded among those that were offered for commercial bidding by the Abu Dhabi National Oil Company (Adnoc) in April 2018 as part of Abu Dhabi's first-ever open block licensing strategy.

Adnoc has an option to hold a 60 percent stake in the blocks if any commercial discoveries are made.

The UAE is the oldest LNG producer in the Middle East from its Das Island plant offshore Abu



Ahmed Al Jaber, the UAE Minister of State and Adnoc's Chief Executive (centre) with Claudio Descalzi, CEO of Eni (left) and Phongsthorn Thavisin the CEO of PTTEP

Dhabi consisting of three Trains with capacity of around 5.5 million tonnes of LNG per annum.

The Das Island plant was commissioned in 1977 and mainly supplies the Jera Co Inc. joint venture company formed by Japanese utilities Tokyo Electric Power Co. and Chubu Electric for their shipments.

The UAE is also an LNG importer at facilities in Dubai and Ruwais to help meet its own domestic gas needs and has recently revised its oil and gas strategy after making large discoveries.

Under the terms of the Eni-

PTTEP agreements, Eni will operate the concessions and invest with PTTEP more than 844 million UAE dirhams (\$230 million) to explore for oil and gas and appraise the existing discoveries in the two blocks, which cover a combined area of around 8,000 square kilometres.

Eni said the exploration phase of the agreement has a maximum period of nine years and, subject to successful exploration, an overall concession term will extend to 35 years for development and production phases.

BP and Eni sign Oman exploration accord after find boosted LNG

BP of the UK and Italian energy company Eni signed a heads of agreement with the Ministry of Oil and Gas of the Sultanate of Oman to work jointly towards a significant new exploration opportunity in the Arabian Peninsula nation where BP's onshore Khazzan natural gas discovery revitalized LNG production.

BP said that under the accord, the two companies would work with Oman towards the award of a new exploration and production sharing agreement (EPSA) for Block 77 in central Oman.

BP and Eni will now enter discussions with the Ministry to finalise details.

"This would represent a further deepening of BP's important position in Oman, building on our successful delivery of the major Khazzan project in 2017 and its second phase of development that is currently under construction," said Bernard Looney, BP chief executive of the upstream division in reference to additional output achieved by Oman LNG from having sufficient domestic gas supplies.

"We look forward to continuing to explore and efficiently develop the country's resources, working in close partnership with Eni and Oman to underpin our commitment to delivering long-term gas production for Oman," he added.

The country's three existing liquefaction Trains at the facilities near the town of Sur have been at full capacity since 2017 after previously suffering from a lack of feed-gas as supplies were diverted to fill domestic gas shortages.

The Omani government allocates Oman LNG supplies from various gas fields and the Khazzan field production has ended all feed-gas concerns for the near future.

The three Omani LNG processing Trains currently produce around 10.4 million tonnes per annum and supply nations such as Japan, South Korea, India and Kuwait.

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NEWS NUDGES

Tenerife LNG bunkering

Dutch shipping line Anthony Veder said its small-scale LNG carrier, the 7,500 cubic metres capacity “Coral Methane”, has successfully carried out its first liquefied natural gas bunkering operation on the world’s first LNG-powered cruise ship at Santa Cruz de Tenerife in the Spanish Canary Islands. The “Coral Methane” fueled the “AIDAnova”, the newest ship from AIDA Cruises, which made history as the cruise industry’s first ship to be powered at sea and in port by LNG.

Crowley LNG success

Crowley Maritime Corp. said its new combination LNG-powered container-roll-on roll-off ship, the “Taino”, successfully completed its first voyage to Puerto Rico after receiving fuel for the first time at the Eagle LNG bunkering station in the Florida port of Jacksonville and departing on January 8. “The successful transit puts a historic capstone on the company’s Commitment Class modernization project and begins a new era of world-class supply chain services between the island commonwealth, the US mainland and the Caribbean Basin,” said Crowley.

LNG cargoes for China

The 148,300 cubic metres capacity carrier “LNG Ondo” will deliver a cargo on January 24 to the Qidong terminal in Jiangsu province from the Nigeria LNG plant on Bonny Island. The 170,050 cubic metres capacity carrier “Hoegh Giant” is scheduled to arrive on January 25 at the Chinese port of Tianjin with a cargo from the US Sabine Pass plant in Louisiana. The 266,000 cubic metres capacity Q-Max carrier “Al Dafna” will deliver a cargo on January 25 to PetroChina’s Tangshan terminal in northeast Hebei province from Ras Laffan in Qatar.

Gassco of Norway sent volumes to Europe equivalent to Japan’s LNG

LNG Journal editor

Gassco, the Norwegian natural gas pipeline operator and one of the main competitors to LNG, transported 114.2 billion cubic metres of gas during 2018 from the Norwegian Continental Shelf to mainland Europe and the UK.

The pipeline deliveries from Norway were down 2.6 percent compared with the previous year’s record 117.4 Bcm of supply.

‘Reliable’

“Norway’s gas deliveries to Europe are stably high, and exports in 2018 were the second-highest ever,” said Gassco Chief Executive Frode Leversund.

“This shows that Norwegian gas is regarded as an attractive and reliable energy source for European consumers,” added Leversund.

The pipeline gas supply sent from Norway to Europe last year was the equivalent of 84.5 million tonnes of LNG, which is almost equal to the amount of LNG imported by Japan each year.

Although the deliveries were



Norwegian monitoring of European pipeline transportation

short of the 2017 record volumes, a new record for summer deliveries to Europe was set with 36.8 Bcm of gas exported between May and August 2018.

The Norwegian deliveries compare favourably in terms of energy security with pipeline volumes shipped to the European Union by Russia’s Gazprom.

Gazprom pipeline gas exports to the EU rose 8 percent in 2018 to a record 193.9 Bcm.

However, Gazprom has lowered its prices in the last few years while it has faced new competition, on a small scale, from LNG in

EU nations in the east such as Poland and Lithuania, who have become LNG importers.

Norway is also an LNG exporter to Europe from a small single-Train plant at Hammerfest, operated by Equinor.

Gassco has emphasized the reliability of its pipeline system, given the huge volumes it handles.

“Availability for delivering gas in the transport system was over 99 percent in 2018,” explained Gassco’s Leversund.

“This is a strong figure, and we’re very proud of it,” he said.

Finnish gas and LNG firm Gasum sells technical unit ahead of 2020

Gasum, the natural gas network owner in Finland and an LNG distributor and regasification terminal operator through its subsidiary Skangas, has sold its technical unit to the Finnish Viafin Service Group.

“This arrangement is part of Gasum’s strategy of focusing on the development of the gas market and energy infrastructure in the Nordic countries,” said Gasum.

Gasum has sold the technical subsidiary for an undisclosed sum as Finland prepares for the opening up of the natural gas wholesale and retail markets, scheduled for the beginning of 2020.

“It’s great to carry out this transaction with Viafin Service, an experienced maintenance service specialist with a focus on expanding maintenance and related services at the core of its strategy,” said Gasum Chief Executive Johanna Lamminen.

“This transaction enables us to ensure service quality, and we’ll continue to buy services from the company in the future, too,” she explained.

“We both share the aim of maintaining and developing technical competencies, high work quality and cost-effective operations in the gas sector,” added the CEO.

The transaction is expected to be closed by the end of February 2019.

Viafin has four different business activities in Finland, specializing in providing pulp towers, pressure vessels and piping assemblies as well as installation and maintenance services.

Additionally, the Gasum LNG unit Skangas is expected to change its name to Gasum after the parent company increased its shareholding in Skangas from 70 percent to 100 percent in October 2018 by purchasing the balance of the shares from the Norwegian Lyse Group.

Global LNG maritime fuel group board appoints French banking and Singapore port members

LNG Journal editor

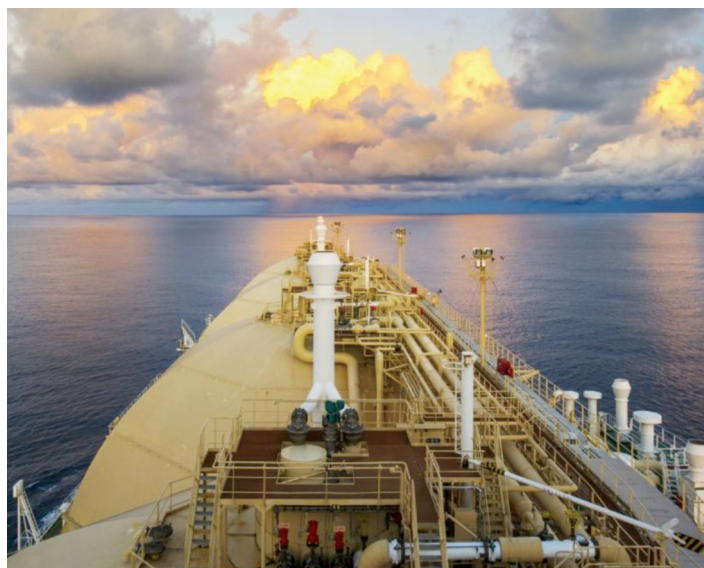
Sea-LNG, a global coalition of energy and shipping companies backing the increased use of liquefied natural gas as a maritime fuel, said it had appointed representatives of French bank and project financier Societe Generale and the Maritime and Port Authority of Singapore to replenish its 12-strong board.

Sea-LNG named Paul Taylor from Societe Generale and Captain M. Segar for the Port Authority of Singapore as the directors.

Elected

The group, founded in 2016 to help provide strategic development of the emerging LNG marine fuel market, said two other new board members were elected in December 2018, Tahir Faruqui of Royal Dutch Shell, and Xavier Pfeuty of Total Marine Fuels.

Peter Keller, the Sea-LNG Chairman and who is also Executive Vice President of US shipping line TOTE Maritime Inc., said that in the past year the organization had grown to 36 member compa-



Sea-LNG group sees maritime fuel use headed for growth

nies and port authorities. "I am delighted to welcome Paul and Capt. Segar as representatives from these organisations, as well as Xavier and Tahir to the Sea-LNG Board for 2019," said Keller.

"I would like to express my sincerest gratitude to our outgoing founding board members Yvonne van der Laan (Port of Rotterdam), Michael Chia (Keppel Offshore & Marine) and Laurant Wetemans

(Shell) for their valuable participation as founding board members of Sea-LNG," added Keller.

"We have benefitted significantly from their leadership, dedication and guidance, and wish them all the best for the future," stated Keller.

"I would also like to appreciate the ongoing commitment of our other board members, all of whom possess a broad range of

highly relevant skills and experience and a singular desire to drive forward our vision of a competitive global LNG value chain for cleaner maritime shipping towards 2020 and beyond," said the Sea-LNG Chairman.

Keller explained that throughout 2019, Sea-LNG would continue to unite key industry players from major LNG suppliers, downstream companies, shipping companies, infrastructure providers, and shipyards and others to transform the use of LNG as a marine fuel.

The 2019 Sea-LNG Board members are: Peter Keller, Chairman, (representing Tote Maritime, USA); Stefan Eefting (MAN PrimeServ, Augsburg, Germany); Tahir Faruqui (Shell); Timo Koponen (Wartsila, Finland); Masamichi Morooka (Yokohama-Kawasaki, Japan); Xavier Pfeuty (Total Marine Fuels); Hiroyasu Sakaguchi (Mitsubishi Corp. of Japan); Torsten Schramm (DNV GL, Oslo, Hamburg); Capt M Segar (MPA, Singapore); Svein Steimler (NYK Group, Japan); Tom Strang (Carnival Corp.); and Paul Taylor (Societe Generale).

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Gibraltar starts receiving LNG as part of plant safety trials

Gibraltar said its new gas-fired power station project had handled its first operation with a small-scale LNG carrier delivery as part of safety trials in the run-up to the start of full operations.

A partial cargo was delivered on the 7,550 cubic metres capacity carrier “Coral Methane”, owned by Dutch shipping line Anthony Veder and chartered to Royal Dutch Shell.

The UK overseas territory, located on a peninsula at the southern tip of Europe adjacent to Spain, had reached agreement with Shell in 2016, through its subsidiary Gasnor, for the organization of the LNG systems for the power station.

Shell will help organize the LNG deliveries to Gibraltar on small-scale LNG carriers and a maximum of two per month are likely to be needed.

There is also potential for LNG bunkering operations in the future.

The fuel is being stored in several 1,000 cubic metres capacity double-walled LNG storage tanks from where it is transferred to vaporisers and regasified to produce electricity at the power station.

The Gibraltar authorities said the “Coral Methane” rehearsed docking procedures at the regasification equipment.

A statement said the operation provided an opportunity for staff to test the terminal’s loading arm and its safety systems as the vessel unloaded a small volume of LNG cargo.

“This has been another exciting step on the way to producing our energy in a much cleaner and more efficient way,” said John Cortes, Gibraltar’s Minister for the Environment, Energy and for Climate Change.

Greek-Balkan FLNG plan extends expressions of interest to Feb 15

LNG Journal editor

The liquefied natural gas hub and terminal project planned by Greek company Gastrade for the port of Alexandroupolis to serve the Balkans has revised its invitation for expressions of interest as the delivery of the floating storage and regasification unit will take six months longer than originally scheduled.

The first phase of a market test conducted in late 2018 was completed with great success after 20 companies expressed interest in the project.

Revised

Gastrade now says there is a revised and extended deadline for expressions of interest for the Alexandroupolis Independent Natural Gas System Project set for February 15.

The project comprises the FSRU for the reception, storage and regasification of LNG, a mooring and a system of a subsea and onshore gas transmission pipelines, through which natural gas will be delivered to the Greek National Natural



FSRU will be stationed offshore Thrace in northeast Greece

Gas Transmission System (NNGTS) and onwards to the final consumers.

The FSRU will be stationed in the sea off Thrace in northeast Greece, 17.6 kilometres southwest of the town of Alexandroupolis.

The pipeline will be connecting the FSRU to the NNGTS near the village of Amphitriti, 5.5km north-east of Alexandroupolis.

The FSRU venture and gas hub have been listed by the European Union as a project of European Common Interest, thus attracting EU grants.

The Alexandroupolis FSRU project will double Greece’s current LNG import capacity.

It is expected to secure new

natural gas quantities for the supply to the Greek and the regional Southeast European markets, offer new sources and routes of natural gas supply, promote competition and enhance the security of supply in Greece and the Balkan markets.

The pipeline will deliver natural gas to the Greek NNGTS network and onwards to customers in Greece, Bulgaria, Serbia, the former Yugoslav state of Macedonia, Turkey and Romania, as well as Hungary and Ukraine.

The FSRU will have a nominal regasification and send-out capacity of 530 million standard cubic feet per day.

UK proves to be strong market for LNG with terminal posting record

National Grid of the UK said its Isle of Grain import terminal on the Medway River southeast of London sent out more regasified LNG last month than any other facility in Northwest Europe.

The Grain LNG terminal operator said that market conditions and a robust UK benchmark National Balancing Point natural gas price led to a record performance for December 2018.

“This is a stark contrast to December 2017, when the terminal only delivered gas above minimum send out on two occasions,” said Grain LNG.

“This winter, the UK has proved to be a strong market for

LNG sellers looking to home excess LNG resulting from various supply projects coming on line,” said the company.

Grain LNG is currently the only UK terminal capable of accepting the full range of global LNG due to its extensive nitrogen processing plant.

“The UK has a more stringent Wobbe limit than most of Europe but plans are underway to relax this, which should lead to a significant reduction in costs as well as ensuring LNG is able to enter any of the UK terminals,” said the UK operator.

Other UK terminals have also seen increased activity, with both

terminals in Milford Haven in Wales, the South Hook facility and the Dragon terminal, accepting many cargoes.

“We are delighted to see such high utilisation at our terminal and proud of our consistent performance and ability to deliver our customer nominations after a long period of low activity,” said Simon Culkin, the Grain LNG terminal manager.

The UK terminal noted that during 2018 a total of 26 million tonnes of additional LNG production hit the market and shipping charter rates reached a record high.

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Mitsubishi names LNG carrier for the largest Japanese buyer to ship US Gulf Coast cargoes

LNG Journal editor

Mitsubishi Shipbuilding of Japan said it held a naming ceremony for the fourth vessel in a series of five being constructed to ship LNG cargoes from the US Gulf Coast to the main Japanese import terminals.

The 180,000 cubic metres capacity carrier “Noshu Maru” with covered Moss-type storage tanks will be put into regular service transporting LNG from the Freeport LNG plant in Texas for Jera Co. Inc. the LNG supply arm of Tokyo Electric Power Co. and Chubu Electric.

Jera shipper

The joint owner of the “Noshu Maru” with Jera is Japanese shipping line Mitsui OSK Lines, which will operate the ship.

“The latest model ‘Sayaringo’ type ship features significant improvements in both LNG carrying capacity and fuel performance due to the adoption of a more ef-



Latest LNG carrier newbuilds at Nagasaki shipyard

ficient hull structure and an innovative hybrid propulsion system” said Mitsubishi.

The christening ceremony was held at Mitsubishi’s Nagasaki Shipyard and was attended by representatives of the ship owners and their guests.

Mitsubishi said that Chubu Electric Power President, Satoru Katsuno, announced the name of the ship while his wife performed the ceremonial rope cutting.

The “Noshu Maru” is 297.5

metres in length and is 48.94m in width. It has a depth of 27.0m, with a draft of 11.1m. Deadweight tonnage is approximately 80,300 tons.

Ship joint-owner Jera was established in 2015 as an equal-share joint venture between Tepco and Chubu.

Its business operations include the construction and refurbishment of thermal power plants in Japan, as well as energy infrastructure projects and power gen-

eration overseas. Mitsubishi explained that the “Sayaringo STaGE” is a successor to the “Sayaendo” type, a vessel acclaimed for its reliability and innovatively refined Moss-type spherical tanks.

“The use of apple-shaped tanks allows for greater LNG carrying capacity without increases to the ship’s width, while the hybrid propulsion system further improves fuel efficiency over the previous model,” said Mitsubishi.

The company said that STaGE was an acronym derived from “Steam Turbine and Gas Engines,” describing the hybrid propulsion system combining steam-turbine and gas-fired engines.

“Going forward, Mitsubishi Shipbuilding and MHI Marine Structure will continue the development of next-generation LNG carriers with exceptional fuel efficiency and sustainable performance,” stated the company.

LNG shipping industry’s newbuild backlog will be supported by high spot and average charter rates

The liquefied natural gas shipping sector has seen its largest number of orders since 2014 as traditional and new entrants sign contracts with South Korean, Japanese and Chinese shipyards for vessels to handle the LNG production surge, while the impact has been felt in average annual charter rates.

Both the number of vessels delivered last year and the number contracted are significantly higher than recent years.

“The orders placed in 2018 was the fifth highest contracting volumes since 2004, of 7.5 million cubic metres capacity, though this was still well below the 2014 peak when 10.8 million cubic metres capacity of vessels was contracted,” according to a report from London-based consultants Maritime Strategies International.

“Orders have progressively filled shipyard berths through 2020 and the first half of 2021 and these periods are considered to be ‘full’ unless Japanese yards secure further orders,” said the report.

“Orders placed this year will complete the 2021 schedule and increasingly attract a 2022 delivery date,” it added.

More than 50 vessels totaling close to 10 million cubic metres capacity were delivered during 2018, despite significant slippage expected from the current order-book into 2019.

It is generally noted that ship orders now are typically sized at 170,000 to 180,000 cubic metres capacity compared with 155,000 cubic metres previously, due to design advances and to maximize

carrying capacity through the newly expanded Panama Canal.

In addition, the introduction of gas-injection slow-speed engines has offered fuel savings of over 20 tonnes per day.

The main shipyards that have received orders include the three big Korean builders, Hyundai Heavy Industries, Daewoo Shipbuilding & Marine Engineering and Samsung Heavy Industries as well as Mitsubishi Heavy Industries in Japan and China’s Hudong-Zhonghua.

LNG shipping companies are also being encouraged to order more tonnage because of the rising charter rates.

“Last year saw the most rapid appreciation in spot LNG carrier rates since 2011,” said the report.

“Spot rates hit a seasonal

trough in April in the low \$40,000 per day, rising to an unseasonable \$90,000 per day in mid-summer, before accelerating during September, more than doubling by November,” said the report.

“Rates fell slightly during December, but were still reminiscent of the level seen at the last peak in 2012 at close to \$180,000 to \$200,000 per day,” claimed the report.

The UK consultants calculated that as a result of the increased spot charter rates, the estimated one-year average rate for a new dual-fuel, diesel-electric LNG carrier in the fourth quarter of 2018 was \$108,000 per day, an increase of 33 percent compared with the third quarter and much higher than in 2017.

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Canadian LNG and gas engines technology company Westport Fuel Systems names Johnson as new CEO

LNG Journal editor

Westport Fuel Systems Inc., the Canadian-based supplier of LNG and compressed natural gas vehicle engine and storage technology and components, has named David M. Johnson as its new Chief Executive.

Westport's vehicle engines and fuel storage systems can be liquefied natural gas or compressed natural gas and its brands include Cummins Westport that specializes in the trucking sector.

The company said that CEO Johnson replaces Nancy S. Gougarty who has decided to retire.

Merger guidance

Gougarty is stepping down after successfully leading the integration after the 2016 merger of Toronto Stock Exchange-listed Westport Innovations Inc. and New York-based Fuel Systems Solutions into the combined Westport Fuel Systems Inc.

With its headquarters in Vancouver in the province of British Columbia, the merged Westport



Johnson served as CEO to the California-based engine developer Achates Power and had a variety of roles at the leading auto companies Ford and General Motors

company has global operations and customers and is expanding into China.

The company offers automotive brands power packages and components for LNG, CNG and also liquefied petroleum gas engines.

Westport said Johnson was joining the company having served for 10 years as President and Chief Executive of California-based US engines developer Achates Power.

"Prior to his most recent role, Johnson served in a variety of

roles with some of the world's leading automotive companies, including senior roles at Navistar, Ford and General Motors," said Westport.

"Johnson combines deep technical expertise with a decades-long career in international markets, during which time he successfully led and managed several global vehicle and engine development and commercialization programs," added the company.

Brenda Eprile, Chair of the

Westport Board, said the company was pleased to appoint "an entrepreneurial leader" with specific experience and insights in the global original equipment manufacturers (OEMs) market where Westport has more than 100 customers.

Westport is expected to post consolidated revenue from continuing operations in the range of US\$260 million to US\$275M for the full year 2018.

"David is well positioned to build on Westport Fuel Systems' global success as we continue to execute our long-term strategy," said Eprile.

Johnson said he was honoured to lead the company and to build on a strong record of success and growth.

"I would like to thank the Board of Directors for their confidence. I am excited to get to work with our excellent team and look forward to meeting and engaging with our stakeholders in the coming days and weeks," stated the new CEO.

Japanese spot LNG prices were up on delivered basis from previous year at \$10.60 per MMBtu

Japanese spot LNG delivered cargo prices were at an average of \$10.60 per million British thermal units in December, a rise of \$2.50 per MMBtu compared with the price the previous year of \$8.10 per MMBtu, though lower than the November 2018 price.

The price of a cargo contracted in December for later delivery was at \$9.20 per MMBtu compared with \$10.20 in December 2017 and \$10.80 in November 2018.

Delivered cargo prices for Japan in November 2018 had been quoted at \$11.50 per MMBtu, \$0.90 per MMBtu lower than the December 2018 price.

Japanese spot LNG prices have

been driven higher in 2018 by more competition for shipments in the North Asian region, particularly from China and South Korea.

The North Sea Brent crude oil price that influences Japanese long-term contract prices also impacts spot LNG and other energy markets.

It was at \$86 per barrel in early October before dropping by more than \$25 per barrel in November and December and is now at just under \$60 per barrel.

The spot cargo numbers come from the commerce division of the Japanese Ministry of Economy, Trade and Industry and are only issued if a minimum number of

two trades are recorded. The Ministry emphasizes that "spot LNG" refers to fuel traded on a cargo-to-cargo basis and does not mean shipments under contracts on a short-term, medium-term or long-term basis.

The statistical accounting of the spot prices started in March 2014.

Overall Japanese LNG imports in November fell by 1 percent, though imports of coal as an alternative for power generation increased by over 5 percent as the monthly costs for Japan of LNG cargoes jumped year-on-year by almost \$1 billion, or 38 percent.

Japan received more LNG cargoes from Australia and purchased

more on the spot market for its winter season needs.

The nation's LNG imports in November had amounted to 6.34 million tonnes compared with 6.41MT in November 2017.

As LNG imports fell, Japanese thermal coal imports, a competitor of LNG in power generation, jumped 5.1 percent in November to 10.05MT.

The latest data from the Finance Ministry showed that all LNG shipments in November cost Japan 408.83 billion yen (\$3.63Bln), a rise of 37.6 percent on November 2017 when the LNG had cost 297.10Bln yen (\$2.64Bln).

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