Oil and Gas News Briefs Compiled by Larry Persily May 2, 2019

Possible ouster of Papua New Guinea prime minister could affect LNG

(Australian Financial Review; May 1) - Moves to oust Papua New Guinea Prime Minister Peter O'Neill over claims of financial mismanagement threaten a \$16 billion gas deal agreed to by Australia's Oil Search and its partners just three weeks ago. In the biggest challenge to his almost eight years in power, O'Neill is set to face a no-confidence vote in Parliament next week as key allies abandon his ruling coalition. O'Neill has brought stability to the often fractious world of PNG politics, but opponents are now pledging to review his LNG deal and investigate allegations of corruption and abuse of process.

Any review of the Papua LNG project being developed by Oil Search and its partners ExxonMobil and France's Total would see renewed scrutiny of the "UBS loan affair," whereby the Australian arm of the Swiss bank in 2014 advanced the PNG government \$1.2 billion. The deal was championed by O'Neill for the government to buy a 10 percent stake in Oil Search. The Swiss are investigating the loan in which Papua New Guinea lost as much as \$400 million in three years. Opposition figures claim the loan was illegal — it was never approved by Parliament, as required in the constitution.

"This is the biggest challenge O'Neill has faced," said Shane McLeod, a research fellow focused on the Pacific at the Sydney-based Lowy Institute. An opposition leader has told the Papua LNG partners not to make any further investments in the project as the deal will be reviewed. Oil Search CEO Peter Botten said any move against O'Neill could delay the final agreement on the project that would double the country's LNG production capacity, but he doubted it would see the deal scrapped. The companies' agreement with the PNG government on April 9 sets out tax and fiscal terms for the project.

China's investment in Russian LNG could crowd U.S. projects

(South China Morning Post; May 1) – Last week's announcement that two Chinese-government owned oil companies will take a combined 20 percent stake in Russian gas producer Novatek's next Arctic liquefied natural gas project comes as the U.S.-China trade dispute already has delayed potential investment in U.S. LNG projects. "There is another tier of U.S. projects which need some Chinese investment and or gas purchase commitment to keep going," said Wood Mackenzie's Asia gas director Nicholas Browne.

"Until the trade dispute is cleared up, it will be challenging to make a business case for some of these projects," Browne said. China's investment commitment in Novatek's

Arctic LNG-2 project is a "vote of confidence" in Russian LNG, he said. "It is a reminder that while U.S. LNG, as the fastest potential source of future global supply growth may have dominated the headlines, there are a lot of alternative credible projects out there." Browne cited Mozambique, Qatar, and Canada as other competing LNG suppliers.

"China is the No 1 target market for all LNG projects under development globally," said Sanford Bernstein senior analyst Neil Beveridge. "China wants to double its gas consumption by 2030, while the U.S. has plenty of surplus supply given the shale gas revolution," he said. "The Arctic LNG-2 project, which fits in with the Belt and Road Initiative, will reduce the available space for U.S. LNG." Planned for start-up in 2023, the \$25 billion project will have the capacity to produce 19.8 million tonnes of LNG a year.

China likely to fall short of shale gas production target for 2020

(S&P Global Platts; April 30) - China is likely to miss its 2020 shale gas production target as technical and commercial challenges dog efforts to tap into what are considered the largest shale gas resources outside the United States, according to market participants. China is expected to produce between 460 billion and 600 billion cubic feet of shale gas in 2020, short of the targeted 1 trillion cubic feet in the country's Five-Year Plan, despite a strong ramp-up in upstream activity, according to analysts.

It's a setback for Beijing's long-term energy security goals and will increase reliance on imports, including piped gas from Russia and expensive seaborne liquefied natural gas. "We think the 1 tcf by 2020 target is unreachable unless there is a major breakthrough in technology and infrastructure," said Jeffrey Moore, Asia LNG manager with S&P Global Platts Analytics. China's shale gas output will be around 440 bcf this year, with some downside risk to the numbers due to slow progress in southwestern China's shale projects, Wood Mackenzie analyst Zhang Xianhu said.

China's technically recoverable shale gas resources are estimated at 1,115 tcf, just behind the United States at 1,161 tcf, according to a 2013 study by the U.S. Energy Information Administration. But shale drilling in China faces hurdles: Shale formations are in mountainous terrain where infrastructure is non-existent; drilling costs are higher; regulatory support is limited; and water supplies for fracking are scarce.

Coal-indexed LNG prices look less volatile than oil-linked prices

(Bloomberg columnist; April 28) - In early April, a Japanese gas distribution company and an international oil company signed a liquefied natural gas supply contract. There's nothing special, in energy terms, about this contract. There's something striking, though, about its pricing. For decades, LNG has been sold according to a formula

based on the price of oil. The 10-year LNG supply contract just inked between buyer Tokyo Gas and seller Shell, however, is priced based on the price of coal.

It sounds a small thing, swapping one indexation for another, but it's a big deal in a world where capital projects take years, cost billions of dollars and lock in infrastructure for decades. Why would two companies agree to this move — and why would JERA, another of Japan's large gas buyers, be considering the same coal-price indexation for its future LNG buys? There are two reasons on different timelines.

The first is price. Gas had been considerably more expensive than coal on an energy-equivalent basis until earlier this year. The Asia spot LNG prices are now below that of Australia's Newcastle coal export benchmark. The second is long-term stability, which JERA President Satoshi Onoda said is a reason for it to consider a coal-indexed LNG contract. Brent oil prices have risen as much as 174 percent — and fallen by as much as 24 percent — over the past decade. Newcastle coal trades in a much narrower band, rising as much as 65 percent and falling as much as 39 percent over the same time.

Qatar looks to maintain its lead with order for 100 new LNG carriers

(The Telegraph; UK; April 28) – It's been almost 15 years since South Korean shipyards began molding steel to create the sea-bound titans that were destined to upend the global energy market. The first liquefied natural gas supertanker emerged from a yard in late 2008 and carried its first cargo from Qatar to Spain. In its wake came another 13 of the so-called Q-Max vessels — each over 1,000 feet long and built to dock at Qatar's terminals. The ships can hold almost twice as much LNG as a conventional-size carrier.

Now the first wave is set to give way to a second. Qatar intends to take the lead again. Last week the tiny Gulf state heralded its largest order for new LNG carriers since the dawn of the market over a decade ago. Qatargas, the state-owned gas company, has called for bids to build up to 100 new ships over 10 years. The gas-rich nation is the world's largest LNG player with a hold on almost 28 percent of the market. It plans to increase its exports by 40 percent in five years to 110 million tonnes a year by 2024.

Qatar is not alone. The U.S. has opened the floodgates on its shale gas boom with several LNG export projects. Australia is a major player with Russia looking to expand its capacity and join the top four players. Part of Qatar's order for 100 carriers — not all will be the massive Q-Max ships — will be dedicated to serving Golden Pass LNG in Texas, a project under development by Qatargas and ExxonMobil.

South Korean shipbuilders are busy, but look forward to Qatari orders

(Business Korea; April 29) - The domestic shipbuilding industry is screaming for joy over a recent surge in orders for liquefied natural gas carriers. The Big 3 Korean shipbuilders — Hyundai Heavy Industries, Daewoo Shipbuilding & Marine Engineering, and Samsung Heavy Industries — each has a backlog of more than 30 vessels, providing them with work until 2022. They are hoping to further expand their orders as Qatar is expected to place a big order for LNG carriers before long to accommodate its LNG capacity expansion plans. It usually takes about two and a half years to build an LNG carrier.

Saudi Arabia targets 3 bcf a day of gas exports in 10 years

(Bloomberg; April 29) - The world's biggest oil exporter is ramping up efforts to develop its natural gas resources with plans for a 15-fold boost in output from unconventional deposits of the fuel. Saudi Aramco is building facilities to tap shale gas in the kingdom's oil-rich eastern region and is making "a lot of progress" toward its goal, CEO Amin Nasser told reporters in Dammam, Saudi Arabia. Plans include a plant to desalinate seawater that Aramco can then inject underground to frack for gas.

"We are looking to take our unconventional gas within the next 10 years to 3 billion standard cubic feet a day of sales gas," Nasser said April 28. Aramco currently produces more than 190 million cubic feet of unconventional gas daily, all of it in the remote north. The state-run company is expanding its search for gas as a potential export to help reduce the nation's reliance on oil sales. Saudi Arabia also wants to use gas at home as fuel in power stations and as feedstock to produce petrochemicals.

Earlier attempts to find and develop Saudi gas met with lackluster results. Now with improved technology, Aramco is seeking unconventional gas at the South Ghawar and Jafurah deposits in eastern Saudi Arabia, Nasser said. It plans to build a desalination plant to treat Persian Gulf seawater for injection into the Jafurah basin to dislodge shale gas. Jafurah is located between Ghawar, the world's largest oil field, and the Gulf, near the hub of the Saudi energy industry. The water-treatment facility is in the planning and design phase and could be in operation in four to five years.

Ichthys LNG buyer holds gas at sea due to full storage tanks

(Reuters; April 29) - A carrier hauling liquefied natural gas has been floating off Australian waters as production at the Ichthys LNG project ramps up, industry sources said. The Symphonic Breeze has been moored near Darwin since April 17 after loading a cargo from the recently launched Ichthys LNG, shipping data from Refinitiv Eikon showed. The cargo has been sold to an unnamed North Asian buyer that has decided to postpone delivery due to high inventory in its storage tanks, an industry source said.

The floating storage situation has been partly created due to ample global supply with several new projects expected to launch LNG exports this year, while demand has held largely stable, industry sources said. Meanwhile, production from Ichthys has been ramping up and adding to the glut, the sources said. "Ichthys production is very strong, which is causing a bit of headache for the market given the current situation," the first source said. Gas from offshore fields is piped to the Ichthys liquefaction plant in Darwin.

LNG exports from Ichthys are expected to reach a record high of 680,000 tonnes in April, about 91 percent of the nameplate capacity, said Madeleine Overgaard, an LNG market analyst with data intelligence firm Kpler. The \$40 billion project shipped its first condensate and LNG in October last year after several delays and cost overruns. At full operation, Ichthys is expected to produce 8.9 million tonnes of LNG a year. The operator, Inpex, has said it will take about two to three years to reach full production.

Gas has become 'a waste product' in Permian Basin

(Midland Reporter-Telegram; Texas; April 29) - Permian Basin producers have been tremendously successful in quadrupling their oil and gas production. Now they're paying the price. Natural gas prices at the Waha Hub near Coyanosa have fallen to zero, according to producers. "With the supply outrunning demand, they can reduce their pricing, and have done so drastically," said Bill Graham, president of Incline Energy.

Waha Hub pricing December 2018 was 17 cents. "Now, the posting for April 2019 is \$0, or absolutely nothing," said Graham, whose small oil and gas producer is family-owned. "Something is wrong with this picture. The plant gets more gas than they can handle, but they still sell what they process for about \$1.50 and pay the producer nothing. And then they charge (the producer) for treating, compression and transportation."

"Because of the shale revolution, producers are producing a lot of crude oil and gas. Producers are making money selling the oil. Gas has become, in large part, a waste product," said Phil Flynn of The PRICE Futures Group and senior market analyst. "They can lose money on the gas because they're making money on the oil. It's a real waste, because that gas could be used elsewhere if they could get it there."

"I keep hearing about all these plans to construct new pipelines ... but they aren't here yet," Graham said. "The Texas Railroad Commission has the authority to ... reduce production, thereby reducing flaring of gas. But their website just keeps boasting about record oil production every month." Graham also offered a warning: "As production

continues to increase, so will flaring of natural gas. If the Railroad Commission doesn't step in with a solution, I'm afraid the EPA will, and none of us will be happy with that."

Further delays for second and third trains at Cameron LNG

(S&P Global Platts; April 29) - Start-up of the second and third liquefaction trains at Sempra Energy's Cameron LNG export terminal in Louisiana is now expected in 2020, months later than previously scheduled, lead construction contractor McDermott International said April 29. Sempra had said as recently as February that it hoped to have all three trains at the \$10 billion, 12-million-tonne-per-year facility operational by the end of 2019. Production from the first train is expected this quarter.

McDermott has faced several construction- and weather-related delays at Cameron LNG and also at Freeport LNG in Texas. During a conference call with investors to discuss first-quarter financial results, executives said the contractor and its partners have made strides getting the two projects back on track.

Initial production from Trains 2 and 3 at Cameron is currently set for the first quarter of 2020 and second quarter of 2020, respectively, Chief Financial Officer Stuart Spence said on the call. The project is a joint venture of affiliates of San Diego-based Sempra, France's Total, Japan's Mitsui and a company jointly owned by Japan's Mitsubishi and NYK Line. At Freeport LNG, meanwhile, there have been signs recently of early commissioning work with gas deliveries appearing to have started last week.

LNG hopeful books pipeline capacity; still no decision on terminal

(Houston Chronicle; April 29) – LNG hopeful Tellurian has started booking capacity on two proposed gas pipelines intended to support the growing liquefied natural gas industry in southwestern Louisiana. Tellurian's \$1 billion Haynesville Global Access Pipeline will connect pipelines and production facilities in DeSoto Parish to Calcasieu Parish, where Tellurian plans to build Driftwood LNG. Once complete in 2023, the 42-inch-diameter, 160-mile pipeline will move up to 2 billion cubic feet of gas per day.

A separate \$1.4 billion project, the Delhi Connector Pipeline, will move gas from the Perryville/Delhi Hub in Richland Parish to Calcasieu Parish. Once complete in 2023, the 42-inch, 180-mile pipeline will move 2 bcf of gas per day. The open seasons for booking capacity on the two pipelines come less than two weeks after the Federal Energy Regulatory Commission granted a permit for the Driftwood LNG terminal. Earlier this month, Tellurian also said it was booking capacity on its planned Permian Global Access Pipeline, a \$3.7 billion project to move gas from West Texas to Louisiana.

It's all part of Tellurian's plan to get ready for Driftwood LNG, estimated at \$27 billion. The company has yet to formally announce a final investment decision for the project — maybe later this year. Launched in February 2016 by former Cheniere Energy CEO Charif Souki, Tellurian employs 172 people. The company, with no export terminals in operation, posted a \$125.7 million loss on \$10.8 million of revenue in 2018.

European buyers stuck with 'unsellable' tainted Russian oil

(Reuters; April 30) - It was a quiet Easter holiday at the offices of major European oil companies and refiners when an email in Russian landed. It was from the state pipeline company in Belarus, Gomeltransneft, telling refiners and pipeline operators in Poland, Ukraine, Hungary, Slovakia, and the Czech Republic that the crude heading toward them from Russia down the 3,400-mile Druzhba pipeline network was heavily contaminated. "We ask you to immediately take all measures to avoid potential losses and other negative consequences," said the April 19 letter seen by Reuters.

For the next 10 days, refiners and oil firms in Europe cut purchases of Russian oil by up to a million barrels a day — or 10 percent of European oil imports — in a major disruption to supply from the world's second largest oil exporter. The disruption sent oil to a six-month high over \$75 a barrel and tarnished Russia's reputation as an exporter.

As the crisis entered its 11th day on April 30, oil buyers had yet to hear directly from Russian pipeline monopoly Transneft, the owner of the network that exported the tainted oil, sources said. "I have to rely on gossip and rumor to get an idea when clean oil will resume flowing," said a manager at a Western oil company that had to suspend purchases of Russian oil in Germany, which is connected to Druzhba via Poland.

Oil contamination is not unique to Russia, but the scale and severity of the problem is rare, sources said. The oil was contaminated with organic chlorides, compounds used in the industry to boost extraction from oil fields by cleaning oil wells and accelerating the flow of crude. The compounds must be removed before oil enters pipelines as they can destroy refining equipment or, at high temperatures, create the poisonous gas chlorine.

"This oil is not sellable. You cannot just dump the price and sell it at a discount. No one wants this oil," a source at a Western oil company said. Buyers with contaminated oil need to store it somewhere and dilute it with cleaner crude to lower chloride levels, an operation that could costs millions of dollars for each large crude tanker, traders said.

Trump's decision on Iranian oil a 'wild card' in global pricing

(CNBC; May 1) - President Donald Trump is about to launch the latest phase of his "maximum pressure" campaign against Iran, and BP CEO Bob Dudley said the commander in chief could deal the oil market a major wild card. When the clock strikes midnight May 2, the United States will officially end its sanction waivers that allow eight countries to import Iranian oil. Dudley said the move, which is meant to drive Iran's oil exports to zero, sent crude prices to nearly six-month highs last week.

"Now the U.S. is saying they're going to ... take away those waivers again, and the oil price is clearly drifting up because of that," he said during an interview at the Milken Institute Global Conference in Beverly Hills, California, on April 30. "I think the key — the wild card key — is will the U.S. at the last minute give some more waivers or not?" The answer to that question will influence whether oil prices rise or fall, he said.

Trump's threat to impose tough sanctions on Iran drove Brent crude oil to nearly four-year highs at \$86 a barrel last October, Dudley said. The president's decision to allow several of Iran's biggest customers to continue importing Iranian barrels in November contributed to Brent's collapse to \$50 a barrel. Last week, the Trump administration said it will stop issuing the exemptions on May 2. The market widely expected Trump to extend them for another six months, tightening the waivers but not ending them outright.

Trump drops consideration of Jones Act waiver for LNG shipments

(S&P Global Platts; May 1) - At the urging of lawmakers from oil- and gas-producing states, the Trump administration has reportedly halted consideration of a 10-year waiver of the Jones Act shipping rule that prevents foreign liquefied natural gas carriers from carrying domestic supplies between U.S. cities. The White House was reportedly debating granting a 10-year waiver of the restrictions to allow for LNG from U.S. terminals aboard non-U.S. flagged vessels in order to meet Puerto Rico's power generation needs and to ease gas supply constraints during winter in New England.

Sen. Bill Cassidy, a Louisiana Republican, said Trump told six GOP lawmakers that he would oppose any long-term waivers to the Jones Act during a meeting at the White House on May 1. Maritime unions and industry have long opposed waivers for the 100-year-old law. Alaska Sens. Lisa Murkowski and Dan Sullivan attended the meeting. The Jones Act requires vessels moving goods between U.S. ports to be U.S.-flagged, U.S.-built and U.S.-owned. It has been suspended after hurricanes to aid in moving supplies.

In recent months, calls have surfaced for LNG shipments from the growing U.S. gas export industry to New England, where constrained pipeline capacity has contributed to tight supplies for power generation during winter peak demand. In December, Puerto

Rico asked the Trump administration for a 10-year waiver of Jones Act restrictions in order to import LNG on foreign-flagged tankers. There are no U.S. LNG carriers.

LNG import terminal near Sydney wins regulatory approval

(Reuters; April 29) - Australia's New South Wales state on April 29 approved plans by a Japanese-backed consortium to build a A\$250 million (US\$176 million) liquefied natural gas import terminal at Port Kembla, looking to cut gas prices for domestic users and avert a supply shortage. The Port Kembla project is the first of five proposed LNG import terminals in Australia to receive planning approval. All of them are looking to help plug a looming gas supply shortage expected in the country's southeast in the 2020s.

Australian Industrial Energy, the joint venture planning to build the berth for a floating LNG import facility at Port Kembla, about 60 miles south of Sydney, said that with the approval in hand it will focus on lining up gas customers. It is aiming to make a final investment decision around the middle of this year. Local supplies are being squeezed by restrictions on new gas exploration in Australia and increasing volumes of gas contracted for export.

"This terminal could supply 70 percent of our state's annual gas demand and help ease the cost of energy bills for New South Wales families and small business owners," New South Wales Energy and Environment Minister Matt Kean said in a statement. The joint-venture partners are Australian mining billionaire Andrew Forrest's Squadron Energy, Japan's JERA (the world's biggest buyer of LNG), and Japanese trading firm Marubeni. If they decide to go ahead, first gas could be delivered by late 2020, they said.

Bangladesh starts up second LNG import terminal

(Reuters; April 30) - Bangladesh's second liquefied natural gas import terminal has started to feed gas into the national grid after completing commissioning April 30, the terminal operator said. Summit LNG Terminal completed the commissioning of its floating storage and regasification unit known as Summit LNG about a month ahead of schedule, Singapore-based Summit Power International said in a statement. The unit is 75 percent owned by a unit of Summit Power and 25 percent by Japan's Mitsubishi.

The new unit can regasify 500 million cubic feet of gas per day for send-out into the grid. Summit Power, which owns power-generation assets in Bangladesh and is owned by Bangladeshi conglomerate Summit Group, has chartered the vessel from U.S.-based Excelerate Energy for 15 years. The unit arrived at Moheshkahi Island in the Bay of

Bengal on April 20, loaded with a cargo from QatarGas. It is positioned near the country's first floating import facility, the Excellence, also owned by Excelerate Energy.

About 3.75 million tonnes a year of LNG are expected to be imported through the new facility, doubling the country's import capacity to 7.5 million tonnes per year once fully operational — about 1 billion cubic feet of natural gas per day.

Anadarko will consider Occidental bid vs. Chevron offer

(CNN Business; April 29) - Anadarko Petroleum could walk away from its marriage with Chevron. Anadarko announced April 29 it plans to enter merger talks with Occidental Petroleum, which made a hostile takeover offer for the oil producer last week. The Occidental cash-and-stock bid values Anadarko at about 20 percent more than the takeover deal Anadarko already reached with oil giant Chevron earlier this month. (Occidental's bid received a boost April 30 when Warren Buffet's Berkshire Hathaway bought \$10 billion in Occidental preferred stock.)

The bidding war for Anadarko reflects an intense desire by oil companies large and small to acquire America's best shale assets. Specifically, oil companies are racing to drill in the Permian Basin, the West Texas shale oil field that has made the United States the world's leading producer. Anadarko and Occidental had been in merger talks even before Chevron reached a deal for Anadarko. Now, Anadarko said it will resume negotiations with Occidental, which is already the No. 1 oil producer in the Permian.

Acquiring Anadarko's Permian assets would lift Occidental's output in that shale oil field to 533,000 barrels per day. Even though neither Anadarko nor Occidental are household names, a merger would create an oil behemoth. The combined company would be worth about \$100 billion and produce about 1.4 million barrels of oil per day. However, Wall Street analysts have expressed concern that Occidental's deal could strain the company's balance sheet. As America's No. 2 oil company, Chevron certainly has the firepower to sweeten its bid. But Chevron must also guard against overpaying.

U.S. oil production still growing, but pace slows down

(Reuters; May 1) - The second U.S. shale oil drilling boom has started to cool as a decline in oil prices since the end of the third quarter of 2018 filters through to lower well boring and completion rates. The first boom ended when prices plunged in the second half of 2014; something similar is happening now, albeit on a milder scale. The number of rigs drilling for oil in the United States has fallen by more than 9 percent from its cyclical peak in November, said oil field services company Baker Hughes. And crude output is down by almost 300,000 barrels per day from its cyclical peak in December.

Much of the recent output decline is attributable to the Gulf of Mexico, where offshore production is often volatile, so it needs to be interpreted with care. But onshore output from the Lower 48 is also growing more slowly, a sign the drilling boom is beginning to cool. Lower 48 output was up by 1.6 million barrels per day in the three months from December to February compared with a year earlier. That growth is down from more than 1.8 million in August-September, slowing significantly for the first time since 2016.

Before prices fell in the fourth quarter of 2018, U.S. crude production was growing at annual rates of more than 2 million barrels per day, the fastest increase anywhere in history. Some sort of slowdown was inevitable, otherwise surging U.S. production would have overwhelmed global oil consumption, increasing inventories and hurting prices.