LNG Unlimited

LNG JOURNAL PUBLICATION 22 March 2016

Russian Yamal LNG completes discounted stake sale and loans

Novatek keeps venture on track by selling another stake to China at a large discount

Our Europe editor

Plant under construction will have three Trains and storage

Russian natural gas producer Novatek completed the sale of an almost 10 percent stake in the Yamal LNG project in the Arctic region for $1.20 billion to a Chinese equity fund because sanctions had mostly closed off Western financing.

The LNG project is currently under construction in the Yamal Peninsula and when completed the first phase will comprise three liquefaction Trains each producing 5.5 million tonnes per annum for total output of 16.5 MTPA.

Reserves

Feed-gas for the venture, whose lead engineer is France's Technip, comes from the South-Tambeyskoye field, where reserves are estimated at a massive 926 billion cubic metres of natural gas.

The $27-billion Russian Yamal venture's funding had been affected by international financial sanctions against Moscow over the Ukraine issue.

The new Chinese funding has earned a share in the venture at a high discount compared with the original shareholders.

The Silk Road Fund, a $40 billion equity and development fund established in Beijing in December 2014, has been able to come with a short-term financing package for the Yamal venture at a time of high global risk for energy investment because of low oil prices.

The fund focuses on infrastructure, energy, industrialization and financial cooperation for projects involving Chinese companies.

The Chinese fund now has a significant share of the venture while reducing the stake of Novatek to 50.1 percent.

French energy company Total and China National Petroleum Corp (CNPC) each hold 20 percent of the project, while newcomer Silk Road has its discounted 9.9 percent.

The loans for Yamal LNG involve a 15-year loan from the Chinese fund amounting to 730 million euros ($810M) and 357M euros of other financing organized by Novatek Chairman Leonid V. Mikhelson. He said that with the closing of the Chinese transaction, the project would "achieve the appropriate target shareholder structure, which will contribute to the planned financing of the project and further facilitate its successful implementation."

The plant has been under construction for about 20 months and is scheduled to be completed by early 2018.

Some of the contract work is being carried out at a fabrication facility in Qingdao in the northeast Shandong province of China.

Yamal LNG has also signed a contract with Fluxys, owner of the Zeebrugge LNG import terminal in Belgium, to trans-ship cargoes from Western Europe to Asia during the Arctic winter when the use of shipping lanes to the Far East by the Northern Sea Route are closed because of ice.

UNLIMITED AGENDA

US Jordan Cove LNG project in northwest state of Oregon is blocked by regulators

The US Jordan Cove LNG export project in the northwest state of Oregon has been blocked by the regulators because the affiliated pipeline "would bring adverse impacts to landowners and communities."

The project developer, Canadian company Veresen Inc., said it received its rejection notice from the US Federal Energy Regulatory Commission that cited the Pacific Connector Gas Pipeline as the main obstacle to moving forward.

How Jordan Cove would have looked at Coos Bay location

Appeal pending

Jordan Cove was planned for Coos Bay in Oregon with a budget of $6 billion. It completed its environmental impact regulatory process with the FERC on September 30, 2015.

The venture was expecting to have its FERC "Notice to Proceed" in mid-2016, leading to a final investment decision thereafter.

"Clearly, we are extremely surprised and disappointed by the FERC decision," said Don Althoff, President and Chief Executive of Veresen.

"The FERC appears to be concerned that we have not yet demonstrated sufficient commercial support for the projects," Althoff said.

"Jordan Cove LNG and Pacific Connector will file a request for a rehearing of the decision," the CEO stated.

Jordan Cove LNG is a wholly-owned subsidiary of Veresen and the Pacific Connector Gas Pipeline is a joint venture between the Calgary-based company and US pipeline network Williams Co.

Analysts said the rejection of the Jordan Cove project is not only a setback for the natural gas industry in the US northwest, but also for the Canadian province of British Columbia across the border, where LNG projects are being cancelled or postponed one after another.

Veresen said it had been trying to sign up customers for Jordan Cove, though admitted that it had yet to sign its first major off-take agreement because of the oil price slump and downturn in the industry.

The FERC also cited that lack of customers for Jordan Cove as one of the reasons for denying a permit to the Pacific Connector pipeline that would have supplied feed-gas to the liquefaction plant.

The regulators said an order that "authorization for commencement of construction would not be granted until the Pacific Connector has successfully executed contracts for a certain level of service."

The order also said it would not issue a certificate to allow the project to proceed "in what we find to be the absence of a demonstrated need for the pipeline."

Veresen had planned an initial 6 million tonnes per annum of LNG production at Jordan Cove for export to Asian customers.

A second export project in the US Northwest is Oregon LNG and it is also being held up. The venture was informed in February 2016 that the FERC had delayed by five month its releasing of the final environmental impact statement.

Oregon LNG is an export-import plant planned at Warrenton on the Skipanon Peninsula, near the mouth of the Columbia River. It will now have its EIS issued in early June 2016 instead of February 12. ■

Marcellus Shale feed-gas pipeline to make LNG bound for Japan shows some progress

Kinder Morgan is seeing regulatory progress in its plans to move feed-gas from the Marcellus Shale in the US northeast to the Gulf Coast to boost supplies for LNG export projects in Lou-isiana and Texas.

The US Federal Energy Regulatory Commission has given conditional clearance to a pipeline that will be one of the key feed-gas suppliers to make LNG to be exported to Japan.

The FERC has just ruled that the expansion of Kinder's Tennessee Gas Pipeline could be achieved without undue harm to the environment if mitigation measures are carried out.

The $400 million project would increase the capacity of TGP's pipeline system by adding more compression and associated facilities, allowing TGP to provide long-term firm transpor-tation services to LNG project shipper Antero Resources Corp.

Antero in October 2015 signed a 10-year agreement with the US unit of Japanese utility Chubu Electric Power to provide feed-gas for processing and export from the Freeport lique-faction plant in Texas.

Antero, based in Denver, said it would sell feed-gas to Chubu US Gas Trading through the Freeport LNG plant.

The independent US exploration and production company will begin shipping volumes once the liquefaction plant is placed into commercial service, which is expected to be by the end of 2018 or the beginning of 2019.

Antero said it would be able to move up to 1.1 billion cubic feet per day on a firm basis to "favorably priced markets" on the Gulf Coast once the TGP pipeline expansion is in place.

Other pipeline projects are also being developed to increase shale-gas supplies for LNG plants in the south from states such as Pennsylvania and West Virginia.

Freeport LNG has previously signed a 20-year use-or-pay liquefaction tolling agreement with Chubu and another Japanese utility Osaka Gas, the equivalent to the minimum guaranteed production capacity of its first Train.

The two Japanese companies also agreed in 2014 to invest about $1.2 billion of funding for the Freeport export facility located on Quintana Island. The facility is an existing import terminal being transformed into an export plant.

Antero is a player in the main US shale plays. It was recently operating five drilling rigs and two completion crews in the Marcellus Shale.

The Kinder pipeline and Antero have an agreement whereby the exploration and production company was awarded 100 percent of the capacity offered on two TGP expansions.

Antero has been subscribing to transportation capacity for "natural gas produced in the Utica and Marcellus Shale supply areas for markets in the southeast United States." ■

Signal to US LNG projects as drilling drops to new lows

The number of rigs drilling for natural gas and oil in the United States fell by nine to 480 in the latest published weekly figures, the lowest level since 1948 as natural gas companies that will supply the LNG export industry have decided that prices are too low for now to make exploration and production an economic activity.

The overall weekly US rig count is now at its lowest point since energy services company Baker Hughes Inc. began publishing the data.

Baker Hughes reported that the count lost nine units to 480 during the past week, officially falling beneath the previous recorded low.

The Houston-based company's rig counts are regarded as an important business barometer for the drilling industry and its suppliers, as well has US utilities and the new LNG export industry.

The oil-rig count fell by six to 386 in the latest week, the lowest level since 2009. The number of natural gas rigs fell by three to 94, the lowest level since Baker Hughes began to separately count oil and natural-gas rigs in 1987.

The US rig count is down 645 rigs from last year at 1,125, with oil rigs down 480, natural gas rigs down 163, and miscellaneous rigs down by two.

The Canadian rig count was down 31 rigs from last week to 98, with oil rigs down 22 to 28 and natural gas rigs down nine to 70.

Canada's count was down 122 rigs from last year at 220, with oil rigs down 57 and natural gas rigs down 65. ■

Kuwait calls on South Korean regas expertise for Al-Zour LNG terminal

Kuwait LNG terminal to be near upgraded Al-Zour plant

A South Korean consortium led by Hyundai Engineering and Construction Co. was awarded a contract to build Kuwait's new onshore liquefied natural gas import terminal at Al-Zour to supplement supplies received at the port-side Regasification and Storage Unit at Mina Al-Ahmadi.

Under the contract with Kuwait National Petroleum Co., Hyundai and state-run Korea Gas Corp. will construct and fit out the regasification facilities and LNG storage tanks close to a new refinery complex, about 90 kilometres south of the capital, Kuwait City.

Contractors

The Korean consortium said the LNG import project was scheduled to be completed in 2020.

"The project's purpose is to provide long-term facilities for receiving supplies of LNG to supply feed to the power generation plants in the country during period of peak electricity demand," said KNPC.

"The Al-Zour area was selected as the most appropriate site for the LNG receiving, regasification and storage tanks," it added.

The state-owned energy company is building the facility with the guidance of Korea's Kogas, the largest corporate importer of LNG.

Kogas operates four terminals in Korea at Samcheok, Tong-Yeong, Incheon and Pyeongtaek.

The Kuwaiti terminal will have four storage tanks, each of 180,000 cubic metres capacity.

Foster Wheeler, the LNG engineering company now part of the UK's Amec construction group, completed the initial conceptual and detailed feasibility studies for the terminal to assist in the selection of the most suitable technology.

The terminal, tanks and additional infrastructure would cost 1 billion Kuwaiti dinar ($3.3Bln), KNPC said.

Kuwait began importing LNG in 2009 through an FSRU deployed on a quayside at Mina Al-Ahmadi port.

KNPC has three years left on a five-year contract with Royal Dutch Shell and BP to receive LNG cargoes on a seasonal basis at the Mina al-Ahmadi terminal.

The onshore LNG terminal will be sited next to one of the world's largest refinery projects being developed at Al-Zour. ■

Alaska LNG has already spent over $700M ahead of next regulatory round

The Alaska LNG export project plans to start submitting its second round of draft resource reports to federal regulators in the second quarter of 2016 as its spending on the venture so far has reached $700 million.

About a dozen environmental and engineering reports will be compiled and submitted to the Federal Energy Regulatory Commission by July of 2016 and then later made available to the public.

According to minutes of meetings held between Alaska LNG and FERC officials the reports will cover issues such as soil conditions, air quality, water quality, community impacts and safety.

Project partners ExxonMobil, BP and ConocoPhillips and the state's Alaska Gasline Development Corp., are aiming to construct three liquefaction Trains at Nikiski to process up to 20 million tonnes per annum of LNG and with three 160,000 cubic metres capacity storage tanks alongside.

Current proposals for delivering the gas from the prolific North Slope onshore gas fields are to use an 800-mile, 42-inches diameter pipeline with up to eight compressor stations along the way.

The pipeline will have a capacity of 3.3 billion cubic feet of Alaska natural gas per day to the plant in the south.

The four project partners have been carrying out preliminary engineering and design work on aspects of the liquefaction plant and storage facilities, as well as the pipeline. This additional information will be forwarded to the FERC.

Though weak global LNG markets have called into question whether the Alaska project will proceed to the next level of engineering and design spending through 2017, the partners have said they remain committed to finishing their preliminary work this year and preparing the next round of reports to be submitted to the FERC.

"Alaska LNG project teams and their contractors will be back in the field this year for onshore and offshore work as they collect more data for regulators and their own design and decision needs," according to the mayor's office for Alaska's Kenai Peninsula. ■

The Meeting Place for the Global LNG & Gas Supply Chain

PRODUCED BY:

SUPPORTED BY:

FROM THE ORGANIZERS OF:

14TH WORLD LNG SERIES
AMERICAS SUMMIT & EXHIBITION

7 - 10 JUNE 2016 | HOUSTON, TEXAS

Rod Duke
Chief Executive Officer
GLNG Operations
Santos Pty, Ltd

Marcelo Tokman
CEO
ENAP

Hiroshi Ohki
General Manager & Head of North American LNG Business, Fuels Dept
Chubu Electric Power Co., Inc

Jimmy Straughan
Chief Commander Officer -
LNG Americas BP

Keo Lukefahr
General Manager, North America Natural Gas
PetroChina

Joseph Gebara
Vice President & GM of Off shore
Bechtel Oil, Gas & Chemicals, Inc

Mitchell Walk
Commercial Director
Annova LNG

Yoshitaka Zaitsu
Manager, Midstream and Downstream Business Development
Tokyo Gas America Ltd

SPONSORS

GOLD SPONSOR

SILVER SPONSORS

BRONZE SPONSORS

For more information, please contact the CWC LNG team on: LNGAmericas@thecwcgroup.com or call: +44 20 7978 0000

www.cwclng.com/americas

#WLNGAmericas

NEWS NUDGES

Tokyo Gas sales decline

Tokyo Gas, the third-largest Japanese buyer of LNG, said February sales volumes declined by 3 percent from the year-ago period to 1.47 billion cubic metres of natural gas, the equivalent of 1.08 million tonnes of LNG. Togas operates in four supply sectors and while residential, commercial and industrial sales all fell, sales of wholesale natural gas to other city-gas firms rose 13.6 percent to 237.9 cubic metres. In the industrial sector, Togas said sale volumes totalled 553.5M cubic metres, down 7.6 percent "due to the decreased demand for power generation."

LNG player raises funds

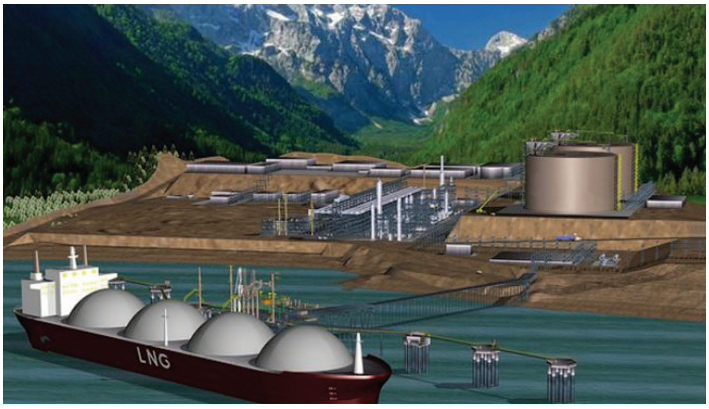
Anadarko Petroleum Corp., the developer of the Mozambique LNG export plant in southeast Africa, is the latest company to raise more funds to weather the slump in energy prices. It is offering $3 billion in senior notes comprised of $800 million in notes due in 2021 with interest of 4.85 percent, $1.1Bln due in 2026 with 5.55 percent in interest and $1.1Bln for 2046 with a rate of 6.60 percent. Anadarko expects to close the offering on March 17. Joint book-running managers include Barclays Capital Inc., Merrill Lynch, Pierce, Fenner & Smith Inc. and Mizuho Securities.

Singapore plan for spot LNG

Singapore's Energy Market Authority plans to allow imports of spot LNG for domestic use after the conclusion of an exclusive supply franchise held by the UK's BG Group, now part of Royal Dutch Shell. The EMA said it was also currently reviewing its policy to provide natural gas and LNG buyers with more flexibility.

Canadian province of BC putting new rules in place for LNG liquefaction

Our North America editor in New York



LNG plants in Canada still very much in planning stages

The Canadian province of British Columbia has introduced amendments that will streamline safety oversight for oil and gas facilities, including liquefied natural gas plants.

The province's Minister of Natural Gas Development, Rich Coleman, has presented a bill to clarify the regulatory regime oversight at oil and gas facilities to ensure equipment is covered by the highest safety standards.

Overlaps

The amendments are intended to eliminate overlaps and potential gaps as large-scale projects such as LNG ventures and feed-gas developments in the shale-gas basins of northeast BC move forward.

"These amendments are about having the best safety standards in place, while clarifying the regulatory environment for industry," said Coleman.

"As our province sees larger-scale projects move forward, this legislation will ensure all equipment used in oil and gas settings will be subject to the highest standards," he added.

The best regulations will be applied to ensure that complex refrigeration associated with LNG production is covered.

There are two agencies responsible and the act outlines the duties of each.

The BC Oil and Gas Commission (OGC) is responsible for the safety of oil and gas operations under the Oil and Gas Activities Act.

The BC Safety Authority (BCSA) provides oversight of technical equipment in industries throughout the province under the Safety Standards Act.

The move comes as the Petronas-led Pacific NorthWest LNG project, one of the most high-profile of the dozen that may advance in the province, comes to the end of a three-year environmental review process.

"We are continuing to move that forward and we believe we are in the latter stages of a final decision," said Michael Culbert, President of the Pacific NorthWest venture.

Ontario studies its small-scale LNG options for area around Lake Superior

The Canadian province of Ontario is looking at small-scale liquefied natural gas supply operations around Lake Superior with the fuel being delivered by trucks.

Ontario said LNG would reduce energy costs in some northern towns and has ordered a feasibility study on encouraging conversions to the fuel.

The province said it had committed C$100,000 (US$75,000) from the northern Ontario Heritage Fund Corp. to study the possible use of LNG as fuel in the towns of Marathon, Manitouwadge, Schreiber, Terrace Bay and Wawa.

Ontario's Minister of Northern Development and Mines Michael Gravelle said LNG could help places that can't access traditional natural gas from pipelines.

"Liquefied natural gas is a different form, and may I say, an odourless, non-toxic, non-corrosive form of gas that basically gets chilled so it can be transported in insulated tanks. People there currently heat their homes with electricity, propane or wood - and that's expensive," he said.

Royal Dutch Shell was already considering building a small-scale LNG production plant in Ontario as part of an investment plan to unlock value in the use of LNG as a transport fuel in the Great Lakes area.

The Ontario authorities said that numbers provided by LNG supply companies suggest the fuel could be 50 per cent less expensive than electricity and fuel oil and 45 per cent cheaper than propane.

Ontario expects the study to be completed in about four months and foresees LNG being transported to northern towns by trucks.

"This study will help ensure that the partner municipalities have the necessary information and recommendations to properly evaluate the economic development potential of LNG conversion.

"I'm pleased that our government's investments in capacity building provide northern communities with the opportunities to explore new options and modernize," Gravelle added.

American LNG permit confirmed to supply cargoes for Jamaica and fuel for railway

Our North America editor in New York

A project in Florida called American LNG, controlled by an equity fund and one of seven fully approved LNG export ventures in the US, has made progress with its plan to export volumes to the Caribbean nation of Jamaica, which does not have a Free Trade Agreement with the US.

It will additionally supply LNG as a fuel to replace diesel for some of the upgraded locomotives of the Florida East Coast Railway.

LNG can be moved by rail and can also fuel locomotives

Conclusion

Based on a review, the Department of Energy has issued a statement saying it had concluded that the opponents of American LNG's application to export LNG from its facility to Non-Free Trade Agreement nations "have not demonstrated that the requested authorization will be inconsistent with the public interest".

The DoE added that the exports proposed in the application were likely to yield net economic benefits to the US.

"The DoE further finds that American LNG's proposed exports should be authorized at a volumetric rate not to exceed the capacity of the facilities to be used in the proposed export operations," it said.

American LNG's permit is therefore confirmed for exports from the small facility near Miami. The shipments will be made in ISO containers to non-free trade agreement nations.

American LNG asked for permission to export up to 3.02 billion cubic feet per annum from its facility, located on the northern portion of the Hialeah Railyard in Medley, Florida.

The liquefaction plant is characterized by American LNG as a "micro-LNG facility."

It anticipates that the Hialeah facility will have a total production capacity of 100,000 gallons of LNG per day, or 8.26 million cubic feet of natural gas per day.

The project will also provide storage capacity for around 270,000 gallons of LNG.

The development company is controlled by Fortress Equity Partners, part of the Fortress Investment Group, a global asset firm.

New Fortress in 2015 signed a natural gas supply accord with Jamaica Public Service Co. to provide LNG for the power company's 120-megawatts Bogue power plant in western Jamaica, at Montego Bay. ■

Australian firm extends lease for LNG in Queensland

Australian company Liquefied Natural Gas Ltd. has extended its lease for the Fisherman's Landing LNG project site located in Gladstone in the state of Queensland where three other coal-seam-gas-to-LNG projects have been built.

The company, a developer of LNG ventures in North America, said it prolonged its FLLNG site agreement for the land lease with the Gladstone Ports Corporation to the end of March 2017.

"An option to further extend on the same terms through to March 2018 has been secured, subject to the provision of appropriate evidence demonstrating to GPC that the FLLNG project remains a positive investment intention," LNG Ltd said.

The Fisherman's Landing lease was originally signed in May 2010 and the company also holds Queensland state licences for project construction as well as a pipeline licence.

The Fisherman's Landing site is closed to the three existing CSG-to-LNG plants operated by ConocoPhillips, Australia's Santos and Queensland Gas Co., a subsidiary of Royal Dutch Shell.

In addition to its, Fisherman's Landing lease LNG Ltd is also slowly advancing with the US Magnolia LNG export project in Louisiana and the Bear Head venture in Nova Scotia, Canada.

"The extension helps us progress towards recommencing the development of the FLLNG project," said LNGL's Managing Director and Chief Executive Maurice Brand.

"LNGL continues to investigate opportunities for gas supply to the FLLNG project and discussions with potential LNG buyers supplying the Asian market are ongoing," Brand added. ■

First Nations in Canada continue to sign feed-gas agreement for LNG export

Our North America editor in New York

The Metlakatla First Nation in British Columbia has signed two pipeline agreements backing plans by TransCanada Corp. and Spectra Energy of the US to build feed-gas connections to planned liquefied natural gas export plants in the province.

The agreements relate to TransCanada's proposed Prince Rupert Gas Transmission pipeline and Spectra's proposed Westcoast Connector Gas Transmission pipeline.

Metlakatla First Nation lives near Prince Rupert port

Government

Natural gas pipeline benefit agreements with First Nations are part of the BC government's plan to form partnerships to support LNG opportunities, which also include increasing First Nations' access to skills training and environmental stewardship projects.

"Pursuing partnerships with First Nations as a means of creating jobs and providing a future for communities is the way to success in British Columbia," said Rich Coleman, Minister of Natural Gas Development. "Benefits agreements are a good way for our LNG industry to develop in a manner that supports First Nations, our partners and all British Columbians," Coleman added.

The province issued environmental assessment certificates for the proposed Westcoast Connector Gas Transmission and Prince Rupert Gas Transmission projects in 2014.

However, while meeting conditions set out in their environmental assessment certificates, each project now requires various federal and other permits to proceed.

Harold Leighton, Chief Councillor of the Metlakatla First Nation, said: "It is important that we have a voice in developing industries in our territory.

"This kind of benefits agreements gives us that voice and offers us the opportunity to move forward in partnership with government and with business in a way that benefits everyone."

His tribal land is located on the Tsimshian Peninsula, five kilometres west of Prince Rupert. The Metlakatla First Nation has around 850 members.

The tribe is among 29 First Nations to have established pipeline benefits agreements with the provincial government of BC.

The Metlakatla First Nation has already received an initial payment of $430,000 related to the Prince Rupert Gas Transmission line, and would receive two separate payments of just over $1 million as construction starts and when the natural gas line goes into service. ■

Canadians stage LNG rallies in three BC towns

Ordinary Canadians in British Columbia stages rallies in three towns in support of the development of liquefied natural gas projects in the face of growing opposition from the federal government in Ottawa to the hydrocarbon industry.

Organisers said that what started as a single one-off event in the town of Terrace has now spread to Fort St. John and Fort Nelson in the northwest of the province.

Residents, workers, small business owners and members of First Nation native North American tribes took part in the rallies.

The spokeswoman for the pro-energy industry group, Lucy Praught, said it was time for people like her, who support LNG, to stand up and be heard. "Right now Canada's Environment Minister is deciding on the future of the Pacific North-West LNG project," she said in reference to the venture proposed by Malaysian energy company Petronas and other Asian companies keen to invest billions of dollars in the province.

"It's important for people to understand we are ready to work. It's been tough in northwest-ern BC for a while. We are ready to dust each other off and make it happen," said Praught.

Fort St. John event organizer Alan Yu was recently laid off from his service job in the energy sector.

"I am worried the United States, a major customer for BC natural gas, will soon be self-sufficient. Jobs are at stake," Yu stated. While the local economy is important, the participants are keenly aware jobs also depend on responsible stewardship of the environment.

Chief Councillor Joe Bevan of the Kitselas First Nation is speaking at the rally in Terrace.

"Our position on LNG is based on due diligence - not just our own but the work done by other First Nations in the Northwest, the large majority of whom share our position," said Bevan.

"As long as proponents maintain strong environmental standards, we support LNG because it brings jobs and growth to our Nation," Bevan added. ■

Upgraded Excelerate LNG FSRU in Dubai gives record send-out and bunker service

Our Middle East editor

US floating LNG project company Excelerate Energy said its vessel “Explorer” deployed in the United Arab Emirates has been upgraded to reach a landmark send-out capacity of 1.0 billion cubic feet per day at Jebel Ali port in Dubai and can also supply bunkering services.

The Floating Storage and Regasification Unit is chartered under a long-term agreement to the Dubai Supply Authority.

‘Explorer’ entered dry-dock for its upgrades in 2015

Partnerships

“We approach each of our projects as partnerships and work closely with our customers, like DUSUP, to provide a tailored solution that will serve their specific needs for the long run,” said Rob Bryngelson, President and Chief Executive of Excelerate.

“We are committed to investing in the advancement of our technology to achieve this,” Bryngelson added.

The UAE entered into a long-term charter agreement with Excelerate in 2014 for a larger and more efficient FSRU to replace its existing regasification vessel.

Under the agreement, Excelerate upgraded the “Explorer” and customized the FSRU to meet DUSUP's supply requirements.

The “Explorer” entered dry-dock for its efficiency upgrades in October 2015 with the modifications being completed in December 2015.

Excelerate said it had enhanced the vessel with advanced features, including new high-pressure vaporizers and pumps installed to increase regasification send-out capacity from 690 MMcf/d to 1 Bcf/d. “The increase in regasification capacity will allow DUSUP to import more LNG cargoes during the year providing greater flexibility for market conditions,” said the Houston-based company.

A dual-fuel diesel generator power module was also added to the FSRU. The module provides more fuel-efficient power generation for regas services.

Another significant upgrade to the vessel was the addition of the world's first LNG bunker port installed in an FSRU.

The bunker port enables small-scale LNG off-takers to re-fuel with LNG directly from the “Explorer”.

“This added versatility allows Excelerate to facilitate DUSUP in providing small-scale LNG supply services to the local area,” the US company said. ■

Italy’s Eni sees ‘great production capacity’ in East Med natural gas discovery after tests

IItalian energy company Eni has successfully performed production tests on its new discovery in Egyptian waters of the East Mediterranean, saying the field has “a great production capacity.

The Egyptian Zohr field will form the basis of the Arab nation’s planned natural gas hub.

Eni said that during the tests, 120 metres of the Zohr field reservoir were opened to production in the Shorouk block offshore Egypt.

“The well, constrained by surface facilities, delivered up to 44 million standard cubic feet per day (MMscfd) of gas,” Eni said.

“The comprehensive set of data collected and analysed have proved that the well has a great production capacity, which is estimated in a deliverability of up to 250 MMScf/d in production configuration, or 46,000 barrels of oil equivalent per day,” the Italian company stated.

“The programme envisages for 2016 the drilling of a further three wells. Besides, the onshore gas treatment plant construction works have already started and the bids for the offshore activities launched and nearly completed,” Eni added.

Eni holds 100 percent of the Shorouk licence and operations are being conducted by Petrobel, a joint venture between Eni and Egyptian state energy company Egyptian General Petroleum Corp.

Italian energy company Eni was given the go-ahead in February 2016 by the Egyptian Ministry of Petroleum and Mineral Resources to develop the Zohr field, previously described as world-class.

The Eni discovery will go some way to satisfying Egypt’s domestic natural gas needs, while possibly helping to revitalize its two liquefied natural gas export plants.

The Egyptians stopped producing LNG more than two years ago as natural gas supplies were diverted by the state energy companies to satisfy pipeline high demand in the domestic market.

Even the existing gas resources were not sufficient and the Egyptians had begun importing LNG when the Eni discovery was made.

Eni said the Zohr development plan envisages the start of production by the end of 2017, just two years after the discovery, with a progressive ramp up of output.

Eni Chief Executive Claudio Descalzi has previously said he envisaged the offshore Zohr field underpinning a natural gas hub in the East Med.

Some of the natural gas could eventually go to the Egyptian Damietta liquefaction plant of Union Fenosa Gas, which is a stakeholder company shared between Eni and Spain's Gas Natural. The second Egyptian liquefaction plant is at Ikdu near Alexandria.

Egypt has also become an LNG importer with two Floating Storage and Regasification Units deployed at the port of Ain Sokhna in the Gulf of Suez.

The Egyptians turned from exporters of LNG to importers in April 2015 to satisfy their natural gas consumption, which has increased by an annual average of 7 percent over the previous 10 years.

“The quick realization of such a large project will be possible through cooperation with Petroject, Enppi and Saipem contractors, who have always contributed to the success of Eni’s development activities in Egypt,” the Italian company has said.

The discovery of Zohr was announced in August 2015 following the drilling of the Zohr-1 well in the block. ■

Amec Foster Wheeler LNG project focus includes plants in Timor Este and Australia

Our Europe editor

Amec Foster Wheeler, the energy and liquefied natural gas project contractor, returned a solid operational performance as it worked on LNG and feed-gas projects in Australia and Timor Este.

The company's Interim Chief Executive and Chief Financial Officer, Ian McHoul, outlined current project activities as he said challenging market conditions would continue for the foreseeable future.

Amec FW is working in Timor Este and other regions

Focus

"Our focus is to maintain our solid operational performance and drive our cost reduction and efficiency programmes.

"We are also making good progress with our portfolio review, and have identified a number of non-core assets.

"We are targeting to halve our net debt over this timeframe, from disposal proceeds together with the cash generated from our core businesses," McHoul said.

"It is expected that 2016 will be another year of challenging market conditions across upstream oil and gas and mining.

"However, our exposure to a number of end markets, including downstream oil and gas, renewables and government work means we expect to see only a slight fall in like-for-like revenue, and a reduction in trading margins significantly less than the decline in 2015," Amec FW said.

Amec FW, based in London, divided its earnings reports into geographic areas, including the Asia-Pacific where it is working on three LNG projects. It listed its continuing work as the Timor Leste government's pre-front-end engineering and design study for the proposed Beaco LNG plant in the former Portuguese colony, located north of Western Australia.

Timor Leste awarded the contract to Amec FW in May 2015 for the proposed Beaco LNG plant.

Amec FW's scope for the contract includes concept selection studies, development of technical design, development of procurement and construction strategies, project implementation plans, capital cost estimate and completing a schedule for the overall project.

The pre-FEED work is being performed in consultation with Timor Leste's state-owned energy company Timor GAP, which is managing the implementation of the so-called Tasi Mane project comprising three clusters of development. ■

CHART®

LNG VALUE CHAIN

www.ChartLNG.com