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FERC approves Golden Pass LNG export project in Texas

(Natural Gas Intelligence; Dec. 21) – The Federal Energy Regulatory Commission on Dec. 21 authorized the addition of liquefied natural gas production and export facilities, as well as related pipeline modifications, at the underutilized Golden Pass LNG import terminal near Sabine Pass, Texas. The project would add three liquefaction trains (each capable of producing 5.2 million metric tons per year of LNG), five storage tanks and two marine berths.

Qatar Petroleum owns a 70 percent interest in the export project, with ExxonMobil owning a 30 percent interest. The two companies also are partners in the Golden Pass LNG import terminal, which has been mostly idle since it opened in 2010, before the U.S. shale gas production boom dramatically reduced the need for imported gas.

If the partners proceed with construction, the project would cost an estimated \$10 billion and take about five years to build. The project has Department of Energy authorization for exports to free-trade countries; consideration of the application for export authority to countries lacking a free-trade agreement with the U.S. has been pending completion of FERC's environmental review. Already, five LNG export projects are under construction in the U.S., with Golden Pass and others waiting for corporate investment decisions.

BP starts its return to investment mode

(Wall Street Journal; Dec. 19) - BP has pulled off a string of deals that signal it is looking to grow again after six years of retrenchment following the Deepwater Horizon disaster. The latest evidence: A near \$1 billion investment in a vast gas field off the coast of Africa announced Dec. 19. The deal with Dallas-based Kosmos Energy followed a \$2.2 billion deal Dec. 17 for a 10 percent stake in United Arab Emirates oil fields. Over the past month, BP also has bought a stake in the supergiant Zohr gas field offshore Egypt and expanded its stake in Indonesia's Tangguh gas project. It has bought in on two North Sea exploration blocks and approved a \$9 billion oil project in the Gulf of Mexico.

"They are on the other side of the mountain now," said Fadel Gheit, a managing director at Oppenheimer & Co. "They were in a steep climb to survive. That is now behind them." A BP spokesman explained: "It's all part of the strategy: getting bigger on gas, doing low cost oil, deepening relationships and partnerships."

The deal with explorer Kosmos Energy calls for BP to pay more than \$900 million in the coming years to help test the viability of the Tortue gas prospect in waters off Mauritania and Senegal. By some estimates, the field could hold as much as 50 trillion cubic feet of gas. "The deal gives BP a leadership position in an emerging world-class, low-cost gas basin with advantaged access to global markets," the company said.

The deal makes BP the operator of the project, giving it another potential growth opportunity in its portfolio. Funding from BP will be used for further drilling, as well as feasibility studies and development costs that should put BP and Kosmos in a position to make a final investment decision on the project by 2018, according to Kosmos.

Cheniere works toward 2018 in-service date at Corpus Christi LNG

(LNG Global; Dec. 20) – Cheniere Energy, in its December update to the Federal Energy Regulatory Commission, reported its Corpus Christi LNG export project on the Texas coast is working toward its scheduled in-service date of 2018. The report noted that engineering work is at 99.7 percent, procurement at 64.1 percent, and direct-hire for construction at 18.5 percent of the eventual peak. Site work started May 2015, with the project to start with two liquefaction trains.

Construction in November focused on concrete and steel work, underground pipe, aboveground pipe and equipment installation, including raising the roof on one of the two LNG storage tanks in the first phase of the project. The second phase, if approved by the company, would include a third liquefaction train, boosting the plant's capacity to 13.5 million metric tons of LNG per year. Cheniere also continues to work on its LNG plant and export terminal at Sabine Pass, La., which loaded its first cargo in February 2016. The first two trains are operational, with three more under construction.

Total invests in U.S. Gulf Coast LNG hopeful

(Houston Chronicle; Dec. 20) - Paris-based Total said it will buy a 23 percent stake in a new Houston liquefied natural gas developer, Tellurian Investments, for \$207 million. The deal combines one of the world's largest energy giants with LNG export pioneer Charif Souki, who formed Tellurian early this year after he was ousted at the end of 2015 from his chief executive role at Houston-based Cheniere Energy, builder of the first LNG export terminal in the Lower 48 states, located in Sabine Pass, La.

Tellurian is proposing the \$12 billion Driftwood LNG project south of Lake Charles, La., as part of the next wave of U.S. LNG developments. The company's goal is to bring it online in 2022, with the expectation that global demand growth will have wiped away the LNG market glut. Driftwood LNG filed in September with the Department of Energy for

export authority; that review is pending. The company has said it plans to apply to the Federal Energy Regulatory Commission in 2017 to start the environmental review.

The deal legitimizes Tellurian and makes the Driftwood LNG project much more viable, while Total gets to buy a big stake at a relatively low entry point, said Giles Farrer, global LNG research director for Wood Mackenzie. The privately held Tellurian is in the process of going public through the reverse takeover of the public, but financially failing Magellan Petroleum Corp. of Denver.

Exxon forecasts North America as top global LNG exporter in 2040

(Natural Gas Intelligence; Dec. 19) - North America will become the world's largest natural gas exporter by 2040 with continued growth in unconventional production, ExxonMobil forecasts in its "Outlook for Energy: A View to 2040." Global population growth of nearly 2 billion, a doubling of worldwide economic output and rapid expansion of the middle class in emerging economies will all combine to push energy demand growth of about 25 percent from 2015 to 2040, according to the annual forecast.

"Humanity's dual challenge is to meet growing energy demand while managing the risk of climate change," said William Colton, ExxonMobil vice president of strategic planning. Exxon's annual long-range outlook is prepared by economists, engineers and scientists. Key findings include: gas demand will expand significantly, accounting for about 40 percent of the projected growth in global energy demand; and North America, which for decades had been an oil importer, is likely to become a significant net exporter by 2025.

Oher findings include: India is likely to surpass China as the world's most populous nation by 2025 (the two countries are expected to account for about 45 percent of the growth in global energy demand); North America looks to become the largest LNG exporter by 2040; and global LNG trade is expected to increase more than 2.5 times from 2015 to 2040, with Europe and Asia-Pacific accounting for 90 percent of imports.

"Significant new exports" are expected from the U.S., Canada, Australia and East Africa, the forecast said. The market should "remain highly competitive," with "many aspiring exporters." Low-cost supplies "will be advantaged in the marketplace."

Qatari energy minister talks of sweet spot for LNG pricing

(Nikkei Asian Review; Dec. 22) - The balance of power in the global liquefied natural gas market is tipping more toward buyers as more production facilities are expected to begin operating soon. Producers are worried, but do not seem to have any immediate solutions. As LNG projects come onstream one after another in the U.S., Australia and

elsewhere, the world's annual output capacity is expected to shoot up by 100 million tonnes by 2020 — equivalent to about 40 percent of the entire volume traded in 2015.

Qatar's energy minister, Mohammed bin Saleh al-Sada, said the LNG market is feeling the effects of a glut. As new projects kick in, the oversupply is only going to worsen. The supply glut has resulted in fewer long-term contracts and more short-term deals. The most logical outcome would be lower prices. And though China's gas consumption had been expected to rise, coal reigns supreme there due to its cheaper price. The country's LNG imports fell in 2015, the first annual drop since China started LNG imports in 2006.

Stagnant prices and demand, coupled with new production, may hinder investment in new export capacity, al-Sada said. A sweet spot for LNG prices that does not diminish consumption but is still high enough to encourage producers to invest for the future will be key to the success of LNG. But unless producers have sufficient long-term contracts that make them confident about recouping their investment, they are not in a position to build new plants, warned Peter Coleman, CEO of Australia's Woodside Petroleum.

Liquids-rich Montney Shale could emerge as top play in Canada

(Financial Post; Canada; Dec. 18) - The Montney formation in northern Alberta and British Columbia is gradually positioning itself as a serious rival to U.S. shale fields, as companies in the basin aggressively pare back operating costs. The unlocking of vast shale fields in the U.S. — most notably the Marcellus and Utica in the northeast of the country — has created stiff competition for Canadian gas producers in recent years as they fight for investment dollars amid low commodity prices.

"I think Canada's got two natural gas plays that compete toe-to-toe with the best U.S. gas plays — that's the Montney in Alberta and B.C. and the Alberta Deep Basin," said Mike Rose, CEO of Calgary-based Tourmaline Oil. The potential of the Montney formation, due both to its size and liquids-rich geology, has been known for many years. The basin holds about 450 trillion cubic feet of marketable gas, just under half of the country's total gas resources, according to Canada's National Energy Board estimates.

Analysts say recent cost-cutting measures in the Montney have outpaced expectations, and there is room to further decrease costs. "The super liquids-rich window of the Montney in British Columbia will emerge as one of the top plays in Western Canada and perhaps in North America," analysts at BMO Capital Markets said in a recent research note. Rose said Tourmaline can generate returns at a low-end price comparable to U.S. shale producers of \$2.50 per million cubic feet of gas, among the lowest in the region.

Rosneft wants to grow, and Trump politics could help

(Bloomberg; Dec. 18) - Rosneft has the opportunity to accelerate its international expansion next year as the political environment becomes more favorable for the staterun Russian oil producer. U.S. President-elect Donald Trump's "Russia-friendly rhetoric" and the appointment of ExxonMobil CEO Rex Tillerson as Secretary of State "are likely to have a profound impact on the way Russia is perceived by the West," according to global energy consultants Wood Mackenzie.

Rosneft has recent international success to build upon — its \$1.1 billion purchase of a stake in an Egyptian gas field and the Russian government's sale of 19.5 percent of the company to Glencore and Qatar's sovereign wealth fund. That successful share sale signaled "a tectonic shift in the way the country is perceived by investors," Valentina Kretzschmar, an analyst at Wood Mackenzie, said in a report. "Rosneft's recent deals, helped by the more positive political climate, could inject life into the company's dormant strategic alliances with" major oil companies, Kretzschmar said.

Rosneft's ambition to be a major international player like Exxon or Shell has been hampered by sanctions imposed after Russia's incursion into Ukraine in 2014. Almost all of its oil production — the largest among the world's publicly traded companies — is in its home country, compared with just a fifth for Exxon. Rosneft, run by President Vladimir Putin's close associate Igor Sechin, surpassed Exxon as the world's largest listed producer in 2012. Yet its geographical focus on Russia and the effect of sanctions means its market value is just \$69 billion, compared with about \$378 billion for Exxon.

Asian Development Bank will help finance Indonesia LNG expansion

(Energy Business Review; Dec. 19) - The Asian Development Bank has granted \$400 million in financing to fund expansion of the Tangguh LNG production facility in Indonesia. The project will add 3.8 million tons per year of liquefaction capacity to the two-train Tangguh facility that opened in 2009 with 7.6 million tons annual capacity.

Scheduled to start production in 2020, the expansion project also involves development of two offshore platforms, 13 new production wells, a new LNG loading jetty, and supporting infrastructure. Indonesia's state owned electricity firm PLN (Persero) has agreed to purchase 75 percent of the LNG production from Train 3, while the remaining volumes have been sold to Japan's Kansai Electric Power. Partners at Tangguh include BP, China National Offshore Oil Corp. and several Japanese firms. Indonesia's stateowned oil and gas company Pertamina is a co-operator of the facility.

Partners move toward bringing offshore Israel gas field online

(Jerusalem Post; Dec. 18) - As Israel's long frozen natural gas sector begins to move forward slowly but surely, the Leviathan reservoir partners announced Dec. 18 their

plans to begin drilling a new well in the offshore basin during the first-quarter 2017. The partners approved drilling of the Leviathan-5 well. After an initial appraisal stage, the \$77 million well will be used to produce gas for both the Israeli market and potential exports. The reservoir is estimated to hold 18 trillion to 22 trillion cubic feet of gas.

Houston-based Noble Energy holds a 39.66 percent share of Leviathan, while Israel-based Delek Drilling and Avner Oil each have 22.67 percent and Ratio Oil Exploration has 15 percent. While the Leviathan partners are continuing to explore export options, looking potentially to the European market via Turkey and Cyprus, they have already solidified one agreement. In September, the partners signed a \$10 billion, 15-year deal to supply Jordan's National Electric Power Co. with almost 1.6 trillion cubic feet of gas.

The development of the Leviathan-5 well will be conducted by the Atwood Advantage ship, which is currently drilling the Tamar-8 well, an additional well that will soon be boosting the gas supply from the nearby Tamar reservoir. Gas from the 10 tcf Tamar basin has been flowing to Israel's coast since March 2013.

Winter cold helps boost China's LNG imports to record level

(Reuters; Dec. 21) - China's state oil and gas majors are set to import record levels of liquefied natural gas this month, betting on robust demand during the cold winter months and helping lift Asian prices to their highest in nearly two years. Trade flows data on Thomson Reuters shows 3.33 million metric tons of LNG, equivalent to almost 160 billion cubic feet of gas, heading to China this month. This includes 10 cargoes from Qatar, an unusually high number even for the world's largest LNG exporter.

That would easily top the record 2.66 million tonnes landed in November, up from 1.81 million a year ago, as a cold snap across China's north spurred demand. The boost in LNG from the Mideast comes as cargoes from Australia slow down due to a two-week outage at Chevron's giant Gorgon export facility — likely to Qatar's benefit. The trade flow data puts China on track to import more than 20 million tonnes of LNG this year, about 13 percent of its annual gas consumption of almost 7 trillion cubic feet of gas.

The buying spree may give Asian LNG prices further upward momentum. They are currently at \$9.30 per million Btu, the highest since January 2015 and more than double levels in April. The outlook for January and February appears rosy. Sinopec said Dec. 21 that it plans to import 21 cargoes of LNG between December and February to meet soaring demand, and fellow state oil major China National Offshore Oil Corp. said it will open two new import LNG terminals next year.

California sues Interior Department over offshore fracking approval

(EnergyWire; Dec. 20) - California Attorney General Kamala Harris on Dec. 19 filed suit against the U.S. Interior Department over its approval of hydraulic fracturing off the Pacific coast. The lawsuit alleges the department violated the National Environmental Policy Act and the Coastal Zone Management Act when it determined earlier this year that fracking and other unconventional oil-drilling techniques would not significantly harm California's offshore environment.

"The U.S. Department of [the] Interior's inadequate environmental assessment would open the door to practices like fracking that may pose a threat to the health and well-being of California communities," said Harris, who last month won the election to replace outgoing Sen. Barbara Boxer (D-Calif.). "We must balance our energy needs with our long-standing commitment to protecting our natural resources and public health." Interior representatives declined to comment on the suit.

After freezing permitting for fracking off California earlier this year, the Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement resumed permitting the technique in May with a "finding of no significant impact" for fracking and "acidizing" the ocean. The environmental assessment released in May was itself the result of a challenge by environmental groups that filed suits in 2014 and 2015 over the agency's routine permitting of offshore fracking.