LNG Unlimited

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Equatorial Guinea LNG and gas hub pursued by Noble Energy

Houston-based firm to advance with Alen field and Douala Basin offshore developments

LNG Journal editor

Liquefaction plant at Punta Europa on Bioko Island

Noble Energy, the US exploration and production company with overseas interests in the East Mediterranean and West Africa, has approved the Alen natural gas development offshore Equatorial Guinea to provide feed-gas for the LNG export plant.

"Natural gas from the Alen field will be processed through the existing Alba liquefied petroleum gas processing plant (Alba Plant) and EG LNG's production facility at Punta Europa on Bioko Island," said Noble.

Final deals

"Definitive agreements in support of the project were executed between the Alen field partners, the Alba Plant and EG LNG plant owners, as well as the government of Equatorial Guinea," added the US company.

J. Keith Elliott, Noble Energy's Senior Vice President for offshore activities said the Houston, Texas-based company was excited to announce this high-return, capital-efficient development as its next major offshore project.

"First EG production is anticipated in the first half of 2021," said Elliott.

He said the West African gas field is next on Noble's agenda as it moves to complete its development of the world-class Leviathan gas field in the East Med offshore Israel.

"The Alen development is the first step towards creating an offshore natural gas hub in EG, which will open the potential for future monetization of additional discovered resources through existing infrastructure," explained Elliott.

"Noble has discovered three trillion cubic feet of gross natural gas resources in the Douala Basin, which positions us well for LNG sales exposure over the coming decade," stated Elliott.

The Alen field initially commenced operation in 2013 as a condensate production and natural gas recycling project.

Natural gas from the field has been produced and reinjected into the reservoir to support the enhanced recovery of liquids since start-up.

Primary condensate will continue to be produced and transported to the Aseng field production, storage and offloading vessel for sales.

Noble explained that the Alen gas monetization project will utilize the existing three high-capacity production wells on the platform, with minor modifications necessary to deliver sales gas from the platform to the Alba Plant and the EG LNG facilities, operated by Marathon Oil Corp. of the US.

Noble said a 24-inch pipeline capable of handling 950 million cubic feet of natural gas equivalent per day will be constructed to transport all natural gas processed through the Alen platform approximately 70 kilometres to the Bioko Island facilities.

At start-up, natural gas sales from the Alen field are anticipated to be between 200 and 300 million cubic feet per day (75 to 115 MMcfe/d net to Noble).

"The wet gas stream will be tolled through the Alba Plant for additional liquids recovery before converting dry gas into LNG via the EG LNG facility," stated the US company.

Noble anticipates that Alen natural gas sales will grow modestly as open capacity in the EG LNG plant increases due to declining Alba field production.

Noble said it would maintain ownership of the hydrocarbons through the processing facilities, and the company will be progressing negotiations for offtake agreements to sell the LNG in global markets.

Total estimated gross recoverable resources from the Alen field are around 600 billion cubic feet of natural gas equivalent. Gross capital expenditures for the development are estimated to be $330 million.

Noble operates the Alen field and holds a 45 percent working interest in the project (45 percent Block O and 38 percent Block I). ■

UNLIMITED AGENDA

Gazprom's Russian Baltic LNG concept is finalized and capacity is increased for start-up from 2023

LNG Journal editor

Gazprom said it finalized the configuration of its planned new Russian liquefaction and export plant proposed for the port of Ust-Luga on the Baltic Coast and has increased the volume of production.

The Baltic LNG concept proposes the design, construction and operation of an LNG production plant on the coast about 110 kilometres from Saint Petersburg.

The facility would be located in the port of Ust-Luga and have capacity of 13 million tonnes per annum of LNG instead of the original capacity estimate of 10 MTPA.

Gazprom and RusGazDobycha, a special purposes company securing gas supplies for the chemicals industry, said they envisage construction of capacities for the processing of 45 billion cubic metres of gas.

The plant would additionally produce 4 million tonnes per annum of ethane for the chemicals industry and over 2.2 million tonnes of liquefied petroleum gases (LPG) per annum.

Facility will be in the port of Ust-Luga west of St Petersburg

"The complex will be processing ethane-containing gas produced by Gazprom from the Achimov and Valanginian fields of the Nadym-Pur-Taz region," said a Gazprom statement.

"The gas remaining after the processing (about 20 billion cubic metres) will go into the company's domestic gas transmission system," added Gazprom.

Gazprom and RusGazDobycha said they expected to put the first LNG Train of the complex into operation in the second half of 2023 and the second Train in late 2024.

The project operator will be RusKhimAlyans, another special-purpose company established on a parity basis by Gazprom and RusGazDobycha.

The operator's priorities include the development of basic and detailed design documentation and the launch of land planning activities at the leased site of 1,400 hectares in the southern part of Ust-Luga port.

"It is also planned to devise contracting arrangements within the project, designate engineering, procurement and construction contractors and place orders for long lead items," Gazprom added.

"The plant will make it possible to increase Russian LNG exports and to take LPG exports up by 30-40 percent," it said.

"The production of ethane, which is in high demand in the domestic industry, will also grow substantially. The ethane produced at the plant is to be supplied to a chemical facility whose construction is to be independently sponsored by RusGazDobycha and known as the Baltic Chemical Complex," stated Gazprom. ■

Exmar of Belgium posts loss as it awaits start-up of Argentine FLNG project with one of its vessels

Exmar, the Belgian shipping line with floating liquefied natural gas interests, including the "Tango FLNG" production hull now deployed at the Argentine port of Bahia Blanca, has recorded a pre-tax loss as its business is restructured.

Exmar posted an annual pre-tax loss of $14.2 million compared with a profit of $29.3M the previous year and gave an update on its LNG activities, including on the commissioning of the "Tango FLNG" vessel.

The "Tango FLNG" was built at the Chinese Wison shipyard in Nantong and delivered to Exmar in 2017. It had initially been destined for a project in Colombia that was cancelled.

Exmar, whose headquarters are in Antwerp, then charted it at the end of 2018 to the Argentine project.

It was transported from China to Argentina onboard a heavy-lift vessel and arrived at Bahia Blanca on 4 February 2019.

"The vessel is safely moored only two-and-a-half months after the contract signing for the project," said Exmar.

"The installation and commissioning of the unit has started and Exmar believes barge will be able to start its gas liquefaction operations in the second quarter of 2019 at which time a significant portion of the restricted cash under the financing of 'Tango FLNG' will be released," added the Belgian company.

Exmar expects annual gross earnings from the vessel of around $43.0M per annum.

The unit is expected to produce around 500,000 tonnes per annum of LNG and will stay in Bahia Blanca for the next 10 years, producing LNG for export for the Argentine energy company YPF.

Exmar also said in its earnings report that turnover increased by around 9 percent to $87.7M from $80.7 during 2017.

The company currently manages a fleet of 10 LNG carriers and FSRUs and owns two FLNG barges.

Exmar also operates in the liquefied petroleum gas market, where it owns or operates around 30 vessels. It has been expanding in the LPG sector while consolidating its LNG interests.

The company's pre-tax earnings in the LNG division over the full year came to $21.4M, including a capital gain of $30.9M on the sale of the FSRU "Excelsior".

This was lower than the $47.6M posted for LNG activities in 2017 when a capital gain of $70M was included for the sale of three ships, the "Explorer", the "Excelerate" and the "Express", as well as a charge of $22.5M on the vessel "Excel".

Exmar said its LNG shipping cash flow was mainly generated by the LNG carrier "Excalibur" under her long-term time charter contract running until early 2022.

"The debt on the 'Excalibur' has been successfully refinanced until the end of her time charter," noted the company.

"This will guarantee a stable income in the coming years and puts Exmar in a position to take advantage of new LNG shipping opportunities as they arise," it said.

Exmar added that its barge-based FSRU had been contracted to international commodities company Gunvor after being delivered from the Wison's Nantong yard in 2017, though was currently still at the Keppel Shipyard in Singapore to where it had been transported. ■

Chiyoda gets on track for recovery plan with overhaul

Chiyoda Corp., the Japanese LNG engineering company, said it was still working on its recovery plan from the more than $1 billion of losses incurred from significantly increased project construction costs, particularly at the Cameron project in Louisiana being built by Sempra Energy.

Chiyoda said it was implementing countermeasures to reduce costs, obtaining change orders and reviewing settlement conditions from ongoing projects while also finalizing a new recovery strategy.

"The past fiscal year was one of the most severe years in Chiyoda's history," stated Masaji Santo, President and Chief Executive of the Yokohama-based company in a statement to investors and employees.

Shares in Chiyoda, a subsidiary of Mitsubishi Corp., had plunged to a 10-year low at the end of 2018 when losses began to emerge in its earnings forecasts for the Cameron project and other ventures, including the Tangguh LNG plant expansion in Indonesia.

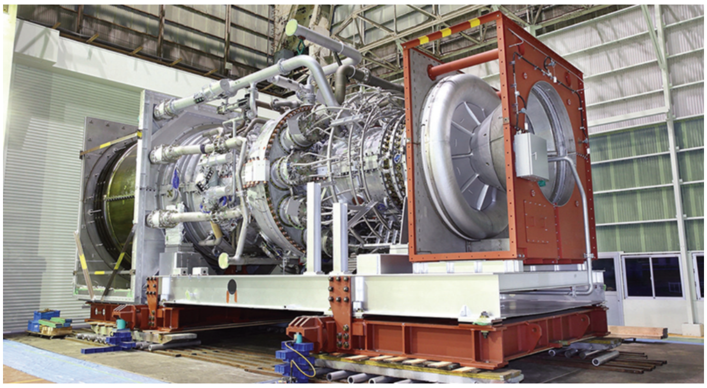
"We will prioritize the completion of ongoing projects as planned and will soon release a revival plan currently under discussion with stakeholders," explained Santo.

"Firstly, we will strengthen our risk management capabilities by establishing a Strategy & Risk Integration Division to support corporate management and manage project risks throughout all project phases, including pre-award," stated the CEO.

"Secondly, we will enhance employee capabilities and optimize the allocation of human resources through a career development program that includes rotation between disciplines. We will also recruit additional employees to supplement our revival plan as required," he added.

Mitsubishi wins turbines order for Rovuma plant in Mozambique

LNG Journal editor



The H-100 gas turbine and compressor package ordered for Africa for Exxon Mobil-run export joint venture

Mitsubishi Heavy Industries, the Japanese supplier of turbines and compressors for the liquefied natural gas industry, has signed an agreement to provide its equipment to the onshore Rovuma liquefaction plant joint venture in Mozambique in southeast Africa.

The main shareholders in the Rovuma project are Italian energy company Eni and US major ExxonMobil through their stakes in the Area 4 licence offshore Mozambique.

Area 4

ExxonMobil is leading the building of the liquefaction plant and LNG operations on behalf of the Area 4 joint venture, while Eni will be in charge of the bringing on stream of the upstream facilities.

The development plan for the first phase of the Rovuma LNG project specifies the proposed design and construction of two LNG Trains, which will each produce 7.6 million tonnes per annum of LNG in the first phase.

Mitsubishi said it was supplying its H-100 gas turbine and compressor packages for the phase one of Rovuma LNG.

"Subject to final investment decision on the project, Mitsubishi Heavy Industries Compressor Corporation (MCO) will supply the main liquefaction compressors and Mitsubishi Hitachi Power Systems (MHPS) will provide dual-shaft, 120 megawatt H-100 gas turbines as the mechanical drivers," said the Japanese company.

The Rovuma project also plans to utilize the AP-X liquefaction process from the US equipment and technology company Air Products in the proposed plant in Mozambique's northern area.

"We are pleased that ExxonMobil and their partners were the first to select MHI's H-100 driven compressor trains for their Rovuma LNG project and anticipate future uses for the flexible turbine design," said Mitsubishi President and Chief Executive Seiji Izumisawa.

"This project will allow us to demonstrate the benefits of MHI's LNG solution in terms of lower production costs, increased productivity, reduced complexity and lower lifecycle costs, while significantly reducing plant emissions," added Izumisawa.

South Koreans progress on port's LNG import project for Australia

A South Korea-based liquefied natural gas project company has signed an agreement with Australian building contractors Watpac Ltd for the design and construction of the onshore infrastructure for the LNG import facility planned for the Australian port of Newcastle in the state of New South Wales.

Korean company Epik Co. said it had also established an Australian subsidiary to carry out the project that will include the deployment of a floating storage and regasification unit.

Watpac will be supported by Mott MacDonald, an international marine and engineering infrastructure consultant with significant experience in the design and engineering of multiple FSRU projects around the world.

"This is a significant step forward for the Newcastle LNG project in partnering with Watpac and Mott MacDonald," said Jee Yoon, Epik's Managing Director.

Watpac, a wholly-owned subsidiary of the Besix group, has operations across the country and has previously delivered challenging construction and marine and civil projects.

"As an Australian company, we are thrilled to be partnering with Epik to deliver the engineering and construction services for this critical project," said Bram Gruwez, Watpac General Manager.

The Newcastle LNG project expects to receive all its regulatory approvals for the project, by early 2020.

The Korean-led LNG regasification project is the second proposed for the state of New South Wales with a venture planned for Port Kembla, south of Sydney.

The developers of Newcastle LNG pointed out that the facility would be in one of Australia's largest ports and a major trade and logistics hub, making it an optimal area for a terminal. Epik said it expected to place an order for the FSRU with a Korean shipyard subject to receiving regulatory approvals for the project.

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Chevron revives its Canadian export project at Bish Cove with new Energy Board filing

LNG Journal editor

Chevron Corp. has revived its almost dormant Canadian Kitimat liquefied national gas project originally proposed with Apache Corp. for Bish Cove in British Canada by applying to regulators for export capacity of up to 18 million tonnes per annum.

Chevron, the operator of two LNG export plants in Western Australia, now has Australian company Woodside Petroleum as its partner after Woodside purchased assets from Apache in 2014, including stakes in Wheatstone LNG in Australia and the Kitimat venture in BC.

"Chevron and Woodside have applied for a new licence for their Kitimat LNG plant in northern British Columbia that could see it nearly double in size," said Chevron.

The companies have submitted the application to Canada's National Energy Board with a revised plant design that may include up to three LNG processing Trains instead of two.

"Chevron and Woodside have re-evaluated the originally proposed two-Train, 10 MPTA LNG plant development concept, with a focus on improving Kitimat LNG cost of supply competitiveness relative to other global LNG projects," Chevron said in a statement.

The re-launching of the Bish Cove project follows a final investment decision made in October 2018 by the Royal Dutch Shell-led LNG Canada joint venture.

Both plant sites are almost adjacent and are located about 650 kilometres north of the province's largest city, Vancouver.

Ground was previously cleared at Bish Cove project site

Shell and its Asian partners, including PetroChina, Petronas of Malaysia, Japan's Mitsubishi and Korea Gas corp. have started work at the brownfield site, also near Kitimat, and which had been an energy products terminal before being acquired by Shell in 2011 when the Chevron project was already progressing nearby.

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

Shell will initially produce 14 MTPA of LNG and has an option to increase its capacity to 28 MTPA.

Feed-gas for Chevron's Kitimat plant will come from the large upstream shale-gas resources in the 322,000 net acres it has in the Horn River and Liard Basins of northeast BC.

Chevron will then transport the gas on the proposed Pacific Trail Pipeline to the site at Bish Cove.

The US major noted that its Kitimat LNG project was the most mature of the proposed Canadian LNG ventures and it also has an established partnership with the Haisla First Nation who live in the Kitimat area.

"We have key federal and provincial environmental approvals and licenses in place and substantial early work on the LNG site and pipeline route is underway," said Chevron.

Chevron has a 50-50 partnership with Woodside in the Kitimat venture, though they have yet to disclosed cost estimates or investment and construction schedules.

The Kitimat joint venture said in March 2018 that it had been drilling some appraisal wells in the Liard Basin, though there has been little progress over several years on the plant development front.

However, some environmental and LNG export permits and First Nations benefits agreements are still in place for the liquefaction plant.

"The re-launching of the Bish Cove project follows a final investment decision made in October 2018 by the Royal Dutch Shell-led LNG Canada joint venture."

NEWS NUDGES

Guanghui LNG supply

French energy major Total and Guanghui International Natural Gas Trading, a subsidiary of Guanghui Energy based in Xinjiang, China, signed a long-term Sale and Purchase Agreement (SPA) for the supply of 700,000 tonnes per year of LNG for a period of 10 years. The gas will be delivered to Guanghui's regasification terminal in Qidong in the eastern Jiangsu province. "We are delighted to start a long-term relationship with Guanghui, an increasingly successful LNG market player in China with clear ambitions for growth," said Laurent Vivier, Senior Vice-President Gas at Total.

Arctic LNG accords

Novatek, the developer of the Yamal LNG plant in Arctic Russia, said it signed two preliminary accords, with international commodities firm Vitol and Spanish energy company Repsol, for the supply of cargoes from its next project, the Arctic LNG II venture on the Gydan Peninsula. Novatek said the agreements envisage concluding future 15-year contracts with annual supply of 1 million tonnes of LNG. The volumes will be shipped on a free-on-board basis to the Novatek trans-shipment terminals in the Murmansk and Kamchatka regions of Russia.

Jera-EDFT merger

Jera. Co Inc., the Japanese LNG power assets owner and fuel buyer for Tokyo Electric Power and Chubu Electric, and France's EDF Trading (EDFT) have completed their merger of LNG and trading activities into Jera Global Markets (JERAGM). "Jera Global is now the exclusive LNG optimiser for Jera and EDF S.A., managing their collective short and medium-term LNG optimisation activities in the wholesale markets," they said.

Qatar and ExxonMobil give high profile at LNG19 to marketing arm for Golden Pass

LNG Journal editor

Qatar Petroleum and ExxonMobil said their joint marketing company Ocean LNG, created in 2016, would be responsible for placing all of the offtake from the Golden Pass liquefaction and export plant being developed on the Gulf Coast of Texas.

Ocean LNG is an international joint venture marketing company started in October 2016 in which Qatar Petroleum owns 70 percent and ExxonMobil holds 30 percent.


The Qatar Petroleum team at the Shanghai LNG2019 conference where Golden Pass project was discussed

Prominent

"Ocean LNG will be prominently featured for the first time as part of the Qatar Petroleum pavilion at the global industry event, LNG 19, being held in Shanghai," said Qatar Petroleum.

"Since its establishment, Ocean LNG has been active mainly in South America and Europe," noted Qatar Petroleum.

"Following a successful Final Investment Decision of Golden Pass LNG on 5 February 2019, Ocean LNG will now focus its efforts on marketing its US LNG volumes in the Asia Pacific region through further extensive engagements," explained the company.

The marketing unit would seek to expand its relations and networks with both established customers as well as emerging and prospective LNG buyers.

"The FID of Golden Pass LNG earlier this year underpins Ocean LNG's marketing efforts to deliver US LNG to customers across the globe," said Saad Sherida Al-Kaabi, Qatar's Minister of State for Energy Affairs, and President and Chief Executive of Qatar Petroleum.

"This is a further testament of Qatar Petroleum's position as a global LNG leader with a large portfolio capable of offering tailored LNG supply structures and commercial terms in an evolving global LNG environment," stated Al-Kaabi.

The existing Golden Pass facility, located on the Sabine-Neches Waterway in Texas, is majority owned by Qatar and with ExxonMobil holding 30 percent of the venture.

Originally designed as an import facility before the shale-gas revolution, Golden Pass will be reconfigured at a cost of more than $10 billion to export up to 15.6 million tonnes per annum of LNG.

Golden Pass has already received all necessary regulatory approvals from both the US Federal Energy Regulatory Commission and the Department of Energy.

An engineering consortium comprising McDermott and Zachry Group of the US and Japan's Chiyoda Corp. have been awarded the contract to build the plant.

NextDecade's Rio Grande project signs Shell deal

NextDecade Corp., the developer of the Rio Grande LNG export project at the port of Brownsville in Texas, announced at LNG2019 that it had signed a 20-year sale and purchase agreement with Royal Dutch Shell.

Shell will purchase LNG on a free-on-board basis whereby it provides its own shipping starting from the commercial operation date of Rio Grande LNG, currently expected in 2023.

The US company announced the key event at its exhibition stand at the LNG19 conference in the Chinese city backed by the International Gas Union (IGU) and Gas Technology Institute.

NextDecade said that around three-quarters of the purchased LNG volumes will be indexed to the North Sea Brent crude price and the remaining volumes indexed to US natural gas prices, including the benchmark Henry Hub.

"The SPA is the first-ever long-term contract with LNG produced out of the United States to be indexed to Brent and comes with full destination flexibility," stated NextDecade.

"We are thrilled that we continue to achieve our milestones, as promised, and look forward to finalizing additional commercial agreements and to proceeding with the development of our Rio Grande LNG project," added the company.

Matt Schatzman, NextDecade's President and Chief Executive and a former executive with BG Group of the UK, said he was honoured to have Shell as the first foundation customer.

"Shell is not only the largest portfolio LNG company in the world, Shell is also a recognized pioneer in the global LNG business," explained Schatzman. ■

Woodside CEO Coleman praises China fuel pick at Shanghai LNG19

LNG Journal editor

Woodside Petroleum Chief Executive Peter Coleman told the LNG2019 conference in Shanghai that international energy majors needed to do more to demonstrate as China has already done that a lower-carbon world needs LNG.

"This is not just about ensuring we secure markets. It's about ensuring we are seen as being a significant contributor to reducing greenhouse-gas emissions," Coleman told the three-yearly industry gathering backed by the International Gas Union.

Operator

Woodside operates two LNG plants in Western Australia, the Northwest Shelf facility and Pluto LNG, and is expanding its gas hub for the provision of more export volumes and for fuel needs in the maritime and trucking sectors.

"We have to work hard to make sure people fully understand the contribution our product makes to reducing the global greenhouse-gas footprint and improving air quality," stated Coleman. "And nowhere is this more evident than in China, where the commitment to switch to cleaner energy has created opportunities for gas and renewables," explained the CEO.

"This includes displacing coal but also new uses for our product in the transport sector, where LNG can displace heavy fuel oil in ships, and oil or diesel in trucks and trains," added Coleman.

The Woodside CEO said companies should also advocate global action to promote LNG and cleaner energy and to underpin national commitments.

"This includes coal-to-gas switching, which has the potential to be even more significant as new LNG markets open up in Asia," he added.

Coleman said that these issues were "front-of-mind" for Woodside as it pursues growth plans in northwest Australia that would significantly increase its LNG production and shore up its position as "a major global supplier for decades" to come. ■

Coleman was also interviewed on the Chinese 'blue sky' policy and nation's switch from coal to gas

Total tells LNG19 about accords to strengthen Gulf Coast foothold

French energy major Total said at the LNG2019 conference in Shanghai that it had signed a series of agreements to strengthen its foothold on the US Gulf Coast with equity stakes and additional volumes.

Total said it signed its deals with Tellurian Inc., a company in which it already has shares and the developer of the Driftwood LNG project in Louisiana.

The accords signed were a Heads of Agreement committing Total to invest in the development company Driftwood Holdings and another to take its supply from the venture to 2.5 million tonnes per annum of LNG.

Total said it would make an additional equity investment in the Driftwood LNG joint venture and purchase more offtake.

The final environmental impact statement was issued by the US Federal Energy Regulatory Commission in January 2019 to develop the liquefaction plant to produce around 27.6 million tonnes per annum of LNG.

Tellurian and Total said they planned a sales and purchase agreement (SPA) for a further 1.5 MTPA of LNG from Tellurian Marketing's offtake volumes from the Driftwood venture.

The sales agreement will be for the purchase of free-on-board (FOB) whereby Total supplies the shipping for a minimum term of 15 years and at a price based on the Platts Japan Korea Marker (JKM).

Total's equity agreement gives the French company an additional 20 million shares of Tellurian common stock for an amount of \$200 million, adding its previous investment.

The agreements are subject to the relevant regulatory approvals and to the final investment decision of the Driftwood project.

"These agreements increase our commitment to Driftwood LNG, a highly cost-competitive project that benefits from the low gas production costs and prices in the US," said Patrick Pouyanne Chairman and Chief Executive of Total. ■

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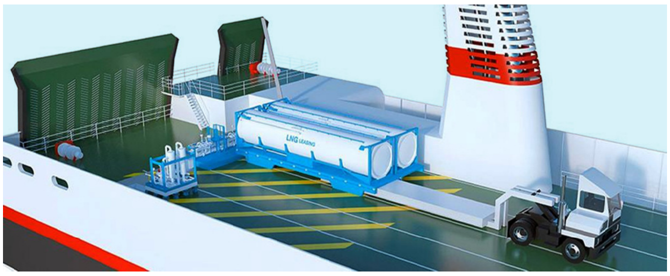

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Jordan Cove LNG project suddenly looks like having many regulatory mitigation hurdles to clear

LNG Journal editor

The US Federal Energy Regulatory Commission has issued a draft environmental impact statement for the Jordan Cove LNG export project in the northwest state of Oregon and the regulator's comments suggest serious reservations about the Canadian-led venture being able to meet the many required mitigation measures.

Pembina Pipeline Corp. is the Canadian owner of the Jordan Cove export project proposed for Coos Bay in Oregon.

Liquefaction plant site near Coos Bay given testing EIS

Smaller trains

The plant would comprise five small-scale liquefaction Trains each with 1.5 million tonnes per annum of output for a total of 7.8 MTPA.

It will also include two full-containment LNG storage tanks with total capacity of 320,000 cubic metres, gas treating facilities, an export jetty and access to more than 25 billion cubic feet per day of gas supply from Western Canada and the US Rockies.

"We conclude that constructing and operating the Project would result in temporary, long-term, and permanent impacts on the environment," said the FERC in its draft report.

"Many of these impacts would not be significant or would be reduced to less than significant levels with the implementation of proposed and/or recommended impact avoidance, minimization, and mitigation measures," it added.

"However, some of these impacts would be adverse and significant. Specifically, we conclude that constructing the project would temporarily but significantly impact housing in Coos Bay and that constructing and operating the project would permanently and significantly impact the visual character of Coos Bay," the regulator stated.

"Furthermore, constructing and operating the project is likely to adversely affect 13 federally-listed threatened and endangered species," said the FERC.

However, the FERC did note in its comments that the applicants said they would implement their "Erosion Control and Revegetation Plan", "Wetland and Waterbody Construction and Mitigation Procedures" and "Upland Erosion Control, Revegetation, and Maintenance Plans" as well as other impact avoidance, minimization and mitigation measures.

As proposed, the LNG plant would be visited by about 120 LNG carriers per year and Pembina has confirmed that it had signed preliminary accords with Jera Co Inc. and Itochu Corp. of Japan for the supply of LNG.

The US Coast Guard has already issued a Letter of Recommendation indicating that the Coos Bay Federal Navigation Channel would be considered suitable for the LNG marine traffic associated with the project.

The FERC added that the pipeline would originate at interconnections with existing pipeline systems in Klamath County in Oregon and would span parts of Klamath, Jackson, Douglas, and Coos counties before connecting with the LNG plant.

"The approximately 229-mile-long, 36-inch-diameter pipeline would be capable of transporting up to 1.2 billion cubic feet of natural gas per day," said the FERC. ■

Goldboro project in Nova Scotia backed by Germany makes progress and awards contract to KBR

KBR, the US energy and LNG engineering company, said it was awarded a contract by Toronto-listed Pieridae Energy for a two-Train export facility at Goldboro in the Canadian Atlantic Coast province of Nova Scotia as the German-backed venture moves closer to its final investment decision.

Under the terms of the contract, KBR will perform a review of an amended version of the previously prepared front-end engineering and design study for the proposed Goldboro liquefaction facility.

KBR will also conduct an "open-book estimate" necessary for an engineering, procurement, construction, and commissioning contract for the Goldboro facility with the intention of entering into an engineering, procurement and construction contract by the time the final investment decision is taken.

The US company said contract work on the project, backed by German utility Uniper, is expected to be performed within 11 months.

Pieridae has signed a 20-year sales agreement with Uniper which the Canadian company said was worth around C$35 billion (US$26.3Bln) over the life of the project.

"The German Government is supportive of the project, declaring it eligible in principle for up to US$4.5 billion in loan guarantees," added Pieridae in giving the KBR contract details.

The Calgary-based company, headed by Chief Executive Alfred Sorensen, is on the venture list of the Toronto Stock Exchange for small commodities companies.

Pieridae also owns natural gas assets in the Alberta Foothills in the central Canadian province.

"We are extremely pleased with this development as it marks a major step in getting the Goldboro LNG facility built," said CEO Sorensen.

"This is Eastern Canada's only fully permitted LNG facility with gas supplies, a pipeline route and an anchor customer," he added.

KBR said it was excited to be a part of this "significant project" with Pieridae and to continue to grow and maintain a substantial presence in the Eastern Canadian Region.

"This win is indicative of KBR's strategic commitment to increase LNG production globally, supporting the transition to a lower carbon economy," said Farhan Mujib, KBR President for Hydrocarbons and Delivery Solutions.

"We are looking forward to a close and collaborative relationship with Pieridae to successfully deliver their LNG facility," added Mujib. ■