LNG Unlimited

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Hoegh LNG advances with Colombia and Chile projects

Norwegian player's faith in FSRUs may be underscored with new orders

Our Europe editor

Hoegh LNG, the Norwegian fleet owner and floating storage and re-gasification unit charterer, posted a modest rise in third-quarter profits as the Latin American state of Colombia became an importer using the FSRU "Hoegh Grace" and a Chilean project prepared to take another ship.

The Norwegian company is currently negotiating several long-term FSRU charters and said a project called Penco LNG in the South American nation of Chile was one of the ventures making progress.

Operations like this in Indonesia are on cards for others

FSRU market

It is also contemplating ordering more FSRUs from South Korea.

"The level of business development activity is currently high. Several new FSRU projects have been proposed lately, most of which have start-up dates in 2017 and 2018," Hoegh stated.

Colombian companies Promigas and La Sociedad Portuaria El Cayao were the latest to initiate a joint venture LNG import project involving a Hoegh FSRU.

The resulting LNG imports will give Colombia supplies for gas-fired generation to cover any shortfalls in electricity from hydropower.

In addition to seeking US LNG cargoes, the new import facility at Cartagena will also be expecting to buy shipments from the Atlantic LNG export plant at Point Fortin in Trinidad.

Hoegh has signed a contract for a minimum term of 10 years with Sociedad Portuaria and Promigas for the FSRU.

"The Colombian FSRU project entered its start-up phase when 'Hoegh Grace' arrived in Cartagena early November 2016 and subsequently loaded its commissioning cargo," Hoegh said.

"Commercial operation is expected to commence in early December 2016," the Norwegian company added.

Hoegh said that it could transfer the "Hoegh Grace" to its US affiliate, a master limited partnership which already has four FSRUs under long-term contract.

Next on the Hoegh FSRU agenda is Chile. Hoegh said that during the third-quarter all permits were issued by the Chilean regulatory authorities to Penco LNG.

The Penco FSRU contract will be serviced by a newbuild vessel currently under construction at Hyundai Heavy Industries in South Korea.

In its earnings, Hoegh posted a modest third-quarter profit of $3.33 million compared with $2.49M in the same three months of 2015. Total third-quarter income was $58.05M, little changed from the $58.31M of a year ago.

"Hoegh LNG is currently in the final round of evaluating bids received from shipyards for its next FSRU newbuilding series.

"The terms and conditions of the offers received are very competitive, reflecting the current shipbuilding market.

"Given strong FSRU market fundamentals, Hoegh LNG is considering taking advantage of the current yard terms to further strengthen its competitive position as the leading provider of FSRU services," it stated.

Hoegh President and Chief Executive Sveinung J. S. Stohle, said the company was continuing to focus on operational excellence and project execution.

"With plenty of LNG being available at competitive prices, our customers continue to increase the throughput rate on our FSRU fleet, further reinforcing the economic attractiveness of FSRUs," the CEO stated. ■

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Papua New Guinea LNG players ExxonMobil and Oil Search sell Santos part of prospecting licence

Our Asia-Pacific editor

Australian energy company Santos has signed an agreement in Papua New Guinea to buy a stake in an exploration licence from ExxonMobil and Oil Search, both shareholders in the PNG LNG plant and a second liquefaction venture planned for the Oceania nation.

The licence, known as Petroleum Prospecting Licence (PPL) 402, covers 510 square kilometres of onshore prospects and is 40km northwest of the Hides gas field that feeds the PNG LNG plant, operated by ExxonMobil.

Petroleum Prospecting Licence near Hides and Juha fields

Asset shuffle

Analysts said the transaction was a shuffling of assets among energy companies operating in PNG amid continued debate about whether the country should have a second LNG export plant or expand its existing facility.

The deal gives PNG LNG plant stakeholder Santos participation in the recently spudded Muruk 1 exploration well. The well is targeting gas resources of around 2 trillion cubic feet near the existing Hides and Juha gas fields that supply the PNG LNG plant.

Santos Chief Executive Kevin Gallagher said Santos had a long and successful working relationship with both Oil Search and ExxonMobil in PNG.

"The agreement demonstrates our commitment to growing our position in Papua New Guinea and working with our long-term partners to explore and develop," said Gallagher, who declined to divulge the value of the transaction.

When the deal is completed ExxonMobil will still hold 42.5 percent of PPL 402 and Oil Search 37.5 percent.

The shareholders in the existing PNG LNG, located northwest of the capital Port Moresby, in addition to ExxonMobil and Santos are Oil Search, JX Nippon Oil of Japan and the PNG Government.

A second LNG project for PNG called Papua LNG is being developed by French energy company Total and ExxonMobil, which became a stakeholder after acquiring InterOil Corp. for $2.5 billion after out-bidding Oil Search for the company.

Papua LNG is being developed with resources from the Elk-Antelope field, one of the largest onshore resource discoveries in the Asia-Pacific region. The existing PNG LNG project is a development that includes gas production and processing facilities in the Southern Highlands, Hela, Western, Gulf and Central provinces of PNG.

More than 700 kilometres of pipelines connect the facilities, which include a gas conditioning plant in Hides, and liquefaction and storage facilities near the capital with plant capacity of 6.9 million tonnes per annum of LNG and there are plans for expansion.

Oil Search, after losing the takeover battle for InterOil to ExxonMobil, has since explained its preference for three new production Trains centred on the existing PNG liquefaction plant rather than the Papua LNG venture.

ExxonMobil's takeover of Papua LNG stakeholder InterOil was initially opposed by Total because of InterOil's big stake in the Elk-Antelope gas field that will underpin the Total-led Papua project.

The Total-ExxonMobil feed-gas assets for Papua LNG are contained in the Elk-Antelope licence known as PRL 15 joint venture. ■

China equity firm takes further stake in Australian Asia-Pacific LNG and energy operator Santos

Australian energy company Santos, a stakeholder in three Asia-Pacific liquefied natural gas projects, said Chinese equity firm Hony Capital had increased its shareholding in the Adelaide-based oil and gas business operator.

Santos confirmed the move in a statement to the Australian Securities Exchange to dampen speculation in the market.

Santos operates the Gladstone coal-seam-gas-to-LNG plant in Queensland and has stakes in the ConocoPhillips-operated Darwin plant in the Northern Territory and the ExxonMobil-run Papua New Guinea LNG facility.

"Santos is aware of market speculation that 40 million shares representing 2.25 percent of the company's issued capital were acquired at a price of A$3.98 by Hony Capital after market close on 10 November," Santos said.

"Santos has made enquiries with Hony Capital this morning who have confirmed that they were successful in acquiring an additional 40 million shares in Santos, increasing their interest in the company to approximately 3.2 percent," the statement to the ASX added.

"The reported acquisition price represents an 11 percent premium to yesterday's closing price of A$3.58," it said.

Santos shares were up 6.4 percent on November 11 at A$3.81 on speculation that Chinese interest in the company could lead to further stock purchases.

Hony Capital paid A$159 million to increase its stake in Santos, eight months after selling a major shareholding in the company to another Chinese company, ENN Group.

ENN is one of the largest natural gas distribution companies in China, operating in 150 cities across 17 provinces and autonomous regions, with over 12 million residential and 56,000 industrial and commercial customers.

ENN is building its own LNG import terminal at Zhoushan in China's eastern Zhejiang province and the facility is scheduled to come on line by 2018.

The current Managing Director and Chief Executive of Santos is Kevin Gallagher. He joined the company in February 2016 and has been faced with concerns over costs and debt levels.

He has since carried out cost reductions and a company organizational overhaul to operate better in the low oil price environment.

Santos said in its most recent quarterly earnings that sales volumes more than doubled, reflecting the ramp-up of the GLNG plant in Queensland and a strong performance from PNG LNG. ■

US LNG plant owner starts shale link filing for Woodford

Cheniere Energy, owner of the Sabine Pass LNG plant in Louisiana, has started the pre-filing process with regulators for a fast-track greenfield pipeline project to bring shale-gas from the Woodford Shale in Oklahoma to export as LNG from the Gulf Coast.

The US Federal Energy Regulatory Commission has agreed to initiate the pre-filing process for the Midship Project being backed by Cheniere affiliate Cheniere Midstream Holdings.

"The scheduled in-service date for the Medship Project is June 2019," Cheniere said.

In consideration of this schedule, Cheniere Midstream requested and received the initiation of its pre-filing permitting process before mid-November.

The project is designed to transport up to 1.4 billion cubic feet per day of natural gas to LNG liquefaction plants in Louisiana and Texas and to other users, with interconnections also included to other pipelines.

"The Midship Project is designed to meet the growing demand for new natural gas pipeline infrastructure for the anticipated continued ramp-up in production of the vast reserves from the Woodford Shale in Oklahoma," Cheniere said.

"Current infrastructure for moving natural gas from this area is limited to serving mid-continent markets, is constrained and cannot accommodate the anticipated production growth from this region," Houston-based Cheniere stated.

"The growing Gulf Coast LNG, Mexican and Southeast US power and export demand supports the development of infrastructure, such as Midship, to move gas southward and eastward to existing, non-constrained pipelines," the company added. ■

Queensland CSG-to-LNG plants spending US$1.5Bln a year on wells

Our Asia-Pacific editor

The Queensland coal-seam gas sector in eastern Australia has ongoing spending of more than A$2 billion (US$1.5Bln) per annum, though much of the CSG from the 7,331 wells drilled is required to service the three CSG-to-LNG plants, executives heard at a forum in Brisbane.

The new plants, all completed within the past 18 months, will also have to cope with the LNG market trend towards shorter-term contracts as they ramp-up output on the combined six production Trains.

Aerial view of the three liquefaction plants on Curtis Island

Guaranteed

Domestic natural gas demand in Queensland will still have to be met amid the continued uncertainty about the reliability in Australia of renewable energy projects.

The Queensland LNG sector was the subject of a presentation and briefing at a forum and luncheon organised by Australian consulting firm EnergyQuest, whose Chief Executive is Dr Graeme Bethune.

The EnergyQuest CEO is a former executive of Australian energy company Santos, operator of the Gladstone CSG-to-LNG plant.

Bethune is also Chairman of the Australian Gas Industry Trust and represents Australia on a number of study groups of the International Gas Union.

"CSG-to-LNG projects have been one of the true innovations in the Australian economy which has had a material impact on regions and the national economy," Bethune said.

In addition to the more than 7,000 wells drilled there were 5,184 land access agreements with 2,188 landholders.

The workforce on the three plants, all located on Curtis Island, near Gladstone, peaked at more than 40,000, with an ongoing operational workforce of up to 10,000 people.

"The reserves and deliverability of CSG have shown remarkable growth, but it is still a work in progress and drilling rates will need to increase," Bethune said.

"Queensland LNG is competing in the global marketplace, with the help of good joint venture and off-take partners, but the global market place is still adapting to new energy demand and investment requirements.

"Stable oil and LNG prices, even at lower levels, will enable business plans to be tailored to the 'new normal'," stated Bethune, who gave an overview and update on the three plants. ■

Woodside completes West Australia gas acquisition worth up to $400m

Woodside Petroleum, operator of two liquefied natural gas production plants in Western Australia, has completed the transaction with Australian resources company BHP Billiton worth up to US$400 million to acquire half of its gas assets in the offshore Scarborough field and the Carnarvon Basin for future LNG production.

The acquisition was completed for a purchase price of $US250M and with an additional US$150M added after a final investment decision to monetize the resources.

Woodside operates the North-west Shelf LNG production plant at Karratha in Western Australia, where BHP is one of five other shareholders, also including BP of the UK, Chevron Corp., Royal Dutch Shell and Japan-Australia LNG.

The nearby Pluto LNG liquefaction plant is 90-percent owned by Woodside with Japanese utilities Kansai Electric and Tokyo Gas each holding five percent.

The Woodside resource estimate for the Scarborough area resources, including the Scarborough, Thebe and Jupiter gas fields is 8.7 trillion cubic feet. On completion of the BHP sale, Woodside's net share will be 2.6 Tcf.

The Woodside contingent resource estimate for the Scarborough area resources are based on a potential development involving Floating LNG. The Carnarvon, Browse and Bonaparte basins offshore Western Australia have proven resources of around 133 Tcf.

The Browse Basin, offshore the northwest coast of Western Australia, is the subject of the Woodside-led Browse FLNG project, which is currently on hold.

The Woodside acquisition from BHP includes a 25 percent interest in WA-1-R and a 50 percent interest in WA-62-R, which together contain the Scarborough gas field.

Woodside will also acquire a 50 percent interest in WA-61-R and WA-63-R which contain the Jupiter and Thebe gas fields. ■

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NEWS NUDGES

LNG players meet in Tokyo

The Japanese government-run LNG Producer-Consumer Conference 2016 is scheduled to take place in Tokyo on November 24 and will focus on moves to abolish destination clauses in contracts and facilitating LNG trading at the same time as improving energy security. The gathering is organized by the Japanese Ministry of Economy, Trade and Industry (METI) and the Asia Pacific Energy Research Centre. "The environment surrounding the field of LNG has been dramatically changing, mainly in the Asia-Pacific region, and the trade in LNG is expected to continue to be revitalized and expanded," the METI said.

Korea LNG propulsion plan

The South Korean government said it planned to encourage its shipyards to build more vessels to use LNG as fuel and to back the infrastructure needed for cleaner fuel in the shipping and trucking industries. The government said it would also offer tax incentives to make sure that South Korea had at least 20 vessels fueled by LNG by 2025. "To ensure enough infrastructure, the government will also gradually provide bunkering facilities in the five major ports in Korea," it said. The largest Korean port, Busan, is developing the first bunkering system with investments of over US$500 million.

Maran Gas ship delivered

Greek LNG carrier fleet owner, Maran Gas, has taken delivery of its latest tanker, the "Maran Gas Hector" with 174,000 cubic metres of capacity. The LNG unit of the Angelicoussis Shipping Group now has 22 carriers in its fleet after the hand-over of the latest duel-fuel, diesel-electric ship from the Hyundai Samho yard in South Korea. ■

Equatorial Guinea FLNG venture will produce FOB cargoes at $6/MMBtu

Our Europe editor

UK company Ophir Energy has signed a joint venture agreement to develop the Fortuna floating liquefied natural gas project offshore Equatorial Guinea in West Africa with shipping company Golar and oil services firm Schlumberger to produce free-on-board cargoes priced at around $6 per million British thermal units.

The accord was signed by a unit of the UK explorer and producer called Ophir Holdings and OneLNG, a joint venture between subsidiaries of Golar LNG and Schlumberger.

New firm

The binding Shareholders' Agreement establishes a joint operating company to develop the Fortuna FLNG from feed-gas resources in Block R offshore Equatorial Guinea using Golar's production hull technology. OneLNG and Ophir will have 66.2 percent and 33.8 percent ownership of the joint venture entity.

The Fortuna FLNG company will now facilitate the financing, construction, development and operation of the integrated project and, from the final investment decision, will own Ophir's share of the Block R licence and the "Gandria" FLNG vessel.

"This innovative structure aligns investment across the value chain and provides a framework to promptly deliver a fully financed project" said a statement.

The Fortuna FLNG accord is subject amongst other things to final terms and execution of project debt financing, approval by the shareholders of Ophir Energy and by the government of Equatorial Guinea.

A final investment decision is now expected to take place in the first half of 2017 and first gas is scheduled for three years later.

"Initial offtake is expected to be 2.2-2.5 million tonnes per annum for a duration of between 15 and 20 years which will monetise around 2.6 trillion cubic feet of the discovered resource.

"The expected total capital expenditure for the integrated project is approximately $2 billion to reach first gas," the companies added.

"Prior to FID, a decision will be taken as to the final offtake pricing mechanism. Shortlisted proposals from potential offtakers will be evaluated on the basis of value maximisation," they said.

"At an assumed FOB gas price of $6.00 per million British thermal units, the joint venture company will generate approximately $560 million in cash flow per annum ■

Port of Rotterdam plans to use dredger powered by LNG fuel

The Dutch Port of Rotterdam said it would soon begin using a liquefied natural gas-powered dredging vessel, currently being built at the Barkmeijer shipyard in Friesland in northwest Holland, for service in basins of the port, one of Europe's main LNG import terminals.

The ship called "Ecodelta" is a key component of the new contract entered into by dredging company Van der Kamp and the Port Authority.

In this agreement, the Zwolle-based dredging company will be responsible for keeping Rotterdam's port basins at the correct depth until 2023.

Rotterdam Port said the LNG-fueled vessel would begin operations during 2018 by which time LNG bunkering vessels will have been deployed to boost LNG fuel needs in the maritime market of Northwest Europe.

"The introduction of the LNG-powered dredging vessel is in line with the Port Authority's policy to make Rotterdam the most sustainable port in its class," a statement said.

Ship called 'Ecodelta' is component of new port contract

"To this end, the Port Authority is promoting the transition from fuel oil to LNG as a transport fuel for the shipping sector.

"In addition, it strives to establish the Rotterdam Port as a leading European LNG hub. By adopting LNG as a transport fuel, inland vessels, coasters and ferries can reduce their carbon dioxide emissions by up to 20 percent and nitrogen oxides by up to 85 percent.

"Sulfur and particulate emissions are more or less eliminated altogether," the Port said.

The Port Authority said it was encouraging the development of additional services and wider distribution of the fuel by the Gate LNG import terminal, owned by Dutch storage giant Vopak and natural gas utility Gasunie.

"All in all, the contracted work for dredging company Van der Kamp concerns an annual volume of 5 million cubic metres of dredged material," the Port said. ■

US LNG industry wants regulatory certainty from Congress to meet foreign competition

Our North America editor in New York

The US Center for Liquefied Natural Gas, a trade association of LNG producers, shippers and terminal operators and developers, has sent a letter to congressional leaders and the new administration of President-elect Donald Trump to move forward with on a new energy bill.

The proposed bill includes "a critical provision" to codify the timeline for the Department of Energy to review LNG permits to non-free trade agreement countries.

Bipartisan

"Having received bipartisan support in both the House and the Senate, the measure is widely viewed as a key component to building consensus around the main bill," said the Washington-based CLNG in a letter to congressional leaders.

The CLNG's members, including the main US oil and gas producers and utilities, see the legislation as crucial in establishing a thriving and internationally competitive LNG industry in the United States.

The CLNG supports US industry ventures across the board

"While LNG export terminals take years to develop and build, many planned facilities have already advanced detailed engineering plans and started negotiations toward long-term sales agreements with international consumers," the letter said.

"These agreements are essential for project developers to secure the financing they need to construct LNG terminals," it added. "It is extremely difficult for projects to make final investment decisions and arrange funding until the DOE approves a project's export application.

"The LNG industry is ready to create jobs and help supply global demand for natural gas, but it needs regulatory certainty and a clear timeline for action on exports applications from DOE to do so," the CLNG stated.

Charlie Riedl, CLNG's Executive Director, said the key point to stress was the urgency of the issue.

"Global demand for LNG is increasingly being met by our international competitors, so every day we delay is a day lost for our industry," said Riedl.

"Quickly passing the current energy bill will be a huge boost to the American economy, giving companies awaiting an export permit greater regulatory certainty and a clear timetable for moving forward with capital intensive projects," he added.

"As the letter notes, the legislation will provide an immediate solution to one of the most pressing issues facing our industry.

"Our leaders in Congress should be commended for their huge achievement in progressing the legislation over the course of several years.

"Having come this far, we now hope that Congress will be able to quickly pass the bill into law," Riedl declared. ■

Questions are raised over US shale-gas output method

The International Energy Agency questioned whether shale-gas well productivity gains in the US that will underpin growing liquefied natural gas production could be maintained at current levels in areas such as the Marcellus Shale in the northeast US.

The productivity of a well is expressed in terms of the amount of gas that can be produced from it and the rate at which the gas flows to the surface.

The IEA noted that while the reservoir quality is the dominant factor in determining well productivity, the design of the US shale-gas wells play an important role too.

"The lateral length and the number of fracturing stages are the main determinants of cost and there is a trade-off between the additional cost of longer and more extensively fractured wells and the associated productivity gain," the IEA said in its World Energy Outlook for 2016.

"For example, operators in the largest shale gas play, the Marcellus, have increased lateral lengths and wells per pad for several years, but more recently the increases are levelling off, suggesting that an economic optimum has been reached at current gas prices and well costs," the IEA noted.

"The number of wells on a pad, a proxy for how tightly wells can be spaced in the reservoir, illustrates a trade-off that operators need to make.

"More wells on a pad increase the total recovery of the volume of gas in place and provide for economies of scale, but if the well spacing becomes too tight, the wells often interfere with and cannibalise each other, resulting in a drop in the flow rate," the IEA explained. ■

IEA says inter-regional gas and LNG trade to grow by 45 percent

Our Europe editor

Inter-regional natural gas and LNG trade is set to grow by 45 percent over the next 10 years and by 70 percent through 2040 as overcapacity is gradually absorbed, new players enter the stage, incumbents are challenged and the market rebalances.

This is the view of the International Energy Agency in its latest report in which various scenarios are put forward, including an over optimistic one whereby 60 percent of global power needs are met by wind and solar power by 2040.

Fatih Birol, IEA's executive director, outlined options

Trade flows

"The concentration of import growth in Asia underpins a shift in trade flows towards the Asia-Pacific basin," the International Energy Agency said in the natural gas section of its 682-page World Energy Outlook.

"Over the outlook period, new pipeline connections are built and existing ones reinforced, complex pipeline projects generally find it harder to garner political and financial support in a market awash with LNG," the IEA said.

"Floating storage and regasification units help to unlock new and smaller markets for LNG and LNG captures around 70 percent of the additional gas trade and thus manages to increase its share in inter-regional gas trade from 42 percent in 2014 to 53 percent in 2040," it said.

"Gas prices are increasingly determined by gas supply and demand fundamentals, including new trading hubs and the gradual removal of trade restrictions such as destination clauses limiting the buyer's right to resell the gas.

"With the LNG overcapacity gone by the mid-2020s, timely investment in new gas supply projects is needed to pre-empt price volatility," the IEA added. The United States and Australia contribute two-thirds to gas production growth until 2020, but from the early 2020s onwards the global gas balance increasingly relies on output growth from a much broader range of producers.

The IEA sees East Africa emerging as a new gas province and Argentina revived as an important gas producer, this time from shale.

"The Middle East, China and Russia respectively account for 24 percent, 13 percent and 8 percent of the incremental global gas production over the Outlook period," the IEA stated. ■

IEA says Russia lags and to be boosted by LNG only in long term

Russia should be well placed to take advantage of the world's rising needs for natural gas, including from its Yamal LNG project in Siberia, but the problems facing the country's gas industry are as big as the size of its resources, the International Energy Agency said its 2016 World Energy Outlook.

"The country has vast gas resources, low production costs and more than 100 billion cubic metres spare production capacity since the new production facilities in the remote Yamal Peninsula came on stream," the IEA said.

"But, in practice, the problems facing the Russian gas industry are no less impressive than the size of its resources," the energy body stated.

The IEA pointed out that domestic consumption is plateauing as natural gas already accounts for more than half of Russian primary energy demand.

"In our projections, gas demand for power falls by some 20 Bcm over the projection period, while total consumption stays flat at around 450 Bcm.

"Pipeline infrastructure ties Russian export opportunities at present to the vagaries of gas demand in Europe, but the opportunities there have been constrained," it said.

One of the problems is that neighbour Ukraine, hitherto one of the largest buyers of Russian gas, has cut direct imports of Russia to a minimum, though receives a growing volume of Russian gas through the backdoor via western nations.

"Falling European production has been outpaced by the drop in gas demand in the European Union, meaning that the region's import needs have not grown as Russia anticipated," the IEA report said.

"At least for the medium term, Russia also faces strong competition in European markets from a well-supplied LNG market in which Europe is becoming the 'buyer of last resort' for excess LNG volumes," it said. ■

Qatar signs first Brazilian long-term LNG contract for biggest gas-fired plant in region

Our Europe editor

Qatar's liquefied natural gas marketing company will supply 1.3 million tonnes per annum of cargoes to the largest gas power plant in Latin America being built in Sergipe, the smallest state in Brazil, located in the northeast of the country.

The Qatari cargoes will come from a new marketing arm called Ocean LNG, established by Qatar Petroleum and its production partner in Ras Laffan, ExxonMobil, in response to the increased completion for global customers.

Signing of Ocean LNG deal in Qatar with Brazil power project

Portfolio

The Ocean LNG shipments will begin in 2020 and come from Qatar Petroleum's future international LNG supply portfolio sourced from outside of the State of Qatar.

The volumes for Brazil will be supplied on an ex-ship basis whereby the Qatari side assumes responsibility for the shipping in what is Brazil's first long-term LNG contract.

Brazil-based Sergipe Electric Power Plant SA (Celse) is the buyer of the cargoes.

The Qatari contract comes at a time when Brazil is a growing destination for cargoes from the first US Gulf Coast LNG export plant built at Sabine Pass in Louisiana.

Celse and its Brazilian joint venture partners are chartering a Floating Storage and Regasification Unit (FSRU) from a Golar LNG affiliate to supply regasified LNG for a combined-cycle gas-fired power plant being built in the region to generate over 1,500 megawatts of electricity.

Located near Aracaju, the state capital of Sergipe state, the power station will be the largest gas power plant in Latin America, according to the builder of the plant under a $900 million contract, General Electric of the US. The Sergipe project will supplement hydropower during dry seasons and help to meet growing demand for electricity in the region.

Qatar Petroleum President and Chief Executive Saad Sherida Al-Kaabi hosted a signing ceremony in the Qatari capital Doha for the long-term LNG sale and purchase agreement between its Ocean LNG affiliate and Brazil's Celse.

"This is the first SPA to be entered into by Ocean LNG, making it the first supplier to deliver LNG to Brazil under a long-term contract," said Al-Kaabi.

"It represents another step towards enhancing our position as a global LNG leader and extending our reach to all markets," Al-Kaabi added.

"Brazil is an important LNG market and we are proud to contribute to meeting Brazil's gas demand," the CEO added.

Celse CEO Eduardo Malan said the agreement with Ocean LNG was a landmark in the development of the Porto de Sergipe power plant.

"Celse is proud to partner with LNG industry pioneers Qatar Petroleum and ExxonMobil and their newly formed Ocean LNG joint venture as its long-term fuel supplier," Malan added.

The Sergipe gas-to-power project is scheduled to deliver power to 26 committed off-takers for 25 years from 2020 in accordance with previously executed contracts.

Golar is supplying the FSRU through its Golar Power subsidiary and plans to deploy the vessel "Golar Nanook".

Golar Power will own 50 percent of the Sergipe project and 100 percent of the associated FSRU to be deployed in Brazil. ■

Kansas company Black & Veatch will be owner's engineer at Brazilian LNG-to-power project

Black and Veatch, the US liquefaction technology and energy project company based in Kansas, said it was selected as owner's engineer by Centrais Eletricas de Sergipe for the 1,516-megawatt combined-cycle, gas-fired power project in northeast Brazil, which will receive LNG cargoes from Qatar Petroleum marketing company Ocean LNG.

"The Porto de Sergipe plant will meet growing electricity demand and supplement hydropower supplies during dry weather seasons," B&V said. "It will be the largest natural gas power station in South America," the US firm added. "As owner's engineer, Black & Veatch's services include monitoring the cost and schedule performance of the engineering, procurement and construction contractor, as well as technical review of design and equipment," the company said.

"The company's end-to-end delivery will ensure project quality and scheduling certainty across all phases of the installation.

Eduardo Antonello, Chief Executive of Golar Power, a subsidiary of Golar LNG and one of the co-owners of the Centrais Eletricas de Sergipe (Celse) project company, said Black & Veatch was chosen for this project because of their "proven technical expertise" in delivering high-quality power generation projects worldwide.

"Black & Veatch is very well positioned to help us successfully complete this major combined cycle generation project," Antonello said.

The plant will include three of General Electric's 7HA.02 advanced technology gas turbines to increase efficiency and reduce emissions.

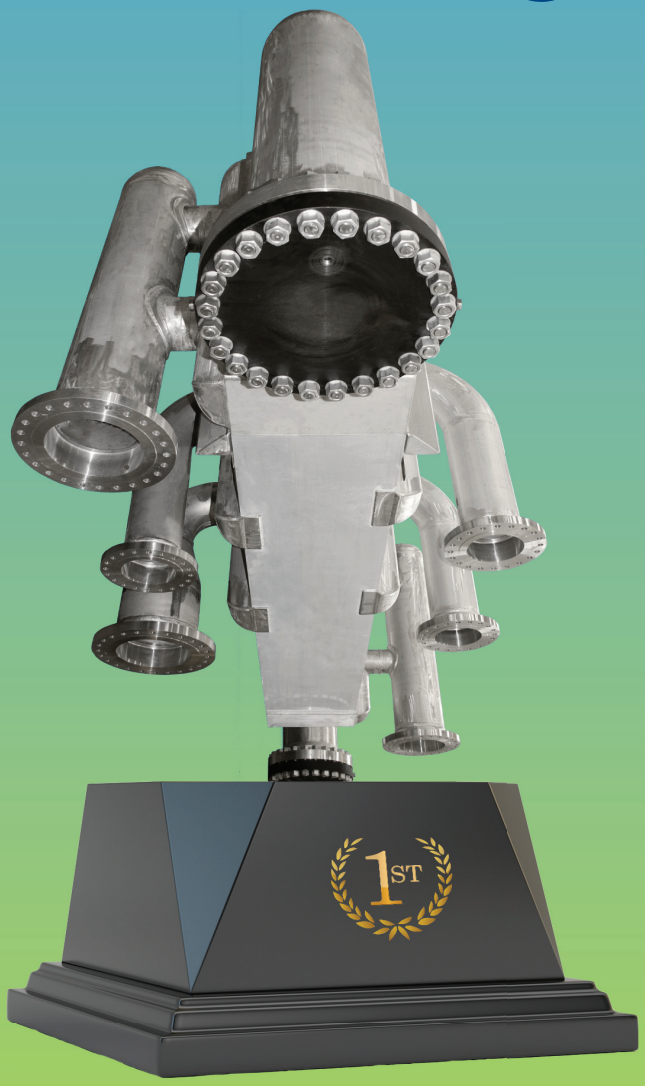
B&V said the GE 7HA.02 combustion turbines will be the first units installed in South America, positioning the plant to become the most efficient combined cycle facility on the continent.

The turbines use LNG that will be delivered through a new Floating Storage and Regasification Unit being supplied by Golar.

B&V said construction was scheduled to begin this month and the plant will be commissioned in late 2019.

"Black & Veatch is bringing its global knowledge and experience in advanced combined cycle projects," said Ed Walsh, President of Black & Veatch's Power business. ■

Chart Brazed Aluminum Heat Exchangers



First to Produce LNG On-board a Floating Facility

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