LNG Unlimited

LNG JOURNAL PUBLICATION 7 June 2016

Queensland exports more LNG than Russia as plants ramp up

LNG output is now Australia's largest component of oil & gas production

Our Asia-Pacific editor

The Australian state of Queensland where three liquefied natural gas plants are operating and which is shipping cargoes made from coal-seam gas now exports more LNG than Russia, according to latest production figures.

LNG exports from Queensland in the first-quarter to March amounted to 3.8 million tonnes compared with Russia's 2.5MT.

Zero to hero

"Queensland's performance is extraordinary, from zero LNG exports as recently as 18 months ago to more than Russia already," said Graeme Bethune, Chief Executive of Australian consultancy EnergyQuest.

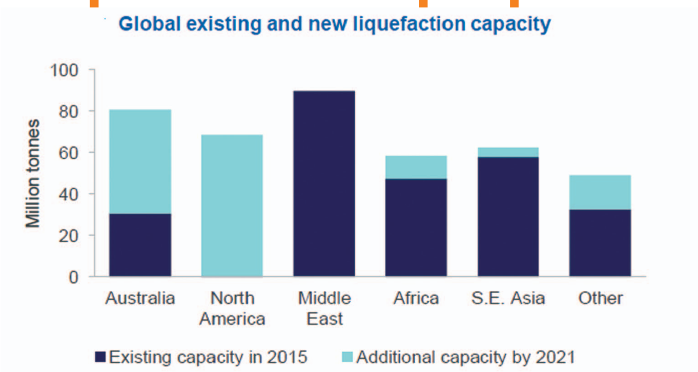
"Queensland's LNG projects have all ramped up more quickly than expected and are near or exceeding nameplate capacity.

"The whole process has been very well managed with little apparent market disruption," Bethune added.

Royal Dutch Shell's Queensland Curtis LNG plant it acquired with BG Group shipped 31 cargoes, or 2.1MT, in the first quarter.

The Gladstone LNG facility operated by Australia's Santos, shipped 16 cargoes, amounting to nearly 1MT, and the Australia Pacific LNG plant of Origin Energy, Conoco Phillips and China's Sinopec delivered 11 cargoes for 700,000 tonnes in volume.

The Sakhalin Island LNG plant in the Russian Far East is the only liquefaction facility in the whole of Russia, despite its massive natural gas resources. The Russian LNG plant ships around 12 cargoes per month, mostly to Japanese utilities. Russia is the world's second-largest producer of dry natural gas after the US.



Australia is on its way to being largest producer ahead of Qatar. The combined Middle East states will still be the largest regional producer through 2020

LNG output is now Australia's largest component of petroleum production, according to latest government figures.

Overall Australian LNG output increased by 53.2 percent in the first quarter of 2016 compared with a year ago to 10.1MT with the ramp-up of production from the three Queensland CSG-to-LNG plants and the first cargo from the Gorgon project in Western Australia.

Despite a 36 percent fall in average Australian LNG export prices in the first three months of 2016 compared with the previous quarter due to the fall in oil prices, Australian quarterly LNG export revenue amounted to $4.46 billion, only down slightly from the first quarter of 2015 and supported by the growth in export volumes.

"As a result, prices are projected to remain low in the medium term," according to the latest government resources report.

"Global LNG markets are expected to become increasingly fragmented and less predictable as a result of an increase in the number of smaller and more flexible buyers.

"These factors suggest sellers will operate in a more challenging environment," it added.

"Globally, the majority of long-term LNG contracts remain linked to oil prices. As a result of the recent reduction in oil prices, the price of contracted LNG delivered into Asia has been declining since 2014.

Average prices for LNG delivered into Japan declined by 48 per cent between January 2015 and January 2016 to US$7.39 a gigajoule, as the lagged effect of oil prices flowed through.

"The Brent crude oil price is forecast to continue declining in the short term (2016) to US$36.60 a barrel, before recovering to US$59.80 a barrel in 2016 dollar terms by 2021," the report said.

Over the period to 2021 Australia's natural gas production is forecast to increase 12 per cent a year on average to 147.6 billion cubic metres.

"Most of the increase in gas production will be to support additional LNG export capacity, from Australia's western, northern and eastern markets," it added. ■

UNLIMITED AGENDA

Brendan Bechtel will keep hard hat handy to push forward top LNG engineering company

Our North America editor in New York

The world's leading liquefied natural gas engineering company Bechtel Inc., a privately-held corporation whose headquarters are in San Francisco, has named Brendan Bechtel as the fifth-generation family member to be Chief Executive.

Bechtel is a global business that has been led with a brief exception by a succession of four family CEOs since cattle farmer Warren Bechtel founded the firm in 1898 to help construct railway lines across America.

Bechtel said the promotion of Brendan Bechtel, the great-great-grandson of founder Warren, would take effect on September 1, 2016, when current CEO Bill Dudley will step down from the post.

Son of Riley

Brendan Bechtel is the son of Chairman of the Board Riley Bechtel, who stepped down as CEO in 2014 after almost 25 years in the job to make way for Dudley as the first non-family member to serve as President and CEO since the company was founded 118 years ago.

"I am especially honored and humbled by this election just a few weeks after we celebrated my grandfather's 75 years of continuous service to Bechtel," said Brendan Bechtel.

"Representing the fifth-generation of family leadership at this remarkable company is a unique responsibility.

"I look forward to continuing the family's legacy started by my great-great-grandfather in 1898, and most importantly, working with our strong team of committed and capable leaders to guide Bechtel into the future," he stated.

The Bechtel company is so sought after in the LNG industry that it was the main engineering contractor on Australia's three coal-seam-gas-to-LNG projects built side-by-side on Curtis Island on the Queensland coast as completely separate ventures.

The company also recently completed the first US Gulf Coast LNG export plant at Sabine Pass in Louisiana.

The current CEO Dudley will become vice-chairman of the Bechtel Group.

At the same time as Brendan Bechtel becomes CEO he will hand his current positions as President and Chief Operating Officer of the group to Jack Futcher, a 36-year veteran of the company and president of its Oil, Gas & Chemicals business.

"I am delighted to announce these changes that further strengthen our company and puts in place a dedicated and experienced executive leadership team that will drive us forward as we continue to innovate, re-tool and consistently deliver for our customers and colleagues," said Bechtel Chairman Riley Bechtel.

"This is a natural evolution in our company and the result of diligent succession planning and execution," he added.

Hard hat for CEO: Brendan Bechtel assumes inheritance

Bechtel says Cheniere now North American LNG leader after taking control of first Train

Bechtel Inc., the world's leading builder of liquefaction plants, said Houston-based Cheniere Energy was now at the forefront of North American LNG, after it handed over control of the first Train constructed at Sabine Pass in Louisiana.

"I congratulate the entire team, our customer Cheniere Partners, our global suppliers, and the Bechtel team, on the extraordinary achievement of bringing Train 1 of the project to life by putting their expertise and experience into finding innovative solutions to the challenges of megaproject engineering and construction," said Jack Futcher, President of Bechtel's Oil, Gas and Chemicals business.

"Cheniere is at the forefront of North America's LNG industry, and we are looking forward to our continued collaboration in delivering energy to global markets," Futcher added.

The first Train was able to ship its first commissioning cargo in February 2016. It has a nameplate capacity of 4.5 million tonnes per annum from total planned output of 27 MTPA at Sabine Pass when the other five processing units are completed in the next couple of years.

Bechtel will be building all six Trains at Sabine Pass under the engineering, procurement and construction (EPC) contract.

The second Train at the first exporting plant to come on stream on the US Gulf Coast should be completed and handed over to Cheniere by September 2016.

Cheniere expect Trains 3 and 4 to be completed in 2017 and the company envisages Train 5 being in operation by 2019.

Train 6 is currently under development, with all necessary regulatory approvals in place.

Cheniere expects to give Bechtel the go-ahead to start Train 6 once a final investment decision has been made. Jack Fusco, the new Chief Executive of Cheniere, said of the hand-over: "We announce that Train 1 of the Project has achieved substantial completion, and we are taking care, custody, and control of Train 1 months ahead of the guaranteed completion date and on budget.

"I would like to thank Cheniere's professionals who have worked tirelessly since 2012 to complete this significant milestone. I would also like to congratulate our EPC partner Bechtel for this achievement."

Flex LNG names Cook as its CEO to redirect firm

Flex LNG, the Norwegian-listed company whose main assets are the two LNG carriers with a capacity of 174,000 cubic metres it is having built at Samsung Heavy Industries in South Korea, has named Jonathan Cook as its new Chief Executive to draw up a future shipping strategy.

Flex said Cook is currently Chief Marketing Officer for Cardiff LNG (UK) Ltd. and will commence his new duties during the fourth quarter of 2016.

Flex was initially founded as a carrier company and then it changed its strategy to try and enter the liquefaction hull market, a move which failed.

Cook's career spans more than 30 years in the maritime and energy sectors with the last 16 years in the LNG industry.

After graduating from Texas A&M University at Galveston he held several key positions at US companies El Paso and Excelerate Energy.

He also served 11 years at sea as a licensed deck officer where he achieved the rank of Master Mariner.

With the delivery of four LNG carriers in 2014, Cardiff LNG of the UK has become one of the most active niche LNG carrier operators in the spot market.

"In his new role, Cook will lead the corporate and business development activities of Flex LNG," the company told the Oslo bourse.

"I look forward to working with the management team and shareholders of Flex LNG to leverage its market position and develop the company's full potential in the rapidly evolving LNG industry," Cook said. ■

French energy and LNG engineer Technip to boost Med gas for Libya

Our Europe editor

French energy and LNG engineering company Technip said it was awarded a contract to develop phase two of the Bahr Essalam development in the Mediterranean Sea to bring more natural gas to strife-torn Libya.

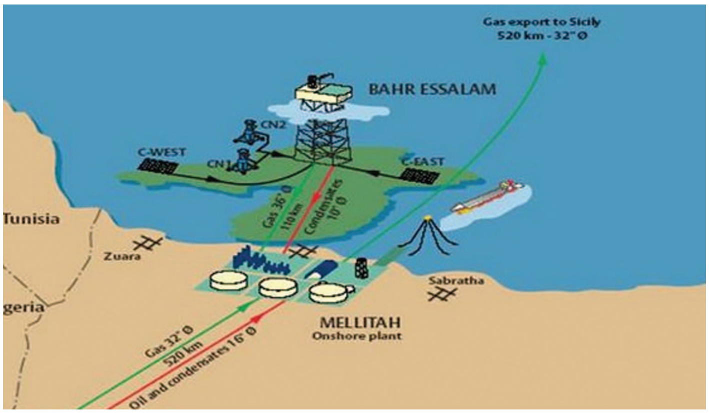
The development is in waters of up to 205 metres and located about 110 kilometres offshore the coastal capital of Tripoli.

Phase two

The phase two contract will cover the delivery of gas output from two new wells in the central area and about 10 wells in the east area to the existing Sabratha natural gas treatment platform.

Natural gas will be partially treated on the Sabratha platform and then sent onshore to the Mellitah plant before delivery.

Current production from the Bahr Essalam Phase 1 project is running at 27.3 million cubic metres per day, while phase two is expected to add production of 12.6 MMcm/d.



Sabratha platform will send gas to Libyan Mellitah plant

Total cost of the overall project to deliver the gas to Libya is more than $2 billion.

"The overall scope of work will see Technip perform the overall design, detailed engineering and deliver the project management, as well as procurement, installation, tie-ins, pre-commissioning and commissioning," the French company said.

The operational base for the work will be on the Mediterranean Island of Malta.

"We are proud of this contract award, which is a strong recognition of Technip's broad capabilities across a variety of areas," said Chief Executive Thierry Pilenko.

"It is also testament to our team's ability to adapt to the challenging market environment, and to provide solutions that still enable field developments.

"We very much look forward to working with Mellitah to safely and successfully deliver this large project, by leveraging our strong know-how and experience in high-quality product manufacturing and subsea installation," Pilekno said. ■

UK class society Lloyd's Register proceeds with Med LNG bunkering

Lloyd's Register, the UK maritime classification society, said it was proceeding with the second phase of a liquefied natural gas bunkering initiative for the Eastern Mediterranean and Adriatic Sea.

"Its ultimate objective is to prepare in detail a global solution of infrastructure development in the Mediterranean area so that LNG can be embraced as the marine fuel of the future," said LR of the project called PoseidonMed and backed by the European Union as well as member states Italy, Greece and Cyprus.

The UK class society said the second phase of PoseidonMed was under way and was examining the promotion of LNG as a fuel and looking at several ports to create bases for bunkering operations in the East Med. "The PoseidonMed II technical team is thoroughly assessing the key findings, incorporating them into the detailed studies for vessels and initially involved ports, like Piraeus and Limassol," it said.

"A risk assessment methodology, solutions scenarios and tools and hazard identification have already started to be examined and assessed for implementation for the ports of Igoumenitsa, Patras and Heraklion to ensure they meet the high safety standards for LNG bunkering procedures and operations," LR explained.

The Greek Revithoussa LNG import terminal is a key strategic asset for Greece and is well position to LNG marine fuel capacities as it undergoes an upgrade.

The Revithoussa facility, which has been operational since 2000, has mostly received imports from Algeria in small carriers of 75,000 cubic metres capacity.

"Using Revithoussa terminal offers one of the main practical solutions towards the adoption of LNG as an alternative fuel for the shipping industry, while also contributing to the development of small-scale LNG applications," LR said.

Panos Mitrou, LR's PoseidonMed Project Manager, said the EU-backed venture partners have committed to a "very ambitious second phase" and raised the stakes with detailed preparation for more than 10 vessel conversions to LNG and the construction of an LNG small-scale carrier to serve bunkering and other needs. ■

LNG VALUE CHAIN

www.ChartLNG.com

NEWS NUDGES

Texas optimism on LNG feed-gas

The Texas Alliance of Energy Producers said estimated natural gas output in the state last month was about 710.3 billion cubic feet, a decline of about 2.6 percent compared with the same month a year ago. With natural gas prices in April averaging $1.76 per thousand feet, the value of Texas-produced gas declined 31.2 percent to about $1.25 billion. However. according to the Texas Petro Index (TPI), crude oil prices could be leading the industry to recovery as West Texas intermediate (WTI) crude was last at $48.65 per barrel since falling to a low of $22.75 per barrel on February 11, 2016. “It appears increasingly likely that we have seen the bottom,” said Karr Ingham, the economist who created the TPI and updates it monthly.

Malaysia FLNG contract win

Malaysia’s Alam Maritim Resources was awarded a subcontract from state-run energy company Petronas for work on the latter stages of the floating LNG production vessel “PFLNG Satu” that will be deployed in 2016 over the Kanowit natural gas field, located 180 kilometres offshore Sarawak. Alam said its contract starts in mid-June and runs until mid-October when the vessel built in South Korea will be ready to start producing 1.2 million tonnes of LNG per annum.

Dubai to host engineering event

The Society of Petroleum Engineers (SPE) said it would hold its Annual Technical Conference and Exhibition (ATCE) in Dubai under the patronage of the Prime Minister of the United Arab Emirates and Ruler of Dubai, Sheikh Mohammed bin Rashid Al Maktoum. The ATCE will take place at the Dubai World Trade Centre. ■

Hoegh LNG benefits from tripling of regasification flow rates at FSRUs

Our Europe editor

LNG FSRU ‘Hoegh Gallant’ underwent planned maintenance

Hoegh LNG, the Norwegian carrier fleet owner and developer of Floating Storage and Regasification Units (FSRUs) as import facilities, has returned to profit after a strategy overhaul and as ample LNG at low prices has meant that regasification flow rates for its FSRU fleet have almost tripled.

Hoegh returned to profit after posting a $33 million loss in the fourth quarter of 2015 for one-off charges linked to its pulling out of the floating liquefaction plant production hull sector.

Rates

“As a consequence of ample LNG being available at low prices, the average regasification flow rate on Hoegh LNG's FSRU fleet has almost tripled compared with the same quarter last year,” said President and Chief Executive Sveinung J. S. Stohle.

“This clearly demonstrates that demand for LNG into new markets continues to increase, and we observe the same effect for our FSRU services, since Hoegh LNG is currently pursuing three fast-track FSRU projects that all have a start-up that matches the delivery of FSRU No. 7 in March 2017,” Stohle added.

“Our portfolio of long-term contracts continues to improve the operating results and constitutes the foundation for upholding the cash dividend,” the CEO said.

Quarterly net profit was $6.3M compared with a loss of $2.2M in the same quarter of 2015 and $4.0M in the final three months of 2015 and the company would pay a dividend of $0.10 per share for the first quarter of 2016.

The Norwegian company said it additionally signed a $223M debt facility to pay for its seventh FSRU under construction in South Korea.

The latest vessel delivered was the “Hoegh Grace” and intermediate employment has been secured ahead of starting commercial operation in the South American country of Colombia in the fourth quarter, the earnings statement said.

Hoegh said the earnings improvement was partly offset by reduced income for its FSRU chartered to Egypt, the “Hoegh Gallant”, which during the quarter had to undergo planned maintenance. ■

EDF Trading will give Japanese outlet for cargoes in European LNG market

France’s EDF Trading signed an LNG agreement with Jera Co. Inc of Japan, the joint venture between Tokyo Electric Power Co and Chubu Electric, to buy cargoes from the Japanese business to optimize the value of the fuel in the European market on the assumption oil prices will remain low.

The agreement is for the sale of LNG to EDF Trading, a subsidiary of the utility Electricite de France, for delivery to European terminals for a period of around two-and-a-half years from June 2018.

The French company did not disclose the volumes involved, though the shipments are likely to be received at France’s fourth LNG import terminal at the Channel port of Dunkirk and just completed by a consortium, including EDF.

The Japanese JERA joint venture has created one of the world’s largest LNG trading companies in bringing together Tepco and Chubu for fuel trading and power plant sharing under Japan’s domestic deregulation.

Jera is to supply up to 1.5 million tonnes per annum of LNG over a period of 30 months.

Analysts point out that it is a small deal in volumes terms and will come into force at a time when more US LNG is entering Europe from North America and Russia.

It would come at a time when LNG is also starting to be transshipped through European terminals in France and Belgium under accords already signed.

A third feature that must be read into the agreement is that the Japanese joint venture and other Asian traditional buyers of LNG seem to be now assuming that lower LNG and oil prices will be a permanent market feature.

Jera's Vice President Hiroki Sato said the EDF deal would give it more flexibility in an uncertain market and that its first overseas LNG sales would be a stepping stone for its global trading business.

“This is a contract that's very convenient to Jera,” he said in his short statement without giving details of the prices paid. ■

Philippines LNG terminal project on track as financing completed for December start-up

Our Asia-Pacific editor

Energy World Corp., aiming to complete the first LNG import terminal in the Philippines by December 2016, has finalized the financing for the hub facility located at Pagbilao in Quezon province.

The company said it had arranged $32 million from issuing notes and has an additional $43M as a drawdown in the future from other agreed noteholders.

Pagbilao terminal will be able to handle 3 million tonnes

Throughput

The LNG import terminal will have initial throughput capacity of 3 million tonnes per annum.

Adjacent to the facility, EWC is also developing a 600 megawatts gas-fired power plant to sell electricity into the main regional power grid.

The 130,000 cubic metres capacity LNG storage tank for the Philippines terminal is already complete along with the carrier-loading jetty.

The Philippines LNG hub will primarily be used to facilitate the distribution of LNG and natural gas, including receipt, storage and dispatch of small-scale LNG cargoes to four main markets.

"This important development represents a further significant milestone in EWC's programme to bring clean and affordable fuel to the Philippines for power generation, industrial users, city gas, road transportation and for other uses," EWC stated.

"The company is now actively working on the drawdown of funds under the hub finance facility and also the power financing facility previously signed and announced.

"The funds under the hub financing once drawn will enable the completion of phase one of the hub and associated marine facilities," said EWC, which is listed on the Australian Securities Exchange.

"Current noteholders under the facility will be Standard Chartered Bank and Landbank of the Philippines," the company said.

Standard Chartered in Singapore also acted as EWC's financial advisor and Hogan Lovells and Sycip Salazar Hernandez & Gatmaitan as its legal counsel.

EWC has said the future users of LNG will be throughout the Philippines, with distribution by sea to other small-scale coastal terminals.

Tassie Shoal LNG project ex-developer gets well result

MEO Australia, the independent oil and gas exploration and production company with interests in Cuba and an LNG project on hold in the Timor Sea, said it received encouraging results from a licence in the Bonaparte Basin offshore Western Australia and was looking for a farm-in partner.

MEO owns 100 percent of the Beehive prospect licence, WA-488-P, located in the Petrel sub-basin between the producing Blacktip gas field and the undeveloped Turtle and Barnett oil discoveries.

"Seismic reprocessing and inversion studies over the Beehive prospect in WA-488-P have now been completed, with very encouraging results," MEO said in its statement to the Australian Securities Exchange.

"The Beehive prospect is one of the largest hydrocarbon structures in Australia," said MEO Chief Executive Peter Stickland.

"Results from data across the Beehive prospect have exceeded our expectations. This study has generated multiple data sets, with a dramatic improvement in data quality," Stickland added.

"All of the products are pointing in the same positive direction and strengthen our understanding of the likelihood of good reservoir and seal characteristics, which are key elements of the Beehive interpretation.

"MEO will now proceed to update its risk analysis and characterisation of the Beehive prospect and then seek a farm-in partner to fund further exploration of the prospect," the CEO of the Melbourne-based company explained.

MEO's previous LNG ambitions were for the shallow water area offshore Australia's Northern Territory called the Tassie Shoal.

Pacific NorthWest says giving Asians cleaner fuel will offset greenhouse gas

Our North America editor in New York

Pacific NorthWest LNG, the project led by Malaysia's Petronas in the Canadian province of British Columbia, said it wanted Asian nations to have the cleanest and most reliable fuel available as it rejected an attempt by the international climate-change lobby to put pressure on the federal government in Ottawa to cancel the venture.

"Pacific NorthWest LNG, once in operation, would supply the world's cleanest LNG to our partners in Asia who are eager to import the same natural gas that British Columbians use in their daily lives," said the project's corporate affairs spokesman Spencer Sproule.

Sensible

According to Pacific NorthWest, a global view should always be taken on climate-change issues and any greenhouse gases emitted by the liquefaction plant in BC would be more than offset over time by the LNG replacing coal and oil burning at power plants in Asia.

Pacific NorthWest is planning a liquefaction plant on Lelu Island, located primarily on federal lands and waters administered by the Prince Rupert Port Authority, about 15 kilometres south of the BC port.

The Malaysian company and its Asian partners expect to have plant throughput of around 3.2 billion standard cubic feet per day of natural gas and produce around 20 million tonnes per annum of LNG over a 30-year period.

The project would also include the construction and operation of a marine terminal for loading LNG onto vessels for export to Asia-Pacific nations.

In addition to providing thousands of jobs and billions of dollars in investment in BC, the Petronas project would also give an outlet for the Canadian natural gas industry that has seen its market-share almost disappear in the US because of the shale-gas boom across the border.

The anti-LNG campaign in Canada was timed to coincide with a trade mission to Asia by BC Premier Christy Clark to promote the province as a future centre of LNG exports to nations such as South Korea and Japan.

It came in the form of a letter signed by 90 members of the professional climate-change lobby, many of whom work in publicly-funded academic jobs as scientists in Canada, the US and the UK.

The letter was addressed to Canadian Prime Minister Justin Trudeau, Federal Natural Resources Minister Jim Carr and Justice Minister Jody Wilson-Raybould calling for the LNG project to be cancelled.

British Columbia Premier Clark renews accord with key Japanese LNG investor

British Columbia Premier Christy Clark said she was continuing to build momentum for the province's planned liquefied natural gas industry with the renewal of an agreement with a Japanese state body that promotes and invests in energy and commodity procurement.

Clark signed the agreement on the last of three legs of an Asian trade mission that has taken her and a Canadian delegation representing 80 businesses to the Philippines and the largest LNG importing nations, South Korea and Japan.

The LNG accord was with the Japan Oil, Gas and Metals National Corporation (JOGMEG).

Clark and Japanese government body's president, Keisuke Kuroki, renewed a memorandum of understanding on energy cooperation and development.

The organization has already made a number of investments in

Clark renews an accord on cooperation with Japan Oil, Gas and Metals National Corp. President Keisuke Kuroki

BC's upstream natural gas and LNG sectors. "This trade mission is about developing new trade and investment opportunities with Japan and Korea, while looking at what the future holds in Southeast Asia as we develop a stronger trade presence in the Philippines," said Clark at the end of her seven-day trade mission.

However, the energy downturn caused by low oil prices and the slow regulatory process in Canada has meant some LNG projects have been overtaken by events beyond their control and have postponed final investment decisions.

"Our province is committed to developing this industry and exploring other valued-added uses for natural gas," the Premier said.

"By working together, BC will be a strong ally for Japan as it continues to diversify its energy portfolio," Clark added.

Kinder Morgan advances with US LNG export plant in Georgia with start-up still in 2018

Our North America editor in New York

Kinder Morgan, the largest US pipeline and terminal company, has named Omaha, Nebraska-based company HDR as owner's engineer and received final regulatory approval for its Elba Island liquefaction and export project at the existing import terminal near Savannah, Georgia.

The Elba liquefaction project, in which Royal Dutch Shell was previously a partner, will include the installation of 10 small-scale liquefaction units for an output capacity of around 2.5 million tonnes per annum of LNG and modifications to the terminal.

Elba Island plant will have 10 small-scale Trains

Schedule

Under the current schedule, the Georgia liquefaction plant could be producing LNG by the start of 2018.

Kinder agreed in July, 2015, to buy Shell's 49 percent stake in the Elba Island terminal, leaving the pipeline company with 100 percent of the facility.

The transaction cost Kinder $630 million, bringing its total investment in all the liquefaction and terminal facilities at Elba Island to about $2.1 billion.

While Shell sold its stake in the terminal, the Anglo-Dutch company will remain as a customer.

In April 2016, Kinder awarded the engineering, procurement, construction, commissioning and start-up contract to the US subsidiary of Japan's IHI Engineering & Construction, based in Houston, Texas.

HDR as owner's engineer will represent Kinder during the construction and engineering activities and oversee due diligence in the venture.

The Omaha firm will also make sure the Japanese contractors are adhering to the project specifications.

The existing terminal on Elba Island is about eight miles upstream from the mouth of the Savannah River. It was first authorized by the US Federal Energy Regulatory Commission in 1972 as an import facility.

Changes to the Elba Island facility include the installation of the small modular liquefaction units, a flare system, as well as other infrastructure and modifications to the terminal piping system.

The companies said they had developed a schedule that reflects the modular aspect of the new liquefaction facility. Initial engineering, procurement and construction planning are being performed by IHI's Houston office while awaiting a start date.

"In addition to project modularization, execution will feature significant instrumentation and electrical engineering, logistics and interface management, procurement, supply-chain expertise and large-scale construction," the companies said.

"From the outset, the companies share a commitment to establish and maintain a collaborative effort and a health and environment safety mind-set that fosters zero harm for the workforce and the environment," they added.

Kinder said the project execution strategy includes local subcontracting for site services, local hire for labour, utilization of local vendors for consumables and working with local authorities on traffic and other community interests.

To facilitate the supply of natural gas to the Elba LNG terminal for liquefaction, the company is proposing to add compression along its existing Elba Express Pipeline in Georgia.

These new facilities would include the addition of various compressor stations and some interconnecting pipelines. ■

Koch Industries of US awarded permit to export LNG in ISO containers from Gulf Coast

Koch Industries, the multinational company controlled by entrepreneur Charles Koch, has seen its subsidiary Flint Hills Resources awarded a permit to export liquefied natural gas in containers from the US Gulf Coast.

The US Department of Energy issued an order authorizing Flint Hill to ship up to 3.6 billion cubic feet per annum from the existing small-scale Stabilis LNG production facility in the Texas town of George West to overseas customers for a 20-year period.

The plant is capable of producing 120,000 gallons per day of LNG and it has storage capacity for an additional 270,000 gallons.

The LNG will be loaded into International Standardization Organization (ISO) containers and will be able to be delivered to nations without a Free Trade Agreement with the US.

"Flint Hills requests authority to export this LNG from the Gulf Coast and elsewhere in the south-eastern United States," it told the DoE in its application.

"Flint Hills generally intends to use ISO containers for the export of this LNG. Under this scenario, the ISO containers will be trucked from the Stabilis facility to a port or dock located along the Gulf Coast, where the containers will be loaded onto a barge or ship for export," it said. Alternatively, Flint Hills states that it will export this LNG in bulk using tanker trucks to transport it directly to a barge, a ship or floating storage for eventual distribution to customers.

The overall exports by the Koch company's containers are expected to be no more than an initial 80,000 tonnes per annum of LNG.

The Koch conglomerate produces transportation fuels and other products from building materials to fertilizers and is based in Wichita, Kansas.

The Koch Flint Hills unit also operates oil refineries in Minnesota and Texas with a combined crude oil processing capacity of more than 600,000 barrels per day.

Flint Hills told the DoE that the feed-gas for the Stabilis LNG is sourced "from the robust and abundant resources" of natural gas currently available in South Texas.

The feed-gas for liquefaction will be sourced from a local gas plant two miles from the Stabilis plant and transported to the facility via an intrastate pipeline.

The Koch unit said a back-up supply can also be sourced from the Transcontinental Interstate Pipeline via a connecting line. ■