



MARAN GAS CARRIER BOOKS IN FOR CONTAINMENT SYSTEM FIX

An LNG carrier controlled by Maran Gas Maritime has gone into a shipyard for repair work to its membrane-type cargo containment system. Kpler data shows the 161,870-cbm Maran Gas Apollonia (built 2014) arrived in Samkang S&C Co's Goseong Shipyard around 7 February. Sources in South Korea following the vessel said repair work is scheduled to be carried out on its Mark III membrane cargo containment system in two of the ship's tanks. One said the job is expected to take around two months and is already underway. A spokeswoman for Maran Gas said the company does not comment on operational matters. GTT, which designs the Mark III-type LNG systems, indicated that it cannot comment on ongoing dry-docking work as these are the responsibility of a vessel's owner. In November, TradeWinds reported on the ongoing debate within the LNG industry regarding LNG carriers fitted with Mark III membrane-type cargo containment systems, some of the issues being encountered and whether these require repairs. Shipowners and those working closely with LNG carriers reported that small tears or holes of a few centimetres in length can and have developed in the invar layer of the glued triplex secondary barrier in Mark III systems on some LNG carriers. These show up in thermal tests carried out on vessels' cargo containment systems but require further investigation to determine their seriousness. The issue appears to be widely acknowledged by LNG shipowners, technical experts, class and GTT. They have put the problems down to poor workmanship — particularly in

relation to the glued system, shipyard pressures at the time of building and the new ways in which vessels are traded. This publication previously named the Maran Gas Apollonia, which was built by HD Hyundai Samho Heavy Industries, as among those ships in which an unusually high number of temperature abnormalities had been identified following testing. Documents seen by TradeWinds also identified a similarly high number of issues in another vessel in the Greek shipowner's fleet. Other owners have also indicated they are aware of the problems but have yet to name any ships which are particularly affected or may need repair work. Under the requirements of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, or IGC Code, membrane-type systems require a tight secondary barrier as a backup should the primary barrier adjacent to a vessel's cargo be breached. The debate among LNG industry participants centres on whether these tank issues compromise cargo tank safety and so need repairs. The International Maritime Organization passed this question to the International Association of Classification Societies to examine, which has been looking at a revision of the tank height requirement for repairs, which would then limit required works to certain areas. GTT chairman and chief executive Philippe Berterottiere has previously highlighted that there have never been any issues on the Mark III primary membrane and asked if the industry should not now adopt a more "pragmatic approach" to the problems. The French design company said in February that it completed tests at the end of 2023 on its new cargo containment system Next1, which features two metallic barriers. source : www.tradewindsnews.com

HANWHA OCEAN CONFIRMS MOU LINKED TO QATARENERGY

Phase 2 tally stands at 52 berths but more Q-Max vessels are expected. South Korean shipbuilder Hanwha Ocean has firmed up 12 LNG carrier newbuilding berths with Middle East-producing giant QatarEnergy under Phase 2 of the Qatari company's huge ship acquisition programme. Hanwha Ocean said it had signed a memorandum of understanding with a Middle Eastern company to supply 12 LNG carriers, without naming the counterparty. But sources in South Korea said the newbuildings are for QatarEnergy under its LNG berth reservation deal with four shipyards. On 13 February, TradeWinds reported that QatarEnergy had reached an agreement with Hanwha Ocean and privately declared 12 of its pre-reserved slots for 174,000-cbm LNG carriers under Phase 2 of its newbuilding plan, with the vessels to be firmed up in March. The deal with Hanwha Ocean brings QatarEnergy's total number of LNG carrier berths declared under Phase 2 to 52. Some 44 of these have now been declared at South Korea's big three shipbuilders. Along with the 12 Hanwha Ocean slots, the Doha-listed producer confirmed 17 LNG berths with HD Hyundai Heavy Industries in September 2023 and 15 with Samsung Heavy Industries in February. Last month, QatarEnergy said Qatari LNG shipowner Nakilat will own and operate 25 of the vessels under Phase 2 ordered in South Korea. The remaining 19 newbuildings have yet to be married to shipowners. In addition, QatarEnergy has also firmed up eight slots for supertankers of around 265,000 cbm at China's Hudong-Zhonghua Shipbuilding. But the Qatari giant is said to be contemplating adding a further 10 Q-Max LNG newbuildings to its Phase 2 orders. Last week, GTT chairman and chief executive Philippe Berterottiere said in a results briefing that he expects there to be around 18

Q-Maxes ordered by Qatar. If these additional Q-Maxes are added, this would raise QatarEnergy's Phase 2 berth total to 62 LNG carriers. Coupled with the 60 contracted under Phase 1, this would give it access to 122 newbuildings. In February, QatarEnergy announced it was going ahead with a further expansion plan, which will add 16m tonnes per annum of new liquefaction capacity and raise Qatar's total production to 142 mtpa by 2030. source : www.tradewindsnews.com

TELLURIAN EXPECTS TO TAKE FID ON TWO DRIFTWOOD LNG PLANTS IN 2024

US LNG firm Tellurian said on Monday it expects to take a final investment decision in 2024 to build the first two plants at its Driftwood LNG export plant in Louisiana. "Plants 1 and 2 are expected to FID in 2024 with plant 3 expected six to nine months thereafter," the company said in a new presentation posted on its website. Tellurian expects to own 35-40 percent of the first two plants and an "increasing share" of expansion plants. It expects to have a 50 percent ownership in the third plant, 60 percent ownership in the fourth, and 65 percent ownership in the fifth plant. The company also said it expects to issue a full notice to proceed to compatriot engineering and construction giant Bechtel to begin construction for for the first phase of the plant in the second half of this year. Under the first phase, Tellurian aims to build two LNG plants near Lake Charles with an export capacity of up to 11 mtpa. Tellurian issued a limited notice to proceed to Bechtel in March 2022 and it said in August last year that Bechtel completed piling work for the first plant and also concrete pouring for all plant one compressor foundations. The firm claims it invested more than \$1 billion in Driftwood with construction of the first two plants about 30 percent advanced. The full project would include five plants with a total capacity of about 27.6 mtpa. Tellurian also said in the presentation that potential expansion options could include a second facility with up to 30 mtpa of capacity. Houston named as Tellurian's executive chairman, CEO's contract not extended Tellurian recently secured more time from the US FERC to complete the construction of its Driftwood LNG project. The firm is also exploring the sale of its Haynesville upstream assets as it works on securing financing for the first phase of its Driftwood LNG project worth about \$14.5 billion. Tellurian's co-founder **Martin Houston** and chairman of the board said in a letter to shareholders on Monday that the "recent announcements from the DOE, along with additional focus and simplification, have helped our commercial efforts." "We've widened the commercial aperture, whilst maintaining our business model. We have materially reduced corporate overhead and strengthened our balance sheet," he said. Besides this, Tellurian has agreed to "amend delivery dates for long-lead equipment and to extend Driftwood LNG construction work," Houston said. Tellurian signed an equipment deal with Baker Hughes last year. Houston also said that on February 27, Tellurian's board appointed him as the company's executive chairman. "This is part of a leadership succession and renewal process which will be implemented in the coming months," he said. In December, Tellurian appointed Houston as the chairman replacing Charif Souki, who has left the Driftwood LNG terminal developer. Besides Houston's appointment, Tellurian's board elected on March 1 not to renew or extend the term of the company's employment agreement with CEO Octavio Simoes, beyond the term ending on June 5, 2024. US permit pause benefits Tellurian. The Biden administration said

in January it will “temporary pause” pending decisions for LNG export terminals. The US paused pending decisions on exports of LNG to non-FTA countries until the Department of Energy can update the underlying analyses for authorizations. Houston said that Tellurian and a “few other companies” with existing permits are not impacted. Also, these changes “benefit Tellurian as we are now one of a few facilities with uncontracted capacity for LNG deliveries in 2028,” he said. “We have a tremendous opportunity to capitalize on this market shift as we continue to seek equity partners and sales and purchase agreements with customers for Driftwood,” Houston said. “We are already seeing increased intensity of discussions with a wider range of potential customers and partners. This work is moving at pace. The range of potential LNG counterparties is as wide and deep as it’s ever been in my long career in this industry,” Houston said. He said that Tellurian has expanded its outreach to customers and “are meeting the market at current terms.” “Our approach does not radically change our model; however, it recognizes the clearing price for LNG SPAs and ensures we are positioned to match it. We are positioned well compared to other LNG sellers both in the US and internationally,” Houston said. source : www.lngprime.com

THREE FIRMS JOIN FORCES ON \$3.3 BILLION LNG-TO-POWER PROJECT IN PHILIPPINES

Power companies Meralco PowerGen, Aboitiz Power, and San Miguel Global Power have teamed up on an LNG-to-power project in the Philippines worth about \$3.3 billion. According to a joint statement, MGen and AP will jointly invest in two of SMGP’s gas-fired power plants—the 1,278 MW Ilijan power plant and a new 1,320 MW combined cycle power facility which is expected to start operations by the end of 2024. Additionally, all three companies will acquire the LNG import and regasification terminal of Linseed Field. This will be used to receive, store and process LNG fuel for the two power plants, thus fully integrating the local energy sector into the global natural gas supply chain, the statement said. Linseed Field is a unit of Singapore’s LNG firm AG&P. AG&P’s unit AG&P LNG, which is now majority owned by US investment and asset management firm, Nebula Energy, is the operator of the first LNG import and regasification terminal in the Philippines, called the Philippines LNG (PHLNG) import terminal located in Batangas Bay. In April last year, AG&P kicked off commissioning activities at the LNG import terminal following the arrival of the 137,500-cbm FSU Ish at the terminal’s jetty in Batangas Bay. AG&P previously said that San Miguel uses regasified LNG from this plant to power its Ilijan gas-fired power plant, one of the largest in the country, to serve Luzon, the most populous region in the Philippines. Energy requirements and slashing emissions , This new collaboration “will substantially augment the country’s power supply with over 2,500 MW of generation capacity once fully operational, backed by advanced LNG storage and regasification capabilities,” the three power firms said in the statement. This effort will not only meet the country’s energy requirements but also support its environmental objectives by “significantly” lowering emissions, they said. The Department of Energy’s (DoE) Philippine energy plan has identified LNG as “crucial” for the country’s energy sustainability and security, aiming to boost natural gas’s share in the power generation mix to 26 percent by

2040, the statement said. The Philippines has several LNG import facilities on the table as the Malampaya gas field becomes less reliable in producing and providing sufficient fuel supply for the country's existing gas-fired power plants. Besides AG&P's terminal, First Gen also launched its Batangas FSRU-based facility last year. source : www.lngprime.com

PERU LNG TERMINAL SENT FOUR CARGOES IN FEBRUARY

Peru LNG's liquefaction plant at Pampa Melchorita has shipped four liquefied natural gas cargoes in February, one less shipment compared to the previous month. According to the shipment data by state-owned Perupetro, during February the 4.4 mtpa LNG plant sent three shipments each to South Korea and one shipment to Japan. The shipments loaded onboard the LNG carriers Maran Gas Hydra, Maran Gas Achilles, Maran Gas Roxana, and Malaga Knutsen equal about 301,227 tonnes, the data shows. These four LNG cargoes loaded at the Peru LNG plant in February compare to five cargoes in February last year, while Peru LNG shipped five cargoes in January 2024. The 135,423-cbm, Seapeak Madrid, also departed the Peru LNG plant on March 3, its AIS data shows. Peru LNG increased its exports last year compared to the year before, and it also expects to boost the number of shipments in 2024. The terminal loaded 55 vessels in 2023, compared to 51 vessels in 2022. Peru LNG said that the main destinations in 2023 were United Kingdom and South Korea, and also Japan, China, Spain, France, Netherlands, and Canada. It expects to load 60 vessels in 2024. US-based Hunt Oil holds a 50 percent operating stake in the Pampa Melchorita LNG plant, while SK and Marubeni have 20 percent and 10 percent, respectively. MidOcean Energy, the LNG unit of US-based energy investor EIG, recently agreed to purchase the 20 percent stake in Peru LNG from a unit of South Korean conglomerate SK. LNG giant Shell also holds a 20 percent stake in Peru LNG and takes all the volumes produced at the facility. source : www.lngprime.com

DYNAGAS WELCOMES NEW LNG TANKER IN ITS FLEET

Greek LNG shipping firm Dynagas has taken delivery of the 200,000-cbm LNG carrier, Clean Vitality, in South Korea. The firm led by George Procopiou revealed this in a short social media post on Friday. According to its AIS data provided by VesselsValue, the ME-GA LNG carrier left HD Hyundai Heavy's yard in Ulsan, South Korea last week. Clean Vitality will serve a 10-year charter with US LNG exporting giant Cheniere, the data shows. Back in June 2021, Dynagas ordered four 200,000-cbm LNG carriers each worth about \$199 million and this LNG carrier is third in that batch. Dynagas took delivery of Clean Resolution from Hyundai Heavy, the first vessel in this batch, in September 2023, and this vessel serves Cheniere as well. This is also the case with Clean Destiny, which joined the fleet in December, the data shows. After this order in 2021, Dynagas ordered three more LNG carriers of the same size at Hyundai Heavy in 2022, as well as three vessels in January last year and two vessels in May last year. The ships feature GTT's Mark III Flex+ membrane containment system and are 299.8 meters long and 48.9 meters wide. Dynagas is expected to take delivery of all of these vessels by the end of 2027.

source : www.lngprime.com

PETROVIETNAM GAS TO LAUNCH LNG TRUCKING BUSINESS

PetroVietnam Gas, a unit of state-owned PetroVietnam, will this month officially start supplying liquefied natural gas via trucks from its Thi Vai LNG import terminal. “PV Gas officially announces the launch of LNG business by tank truck from March 15, 2024, following the integrated LPG/CNG/LNG business model,” the company said in a statement. PV Gas invited customers, partners, gas distributors and industrial customers to join this “promising and potential journey”. The firm previously completed a truck loading station at the Thi Vai LNG terminal. In May 2023, Vietnam Ministry of Industry and Trade licensed PV Gas to import and export LNG. According to PV Gas, its unit CNG Vietnam commissioned in August 2023 the Thuan Dao LNG satellite station (Long An). This station receives and distributes LNG by trucks. PV Gas officially launched its Thi Vai LNG terminal, Vietnam’s first LNG import facility, on October 29, 2023 after nearly 4 years of construction and commissioning. South Korea’s Samsung C&T and PTSC, a unit of PV Gas, built the Thi Vai LNG terminal in the coastal area southeast of Ho Chi Minh City. In July 2023, LNG giant Shell delivered the commissioning LNG cargo to the terminal from Indonesia’s Bontang LNG plant. PV Gas also recently released a tender inviting firms to submit bids for 1-2 spot LNG cargoes for delivery to the LNG import terminal. The import facility consists of one 180,000-cbm LNG tank, a jetty, and regas area. It has a capacity of 1 mtpa in its first phase, but PV Gas plans to boost the capacity to 3 mtpa in the next stage. source : www.lngprime.com

NEW FORTRESS COMMISSIONS BRAZILIAN LNG IMPORT TERMINAL

New Fortress Energy (NFE) said February 29 it had commissioned its 6mn tonnes/year Barcarena LNG terminal in Para, Brazil and expects to begin immediate deliveries of natural gas from the terminal to Norsk Hydro’s Alunorte alumina refinery. With the *Energos Celsius* floating storage and regasification unit (FSRU) on-site, the Barcarena LNG terminal, at the mouth of the Amazon River, serves as the sole natural gas supply source in the state of Para and for the north region of Brazil. In addition to serving the Alunorte refinery under a 15-year contract – which will reduce the refinery’s CO2 emissions by an estimated 700,000 tonnes/year – Barcarena LNG will supply LNG to several industrial customers and a 630 MW power plant NFE is building adjacent to the terminal. That facility is about 50% complete, NFE said, and remains on track to reach commercial operations in Q3 2025. NFE is also working to expand the Barcarena power complex to 1.6 GW, with commercial operations expected by July 2026. “Our Barcarena complex is a great example of NFE’s fully integrated LNG-to-power business model, where our LNG import terminal provides a significant competitive advantage,” New Fortress CEO Wes Edens said. Barcarena LNG is the second import terminal commissioned by NFE this year. Commercial operations also began this month at Terminal Gas Sul near Santa Catarina, southwest of Sao Paulo, NFE said in announcing its quarterly results. Terminal Gas Sul is also a 6mn tonnes/year facility, supported by the *Energos Winter* FSRU and connected through a 33 km pipeline to the Transportadora Brasileira Gasoduto Bolivia-Brasil pipeline to more than 3.5 GW of power that does not have firm, long-term gas supply contracts. “TGS is directly connected to more than 3.5 GW of existing power infrastructure that lacks firm

supply agreements, making the terminal a key asset in Brazil's evolving energy landscape," Edens said. "With numerous new power projects required to balance the grid in Brazil in the near term, NFE is poised to meet growing demand by leveraging its vertically integrated portfolio of LNG assets and expertise." NFE reported net income in Q4 2023 of \$214.9mn, up from Q3 2023 net income of \$62.3mn. Adjusted EBITDA increased sequentially to \$387.6mn from \$208.4mn. "This year was a record by all of our reported metrics and importantly, during the second half of the year, there was no profit from cargo sales recorded," Edens said. "In other words, all of our performance was a result of downstream operating results. This is a major change in the company's performance, and a significant and meaningful improvement in both the quality and quantity of our results." source : www.naturalgasworld.com

QATAR TO BOOST LNG PRODUCTION BY 85% BY 2030

Extensive appraisal drilling and testing have confirmed that productive layers of Qatar's giant North Field extend towards the west, which allows for developing a new production project in Ras Laffan. Qatar's Minister of State for Energy Affairs and President and chief executive of QatarEnergy, Saad Sherida Al-Kaabi, made the announcement at a press conference in Doha on 25 February. The minister said, "We have continued geological and engineering studies and have drilled a number of appraisal wells in that area. I am pleased to announce that these great efforts have confirmed, through technical tests of the appraisal wells, the extension of the North Field's productive layers further towards the west, which means the ability to produce significant additional quantities of gas from this new sector." The additional gas quantities in the North Field are estimated at 240 Trn cubic feet, which raises Qatar's gas reserves from 1,760 to more than 2,000 Trn cubic feet, and the condensates reserves from 70 to more than 80Bn barrels, in addition to large quantities of liquefied petroleum gas, ethane and helium.

Minister Al-Kaabi said, "These are very important results of great dimensions that will take Qatar's gas industry to new horizons, as they will enable us to begin developing a new LNG project from the North Field's western sector with a production capacity of about 16 mta." "As such, the State of Qatar's total LNG production will reach about 142 mta when this new expansion is completed before the end of this decade." The figure would represent an increase of almost 85% from current production levels and if complete, would see Qatar's total hydrocarbon production exceed 7.25M barrels of oil equivalent per day. QatarEnergy also recently confirmed it has selected Qatar Gas Transport Co Ltd (Nakilat) to be the owner and operator of up to 25 conventional-size LNG carriers. The orders will be conditional upon the signing of time charterparty (TCPs) agreements by affiliates of QatarEnergy and Nakilat. QatarEnergy will commence the basic engineering work for the new North Field West project. The news of more capacity in the future comes in the wake of the United States' moratorium on new export permits. Last month, the Biden Administration said it would temporarily pause future LNG export permits, a move that many in the industry perceive as having been influenced by domestic politics as he attempts to win re-election. However, the moratorium is not expected to affect any of the major LNG terminals currently being built. At least five major export terminals are coming



online on the Gulf Coast and there are other major projects in Canada and Mexico. The United States is now the world's largest exporter of LNG and a continued increase in supply is likely with global demand growing. source : www.rivieramm.com

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