LNG Unlimited

LNG JOURNAL PUBLICATION 20 June 2017

US regulator starts Jordan Cove LNG countdown to key permit battle

FERC says that any comments on the environmental impact statement scope is expected to be received by July 10

Our North America editor in New York

Majority of Coos Bay people support Jordan Cove and its jobs

The US Federal Energy Regulatory Commission has issued a notice of its intent to prepare an environmental impact statement for the Jordan Cove LNG export project proposed for Coos Bay in the northwest state of Oregon.

The FERC said its assessments would also involve the Pacific Connector Pipeline and comments on the scope of the EIS are due on July 10, 2017.

Merged

Jordan Cove's development was led until recently solely by Canadian energy company Veresen Inc, though Veresen is now in the process of being taken over by Canadian peer Pembina Pipeline Corp. in a transaction valued at US$4.3 billion.

Veresen and Pembina, both based in the city of Calgary in the Canadian province of Alberta, said their transaction is expected to bolster the delivery of their existing strategy and portfolio of projects.

The Jordan Cove LNG venture is one of those projects, though it is being temporarily held up by a lack of a quorum currently at the FERC.

The regulator also rejected the Jordan Cove venture in 2016, ruling that it lacked market support. However, since then the project has received backing from LNG buyers in Japan and has applied to re-enter the permitting process.

"The Commission will use this EIS in its decision-making process to determine whether the Jordan Cove LNG Terminal is in the public interest and the Pacific Connector Pipeline is in the public convenience and necessity," the regulator stated.

"This notice announces the opening of the public comment period, commonly referred to as scoping. You can make a difference by providing your comments," the FERC said.

The review of the Jordan Cove project is likely to attract protests from environment protesters who are extremely active in Oregon.

"Your comments should focus on potential environmental impacts, reasonable alternatives, and measures to avoid or lessen environmental impacts.

"This scoping opportunity is for the entire project, including actions and proposed plan amendments," the FERC said.

The Chief Executive of the Jordan Cove project is Betsy Spammer, a former senior executive of BG Group of the UK, which helped establish LNG in the US Gulf Coast at the Lake Charles terminal.

The Jordan Cove venture has industry groups such as the Washington-based Center of Liquefied Natural Gas standing by to support it in the regulatory process.

Aware that Jordan Cove has faced opposition from very organized environmental groups in Oregon, the CLNG has said it was keen to "raise awareness of the many uses of LNG, to educate the public on the successes of LNG" and to bring the fuel safely to market.

Oregon senators Ron Wyden and Jeff Merkley, both Democrats, are helping to lead the opposition to Jordan Cove.

However, supporters of the plant are fighting for jobs and economic development and view themselves as supporting a clean-fuel policy and the great American wilderness without being environmental elitists.

Voters in Coos County where the plant will be located are already rallying behind the project. A recent poll rejected a local county measure on 16 May 2017 intended to block the proposed facility.

The measure would have banned "non-sustainable energy systems" and the transportation of fossil fuels into or through Coos County except for when intended for local use.

Voting returns showed the measure against LNG lost by a margin of 76 percent to 24 percent with 7,240 votes cast.

UNLIMITED AGENDA

US Corpus Christi LNG export plant is ahead of schedule and feed-gas secured on five pipelines

Corpus Christi LNG, the second Cheniere Energy liquefaction and export plant to add to the Houston-based company's volumes from the Sabine Pass facility in Louisiana, said the first processing Train would be ready for commercial operations ahead of schedule in the first half of 2019 and that pipeline supply infrastructure has also been secured.

The Texas liquefaction plant is being built on the shore of Corpus Christi Bay, at the north end of the La Quinta Channel.

Texas export plant is located on shore of Corpus Christi Bay

Stages

Cheniere said in its latest statement to investors that stage one of the project, comprising the construction of the first two Trains was 61.7 percent complete overall.

"We are targeting substantial completion by mid-2019, several months ahead of guaranteed completion dates," said Cheniere.

"Sufficient firm pipeline capacity for Train 1 and Train 2 operations has been secured," Cheniere said.

The venture has potential pipeline supply points on five pipelines, namely Natural Gas Pipeline Company of America, Tennessee Gas, Houston Pipe Line, Kinder Morgan Tejas and Transco.

"Commissioning is scheduled to begin in the fourth quarter of 2017," said Cheniere.

"Gas supply will be ready to commission the pipelines and compression needed for Corpus Christi Liquefaction's commissioning in 2018," Cheniere said.

US engineering company Bechtel Inc., the world's leading liquefaction plant builder and whose corporate headquarters are in San Francisco, has been building Sabine Pass and will construct all three Trains planned.

The Phase 1 engineering procurement and construction contract for Corpus Christi includes building two LNG Trains, each with 4.5 million tonnes per annum of capacity, two storage tanks, one complete berth and a second partial berth.

The contract for Phase 2 includes one LNG Train, one additional tank, and completion of the second berth. The total capacity will be 13.5 MTPA.

The Texas plant's current cargo sales agreements amount to more than 9 MTPA, or two whole Trains of production.

Foundation customers include Indonesian energy company Pertamina, Australian LNG producer Woodside and the European-based utilities Endesa, Iberdrola, Gas Natural Fenosa and Electricite de France.

The first Train at Cheniere's Sabine Pass was able to ship its first commissioning cargo in February 2016.

Each of the six Sabine Pass Trains also has a nameplate capacity of 4.5 MTPA for a total planned output at the Louisiana facility of 27 MTPA. ■

Mitsubishi chooses Sapient Global Markets to provide US Cameron LNG risk management

Sapient Global Markets, a consultancy for financial and commodity markets, has been selected by Japanese conglomerate Mitsubishi Corp. to provide a risk management platform for the cargoes it will export from the Cameron LNG project currently under construction in Louisiana.

Sapient, listed on the US Nasdaq global stock exchange, provides technology, analytics, programme management and operational services for risk management.

The company said it had been selected as a system implementation partner by two Mitsubishi subsidiaries, MC Global Gas Corp. and Diamond Gas International. MCGG and DGI will be exporting shipments from Cameron LNG.

"MCGG and DGI have developed a new LNG business model to export LNG from the Cameron LNG terminal near the Gulf of Mexico in North America for supply to various markets of the world," said Sapient.

The Cameron project is an existing import terminal on the shore of the Calcasieu Ship Channel at Hackberry, Louisiana, and is owned by California utility Sempra Energy.

Mitsubishi is among the three project partners of Sempra, along was Japanese peer Mitsui & Co. and French energy company and utility Engie. They are all investing in the transformation of the terminal into an export plant.

Sempra expects the first Cameron liquefaction Train to come on stream in mid-2018, with Train 2 and Train 3 starting up at six-month intervals at the end of 2018 and in mid-2019.

The total combined capacity of the three Trains would be just over 15 million tonnes per annum, while the Cameron project also has permission to add two additional Trains to take total output to near the 25 MTPA mark.

"As part of the new (Cameron) LNG project, one of the first steps for MCGG and DGI was to select and implement an Energy Trading Risk Management (ETRM) platform," explained Sapient.

"The requirement for a new ETRM system was identified to support the entire LNG value chain, including procurement of feed gas, gas transportation and delivery to the Cameron LNG plant, as well as logistics for delivery to customer terminals, including vessel and voyage management, diversions, and schedule changes," the consultancy said.

"After a detailed evaluation, and a review of the market, MCGG & DGI selected Sapient as its strategic partner for ETRM implementation, due to its proven capabilities in delivering successful projects on the platform," added Sapient.

Mineko Hida, Executive Vice President of MCGG in Houston, Texas, said he was pleased with the choice of Sapient as a partner "for the ETRM implementation, which enables us to establish a platform to manage the LNG export businesses from Cameron LNG."

Pawan Vaswani, Director at Sapient Global Markets, said the new ETRM platform will act as the backbone for the LNG export operations.

"This requires skills and experience in delivering these implementations to ensure a high availability, high-performance platform that meets all of the required service levels," said Vaswani. ■

US maker of LNG equipment sells non-core assets as part of restructure

Chart Industries of the US, one of the main suppliers of liquefaction and LNG storage equipment, has completed the sale of a range of non-core assets to RIX Industries for an undisclosed sum.

"For the past several years Chart has developed and supplied QDrive technologies to RIX in support of liquid oxygen systems," said Chart.

"We have built a great partnership with RIX over the years and this transaction will allow both of our companies to focus on delivering high-quality products and services to our valued customers," stated Earl Lawson, Chart's President of its biomedical unit.

"This is part of our strategic efforts to focus our energy on our core businesses while improving efficiency," added Lawson.

The Qdrive operations are currently located in Troy, New York state, and will be relocating to RIX's facilities in Benicia, California.

In its latest earnings reported at the end of April 2017, Chart narrowed its net loss in the first quarter amid mixed LNG results.

It also continued with its restructuring process ahead of the company moving its headquarters from Cleveland, Ohio, to Canton in the US state of Georgia.

The company is in the middle of a previously announced ending of an executive era whereby Samuel F. Thomas, current Chairman and Chief Executive, moves to the position of Executive Chairman on May 25, 2017, before retiring from the company in May 2018.

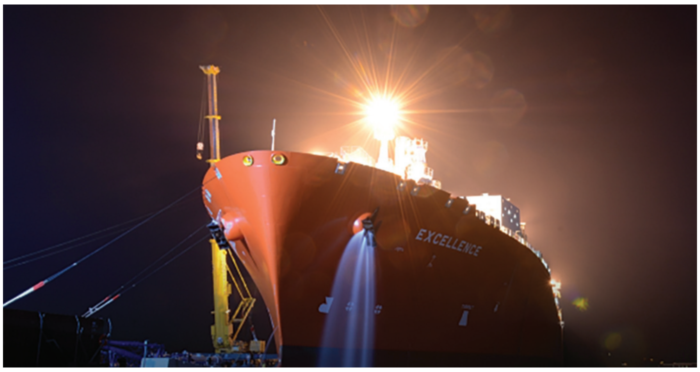
William (Bill) C. Johnson, the current President and Chief Operating Officer, will become the company's CEO and President in May next year.

Swiss group chosen as organiser of Bangladesh's flow of LNG cargoes

Our Asia editor

Bangladesh has chosen Swiss commodities company Astra Transcor Energy (AOT) to help procure liquefied natural gas shipments for a new floating storage and regasification project scheduled to come on line in mid-2018 on an island in the Bay of Bengal.

A memorandum of understanding just signed commits AOT to help supply state-run oil and gas company PetroBangla with LNG cargoes.



Asian nation to have imports and infrastructure put in place

Experienced

AOT has widespread commodity interests and operates from a group headquarters in the town of Zug, central Switzerland.

Excelerate Energy, the US FSRU project specialist, is chartering the vessel to Bangladesh as its first floating import terminal at Moheshkhali Island, scheduled to begin commercial operations by May 2018.

Excelerate and the International Finance Corp. (IFC), a lending institution of the World Bank, are setting up the import facility and related infrastructure, supported by the Bangladesh Energy Ministry and PetroBangla.

The US company will deliver the Bangladesh FSRU on a build-own-operate-transfer basis. The vessel will have storage capacity of 138,000 cubic metres and regasification capacity of 500 million standard cubic feet per day.

Excelerate has completed the required geotechnical and geophysical studies for the implementation of the Moheshkhali floating terminal.

Bangladesh has said it needs at least two more LNG import terminals in addition to the Excelerate FSRU to meet its natural gas needs.

The Asian nation, whose neighbours India and Pakistan are both LNG importers, is estimated to need 35 percent more natural gas than it currently consumes just to eliminate shortages.

Bangladesh's huge unmet gas demand is particularly felt in the power generation sector.

Excelerate will own and operate the FSRU terminal under a 15-year agreement with PetroBangla.

Indian Hiranandani group makes progress with Maharashtra LNG import project at Jaigarh port

Indian businessman Darshan Hiranandani and his H-Energy company is making progress in his floating storage and regasification project by formally signing its charter agreement for the vessel with French energy company Engie.

The H-Energy subsidiary Energy Gateway Private Ltd signed the accord with Engie to secure the FSRU "GDF-Suez Cape Ann".

Under the agreement with the French company first disclosed on 25 April 2017, H-Energy Chief Executive Hiranandani said his company would be able to import up to 4 million tonnes per annum using the FSRU deployed at Jaigarh port.

The "GDF Suez Cape Ann" has storage capacity of 145,000 cubic metres and is also capable of reloading LNG to ship the fuel to other destinations.

Jaigarh port is near the West Coast city of Mumbai in the latest natural gas project to proceed in the state of Maharashtra.

The facility would be the fourth LNG import terminal situated near Mumbai, with the three others located at Hazira, Dahej and Dabhol for use by importers Shell, Petronet LNG and Gas Authority of India.

"The FSRU has been chartered by H-Energy for a period of five years and will arrive at the LNG jetty at Jaigarh by the third quarter of 2018," the Energy Gateway unit said.

However, India's East and Northeast regions are still not connected to LNG terminals, though about half a dozen projects are being planned, including the use of FSRUs in eastern states such as Andhra Pradesh.

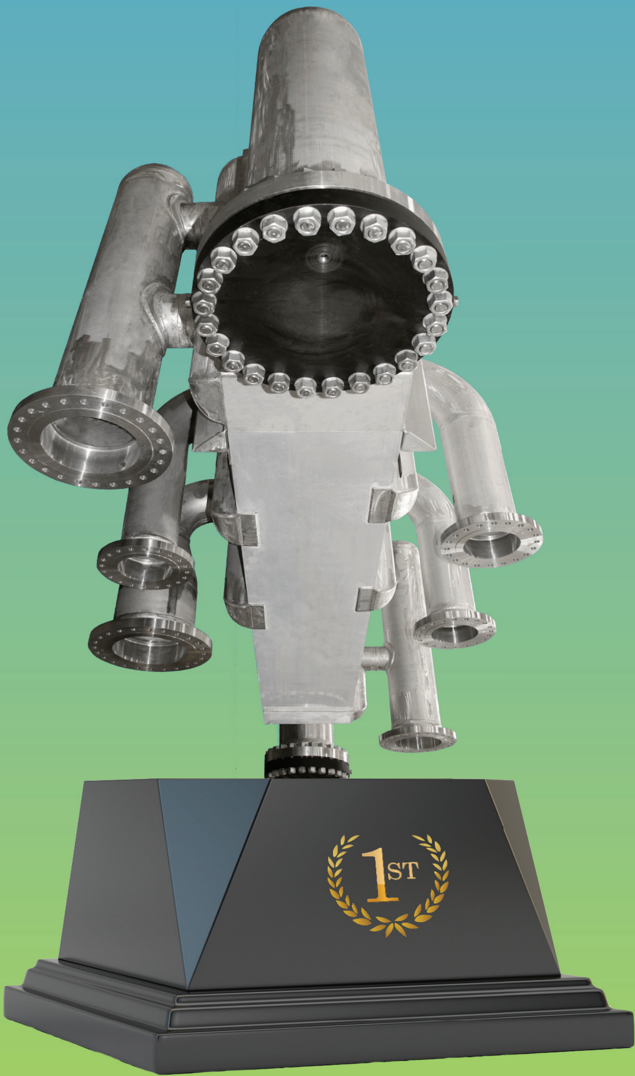
"The companies have an option to extend the charter party agreement beyond the initial term," Energy Gateway's statement added.

The Hiranandani Group is one of the largest Indian companies with its main offices in Mumbai and Dubai in the United Arab Emirates.

While it started as a property investment business it has broadened its interests into other areas such as energy and power.

CEO Hiranandani said he valued the relationship with Engie and looked forward to "various collaboration" activities in the future.

Chart Brazed Aluminum Heat Exchangers



First to Produce LNG On-board a Floating Facility

Custom designed, highly efficient, compact heat exchangers with superior heat transfer performance and operational flexibility. Providing substantially lower weight, scalability, modular construction and proven performance, Chart Brazed Aluminum Heat Exchangers are uniquely suited to the rigors of floating vessels, where space is at a premium and reliability is paramount.

www.chart-ec.com

CHART®

Innovation. Experience. Performance.®

NEWS NUDGES

TransCanada plans expansion

TransCanada Corp., the Canadian pipeline company, is moving forward with a new $2 billion expansion of its Nova Gas Transmission Ltd. system, based on new contracted customer demand for approximately 3 billion cubic feet per day, even in the absence of a major LNG export project. "Between now and 2021, TransCanada is investing in new pipeline infrastructure to connect Western Canadian natural gas production to key markets within the basin and across North America," said Karl Johannson, TransCanada's executive Vice-President. This expansion programme comes from growing producer demand to connect with the low-cost Montney shale-gas play in British Columbia and other resources.

Centrica exits Canada project

UK energy and utility company Centrica, a capacity holder in the Isle of Grain LNG terminal for current Qatari and future US imports, has agreed to sell its 60 percent stake in the Energy Canada Partnership, an exploration and production venture, to a consortium including MIE Holdings, the Can-China Global Resource Fund and commodity company Mercuria for C$722 million (US$540M) in cash.

New Billiton Chairman

BHP Billiton, the Australian commodities and energy company with LNG stakes, has elected Ken MacKenzie as its new Chairman to succeed Jac Nasser. MacKenzie will assume the role of Chairman from September following Nasser's retirement. Chairman-elect MacKenzie said: "It is an honour and a privilege to succeed Jac Nasser as Chairman of BHP.

Regular LNG bunkering operations begin at Belgian Zeebrugge port

Our Europe editor

The LNG bunkering vessel "Engie Zeebrugge", set to operate in northwest Europe, has performed its first regular deliveries of fuel to two new gas-propelled pure car and truck carriers in the Belgian port of Zeebrugge.

The 5,000 cubic metres capacity fueling ship is owned by the France-Japan bunkering venture set up in 2016 by French energy company Engie and with the Japanese trading house Mitsubishi Corp. and Japan's NYK Line shipping company as shareholders.

Vessel operated by United European Car Carriers get fuel

Home

The "Engie Zeebrugge" is using Zeebrugge as its home port and the regular operations now underway will also involve the LNG terminal owner, Fluxys of Belgium.

Two LNG-fueled vessels operated by United European Car Carriers, the "Auto Eco" and the "Auto Energy" were re-fueled in the first of many planned regular operations.

The "Engie Zeebrugge" carried out its first trial bunkering operation at Zeebrugge in April with LNG loaded at the terminal.

"She is now executing a weekly service to the two new gas-propelled pure car and truck carriers of UECC and is the world's first LNG bunkering vessel to perform regular ship-to-ship bunkering services," said Fluxys.

The bunkering vessel was built at the Hanjin Heavy Industries and Construction Company shipyard in the port of Busan in South Korea and delivered to Engie in February 2017.

Engie, Mitsubishi and NYK have set up a marketing company called Gas4Sea to develop the LNG fuel market in northwest Europe and elsewhere.

The vessel will regularly take on LNG at Zeebrugge where carriers deliver shipments from Qatar and elsewhere and where docking is also provided for small-scale tankers supplying the regional market on a break-bulk basis.

Under the Gas4Sea brand, the three partners intend to support the development of LNG as a marine fuel.

Currently, the bunker market amounts to approximately 250 million tons of heavy fuel oil per year. The companies said the challenge is to make LNG grow in the bunker market by also supplying the delivery infrastructure.

Italian utility to sell stake in Adriatic terminal owned by Qatar-Exxon

Italian utility Edison said it was planning to sell its stake in the Adriatic LNG import terminal owned as a joint venture with Qatar Petroleum and ExxonMobil for shipping cargoes into northern Italy.

Edison is a subsidiary of French utility and LNG player Electricite to France and has held a 7.3 percent stake in the terminal since it began operations from a gravity-based structure in the Northern Adriatic Sea.

The company said talks were also underway to sell the pipeline connecting the LNG terminal to the Italian natural gas network.

"The market will be fully informed on the progress of negotiations," said Edison.

The possible transaction comes at a time when the state of Qatar and Qatar Petroleum, the world's largest LNG producer is facing financial pressure from its Gulf Cooperation Council neighbours because of a dispute over its anti-terrorism policy.

"The market will be fully informed on the progress of negotiations," said Edison.

The LNG terminal became operational in the second half of 2009 and is capable of importing 6 million tonnes per annum of LNG to cover about 10 percent of Italian natural gas needs.

In addition to regular cargoes from Qatar, the Adriatic facility has also handled shipments from nations such as Trinidad and Norway.

Qatar said in March 2017 that it had shipped its 500th cargo to the Adriatic terminal from the Qatar Gulf production complex at Ras Laffan.

Net Italian LNG imports amounted to 5.47 million in 2016 compared with 4.32MT the previous year.

Prior to Adriatic LNG being commissioned Italy had just one small onshore terminal, the long-established Panigaglia facility near Genoa, in operation since 1969 and owned by Snam Rete.

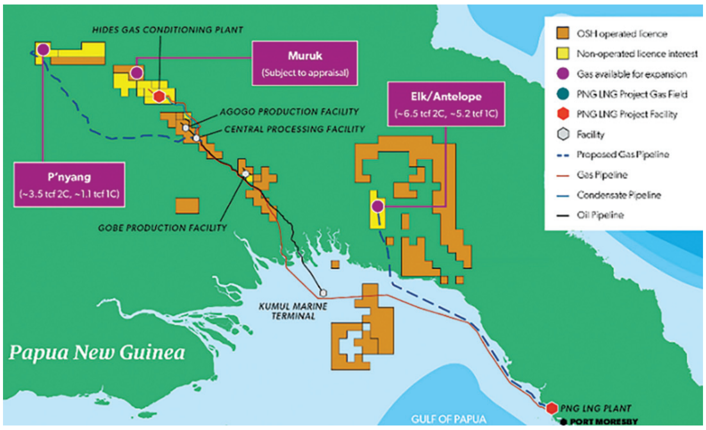
Italy added a third terminal in 2013 when the "FSRU Toscana" was moored off the west coast of Italy between the cities of Livorno and Pisa and connected to the Italian national gas transmission network by a pipeline.

Papua New Guinea drilling at Muruk well confirms potentially significant gas field for LNG expansion

Our Asia-Pacific editor

Australian company Santos, a stakeholder in three Asia-Pacific liquefied natural gas production plants, reported a positive production well test result from the Muruk ST3 gas exploration in the Papua New Guinea Highlands to help underpin PNG LNG plant expansion.

The Muruk 1 gas discovery was first announced in December 2016 and an additional sidetrack has been successfully drilled through the Toro reservoir objective to the southwest of the gas discovery.



Muruk well test flow rate was 16 million cubic feet a day

Assessed

"The production test was undertaken to assess reservoir productivity and recover hydrocarbon samples over the gas saturated Toro Sandstone interval, between 3,968 metres to 4,065 metres," said Santos.

"The well flowed gas and condensate at a rate of 16 million standard cubic feet per day (mmscf/day) of gas on a 32/64-inch choke.

"The well rate was constrained by test facilities which limited tests to short flow and build up periods. Multiple hydrocarbon samples were collected for further analysis," said Santos.

"The Muruk drilling programme confirms the discovery of a potentially significant new gas field, 21 kilometres northwest of the Hides production facilities," the company added.

Santos said the data from the latest Muruk drilling programme would be evaluated to assist in the definition of forward appraisal options.

"Well site preparations are being scheduled for late 2017 ahead of a potential Muruk appraisal programme in 2018," it said.

In addition to holding a stake in the PNG LNG plant, Santos is operator of the Gladstone coal-seam-gas-to-LNG plant in the eastern Australian state of Queensland. Its partners are the French company Total, Petronas of Malaysia and Korea Gas Corp.

Santos also has a stake in the ConocoPhillips-operated Darwin plant in Australia's Northern Territory.

The Muruk licence participants along with Santos are ExxonMobil and Oil Search Ltd.

The existing two Trains at the PNG LNG plant, located northwest of the capital Port Moresby, produced at an average rate of 7.9 million tonnes per annum during 2016 compared with their combined nameplate capacity of 6.9 MTPA.

Norwegian energy company Statoil to explore Great Australian Bight

Norwegian energy company Statoil has committed itself to continuing the deepwater offshore exploration programme in the Great Australian Bight offshore South Australia that was vacated by BP of the UK in October 2016.

The decision by BP to abandon its planned exploration and drilling programme in the Great Australian Bight, known as the GAB, left the state government and the region disappointed.

Statoil has signed a swap agreement with BP and has been granted regulatory approval to take over two exploration permits and extend its work programme in the GAB.

The agreement between Statoil and BP covers four offshore titles.

BP was awarded exploration licences for four blocks in the Ceduna area of the GAB in January 2011.

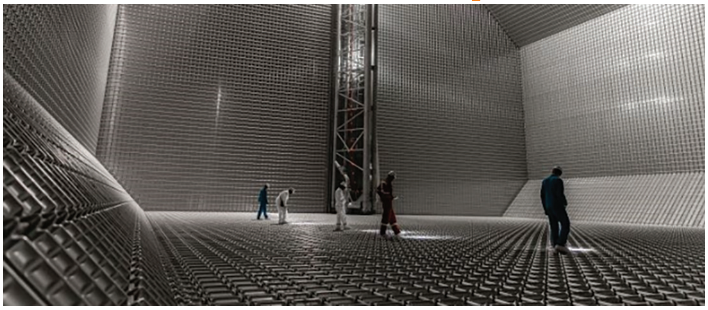
"We are very pleased to have reached these agreements and found a way forward for our exploration project in the Bight," said Pal Haremo, Statoil Vice President of Exploration in Australasia.

"With this transaction, we have strengthened our position in this promising, unproven basin with a large exploration upside. This is in line with Statoil's global exploration strategy of accessing at scale and targeting high-impact opportunities," added Haremo.

Statoil is owner of Europe's only baseload LNG production plant at Hammerfest in northern Norway. The LNG facility processes feed-gas from the Snohvit field in the Barents Sea.

French LNG storage firm GTT to supply tanks for Mozambique

Our Europe editor



Samsung will deliver the FLNG vessel with GTT tanks by 2021

Gaztransport and Technigaz (GTT), the French owner of liquefied natural gas maritime and other storage technologies, said it received an order from Samsung Heavy Industries in South Korea to equip a floating hull with storage for the Mozambique Coral FLNG project.

GTT said this new FLNG hull, with a capacity of 238,700 cubic metres capacity, will integrate eight LNG tanks equipped with the Mark III membrane containment system.

Samsung building

"It will be the second-biggest FLNG in the world," it added.

The unit will be built at SHI Shipyard, based in South Korea on behalf of Italian energy company Eni and its delivery is scheduled in 2021.

"This FLNG will be operated off the coast of Mozambique," said GTT.

"We are very pleased to be part of this new FLNG project. After the recent delivery of the very first FLNG and the up-coming delivery of the largest FLNG ever built, this award demonstrates GTT technologies are the solution of choice for these offshore LNG units," said Philippe Berterottière, Chairman and Chief Executive of GTT.

In addition to this new order, the GTT membrane technology has been selected to equip the three FLNG production hulls already ordered in the world. These units are being equipped with the No. 96 system as well as the Mark III system.

As sector leader in LNG storage for ships, GTT sells licensing agreements around the world for up to $10 million per licence to install its membrane technology in vessels, mostly built up until now at South Korean shipyards.

The Euronext-listed company recently launched the No. 96 Max, an optimized version of the No. 96 system used in more than 120 LNG carriers to date.

GTT continually advances its research and development work and has also successfully marketed its very latest Mark V membrane technology.

KBR and Korean construction partner kept on board for Magnolia

Australian developer LNG Ltd has formally extended its final turnkey engineering and construction contract for the Magnolia LNG export venture in Louisiana by six months as it seeks to finalize supply agreements with customers.

A joint venture involving US engineering company KBR Inc. and South Korea's SK Engineering & Construction had agreed the contract in 2015 amounting to $4.35 billion to build four liquefaction Trains, each with a capacity of around 2 million tonnes per annum.

Capacity

LNGL said at the time that the KBR-SK contract would give an installed capacity at a cost-per-tonne range of US$495 to US$544, based on the final design when the final investment decision is made.

The company said the binding lump-sum, turnkey engineering, procurement and construction contract was now valid through December 31, 2017.

"The extension of our agreement with KBR-SK E&C provides us with additional confidence as we focus on finalizing offtake agreements and moving toward a final investment decision (FID) for Magnolia, while we also maintain Magnolia's standing as the low cost, low risk, construction ready Gulf Coast LNG export project," said LNGL Managing Director and Chief Executive Greg Vesey.

The Magnolia liquefaction plant will be sited on a 115-acre parcel of land in an area of Louisiana where three other export ventures are being developed next to the Calcasieu Shipping Channel.

The other plant infrastructure includes two 160,000 cubic metres capacity storage tanks, marine and ship-loading facilities and support services. The project would also involve using LNGL's patented OSMR processing technology.

LNGL is additionally developing the medium-scale Bear Head LNG export project in Nova Scotia, Canada. All the permits are in place for this venture and Magnolia.

The Magnolia project in January 2017 signed a Heads of Agreement with Vessel Gasification Solutions Inc. (VGS) in relation to shipping cargoes to India.

The accord, if it becomes a full Supply and Purchase Agreement (SPA), would see Magnolia supply LNG to the East Coast of India for the first time as all the Asian nation's four existing terminals are on the West Coast.

Qatar signs up with Royal Dutch Shell CEO Van Beurden for latest LNG bunkering accord

Our Europe editor

Qatar Petroleum has signed an accord with Royal Dutch Shell Chief Executive Ben van Beurden on developing liquefied natural gas as a maritime fuel as well as the infrastructure to deliver it at strategic shipping locations across the globe.

The Qatar-Shell agreement on LNG bunkering was signed amid the continued disagreements between Qatar and its Gulf Cooperation Council neighbours over policies to combat terrorism.

The dispute has led to travel and other sanctions being imposed on Qatar by the GCC.

"As two of the world's leading LNG suppliers, Shell and Qatar Petroleum have the capability and experience to deliver LNG as a marine fuel to ship owners and operators who must meet tougher emissions regulations from 2020," said Shell CEO Van Beurden.

"We look forward to working with Qatar Petroleum to increase the availability of LNG as a fuel for transport," the Shell CEO added.

Shell CEO Van Beurden and his QP counterpart Al-Kaabi

The latest Qatar Petroleum-Shell agreement follows two previous accords signed with industry partners in 2016 to explore LNG bunkering opportunities in the Middle East.

"Pursuant to the agreement, Qatar Petroleum and Shell will evaluate and progress the development of LNG bunkering facilities at various locations across Europe, the Middle East and East Asia," the two companies said.

Saad Sherida Al-Kaabi, Qatar Petroleum's President and CEO, said he was pleased to team up with a long-term partner and industry pioneer such as Shell.

Shell is a shareholder with Qatargas, the Qatar Petroleum subsidiary, in Train 4 at the Ras Laffan production complex, one of Qatar's mega-Trains producing 7.8 million tonnes per annum from the Gulf state's annual total of over 77 MTPA.

"We view LNG bunkering as a promising opportunity for LNG to further grow as a clean energy source," said Al-Kaabi.

"LNG demand for bunkering is expected to increase significantly over the coming years and we believe there is real potential for such demand to reach up to 50 million tonnes per annum by 2030," he added.

In response to the GCC policy dispute with its neighbours, Qatar Petroleum and its subsidiaries have said they were mobilizing all available resources and activating their "business continuity" plans to mitigate the impact of any sanctions.

"Qatar Petroleum, and its subsidiaries, wish to affirm that they are conducting business as usual throughout all upstream, midstream and downstream businesses and operations," it said.

Al Kaabi said that on behalf of Qatar Petroleum, he would like to express his gratitude to all the company's valued LNG customers.

"We would like to assure them of our determined efforts to continue uninterrupted supplies as the world's most reliable LNG supplier," he stated.

Global LNG shares and markets unaffected by Qatar dispute - seen as a local disagreement

LNG export Qatar's dispute with its Gulf Cooperation Council (GCC) neighbours, including the United Arab Emirates, Bahrain, Kuwait and Saudi Arabia is having little impact on the LNG market and it is business-as-usual for global LNG shipping shares.

Since the dispute over anti-terrorism policies began no LNG cargoes have been delivered to the UAE and Kuwait because of GCC transport sanctions against Qatar.

While markets generally over-react to uncertainty, there is likely to be little fall-out for LNG as global shares are holding up, including the shipping company who transport the cargoes.

The only impact seen by analysts is likely to be a halt on LNG imports from Qatar to the UAE and possibly Kuwait.

The leading LNG company shares in the US were all up in line with the energy sector.

Energy sector share rose 0.67 percent overall in trading in the US where prominent LNG companies from Europe and elsewhere also have subsidiary shares listed.

Cheniere Energy, operator of the Sabine Pass plant in Louisiana, as well as US-listed shipping companies were unaffected.

Cheniere shares were last at $49.43 on June 13, up less than 1 percent in line with the sector.

Golar LNG shares were at $22.74 per share, Dynagas LNG Partners were slightly up at $15.32 and Teekay LNG Partners were up at $15.50 per share.

These stocks all moved in line with the 0.67 percent rise in the basket of energy sector shares.

The only LNG share that was substantially down was Tellurian Inc., developer of the Driftwood LNG project in Louisiana.

This is likely because the company recently withdrew its planned public offering of 10 million shares, citing adverse market conditions.

The Tellurian shares were down more than 12 percent on June 13 amid share transactions by directors.

The company's shares are still trading above their 50-day and 200-day moving averages.

Tellurian's LNG project involves constructing a liquefaction and export plant near Lake Charles to match the Sabine Pass venture of Cheniere with 27 million tonnes per annum of output.

The company was founded by former Cheniere CEO Charif Souki and by Martin Houston, who ran the operations of the LNG portfolio company, BG of the UK.

The cancelled share sale on May 23 was to have been the first of a series of share offerings and other transactions. It is seen as a temporary setback for the company that is aiming to raise an estimated $12 billion to bring the Louisiana plant to first production.

Japanese delivered spot LNG cargo prices rise compared with a year ago to $5.70 per MMBtu

Our Asia editor

Japanese government figures show that the average delivered price of spot liquefied natural gas shipments arriving in Japan was $1.40 per million British thermal units higher at $5.70 per MMBtu in May compared with $4.30 per MMBtu in the same month of 2016.

The preliminary average May 2017 contracted spot price was also up compared with a year ago and was also given as $5.70 per MMBtu versus $4.10 per MMBtu in May 2016.

Contracted

The April 2017 spot price contracted but not yet delivered had been $5.70 per MMBtu and $5.90 per MMBtu on an arrived basis.

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.

'Spot LNG' refers to fuel traded on a on-off basis

"Subjects of these statistics are companies which are end-consumers of spot LNG. In order to avoid double counting, companies that mediate transactions (for example trading companies) are excluded from subjects of these statistics," the Ministry noted.

Overall shipments to Japan, last given for the month of April, showed that the year-on-year cost of the fuel jumped by more than 30 percent on a weaker yen against the dollar and as shipments of thermal coal for power generation also surged.

The imports increased 3 percent to 6.57 million tonnes compared with 6.38MT in April 2016.

Shipments cost 308.32 billion yen ($2.76Bln) versus 231.84 billion yen ($2.07Bln), a surge of 33 percent on the same monthly LNG bill in 2016.

Imports of thermal coal to Japan, a competitor to LNG, jumped 8.7 percent to 8.19MT year-on-year, according to the figures from the Japanese Finance Ministry.

The imports for all of 2016 amounted to 83.34MT, a decline of 2 percent on the previous year. Those shipments cost the equivalent of $28.94Bln, a drop of 40.4 percent compared with 2015.