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## Oil and Gas Infrastructure News & Views Weekly, July 27, 2019

Stratas Advisors

### Wisconsin Hits Enbridge Line 5 with Lawsuit

**Enbridge Line 5 Now Faces Wisconsin Suit, Potential Reroute:** Enbridge Inc. disclosed that it is open to working with the Bad River Band (a Wisconsin indigenous group) on the possibility of rerouting Line 5 that transverses a limited land area of concern for the Red River Band. The news of this flexibility on the part of Enbridge came after the Bad River Band filed a federal lawsuit against Enbridge. The owner of the pipeline, now in its 66<sup>th</sup> year of operation, is also involved in a recent suit filed by the state of Michigan that aims to permanently shut down the line that crosses beneath the Mackinac Straits rather than allow the operator's replacement project proposed in a new deep tunnel far below the Strait's lakebed.

**Our Take:** Line 5 has a capacity of 540 Mbb/d and transports petroleum liquids as part of the Mainline Pipeline System. We think as much as 20% of the capacity is utilized for mixed propane/butane NGL while the rest is light or medium conventional, unconventional or syncrude grades of crude oil all with API degrees above 25°. We believe any closure of Line 5 would mainly affect refineries East of Sarnia. The shutdown would force Canada's easternmost refineries to source costlier crude by rail delivery from North America's more westerly producing regions or it would force refiners to rely on piped, railed or tanked crude imports delivered to North America's eastern seaboard. Any shutdown of Line 5 should not affect heavy crude runs at Sarnia or otherwise since Line 5 is not designed to carry that grade of crude oil.

That said, after any shutdown, we think the heavy crude runs in the upper Midwest US and in Ontario or east should either increase or at least remain flat. For light crude, we think the Michigan and Ohio refineries in the US and the Sarnia refineries in Canada should have sufficient alternate pipeline or rail access existing to rise to the challenge of any Line 5 shutdown period. That's because we expect sufficiently-sized existing crude pipelines from the southwest could be called upon to bring in replacement volumes of light crude to refineries in Sarnia and the US Midwest via other pipelines.

We also believe that the closure of this pipeline would disturb NGL supply to Wisconsin and Michigan (more than half of Michigan's propane demand is supplied by Line 5). We estimate during peak winter season months that about 20% or 108 Mbb/d of the pipeline's capacity is allocated to NGL transportation. According to available monthly data from the US EIA (which ends in the shoulder month of April 2019), PADD 2 imported just under 93 Mbb/d of NGL. While other NGL logistics such as train and truck tankers represent a part of that imported supply, it seems Line 5 represents a significant share of PADD 2 NGL imports year-round. The closure of this pipeline would result in more propane deliveries via costlier surface logistics. Aside from impacting the propane supply into the region, a Line 5 shut in would foreseeably affect regional propane prices and regional demand.

**LNG Terminal Delays Slow Exports, Build Storage:** Freeport LNG has announced that Train 1 is ready

to begin operations after several months of delays. The 0.6 Bcf/d capacity facility has introduced feed gas into Train 1 as part of the start-up process. Subsequent trains will start in January and May 2020.

**Our Take:** The first train at Freeport LNG makes it the fifth LNG terminal to be operational in the US. Startups at the other two trains are facing delays into mid-2020. We were also expecting Elba Island LNG by Kinder Morgan to start earlier this year along with many other US LNG plants. We still believe at least the initial first few of the 10 trains at Elba Island should start in the latter months of 2019. Amid these and other LNG plant delays, we have back-calculated that the extraordinary US record working gas storage inventory refill since March 31 coincides almost one for one with the Bcfs of LNG not exported. That is, the excess gas that was produced this year did not get exported offshore since slow LNG plant startups, causing a pernicious bottleneck. We continue to expect gas production to set new highs this year. But with delayed LNG startups still slowing exports into the back half of 2019 and early 2020, we think we could easily see a serious overhang of above-normal working gas inventories keep a lid on any gas prices at least until winter. We think, therefore, that US gas price expansion will require heavy summer power burns and early and robust heating-season consumption.

**Point Breeze Section of PES Refinery to Permanently Shut Down:** According to media reports, Philadelphia Energy Solutions (PES) is in the process of permanently shutting down its Point Breeze section (the only section currently operating) as it prepares to close the entire 335 Mbb/d refinery and file for [bankruptcy](#).

**Our Take:** We are witnessing the final days in the current operational life of the Philadelphia refinery. This latest demise and bankruptcy plan comes after an alkylation unit fire, which we have covered since its June occurrence. That fire and subsequent operational disruption at the PES refinery has destabilized petroleum products supply in the region. With the full closure of Point Breeze, we expect petroleum products shortfalls in the region will need to be made up by shipments from the Gulf Coast, Canada and Europe. Crude imports to this location will cease, and ample light crude in the US should help American refiners top up their distillation units humming to make fuel to send to the East Coast. Prices for petroleum products in the region have risen as a result of the local refinery outage and are unlikely to return to lower pre-outage levels. This shutdown in Philadelphia is clearly a potential outlet for any restarted production at the Limetree Bay refinery that seeks to restart by year-end 2019 in the US Virgin Islands. That plant had been operated by Hess and was a big importer in prior decades to the New York Harbor market. The USVI is also exempt from Jones Act requirements, which should put it at an advantage to capture the Philadelphia refined product markets vs. US Gulf Coast refiners, which must utilize costlier product tankers that comply with the Jones Act.

**Tallgrass's Iron Horse Pipeline Placed In Service:** In its 2Q19 results, Tallgrass Energy LP (NYSE: TGE) [disclosed](#) that the 100 Mbb/d Iron Horse pipeline was placed in service in 2Q19. The 80-mile 16-inch, pipeline is designed to transport crude oil from the growing Powder River Basin to Guernsey, Wyo.

**Our Take:** The Iron Horse pipeline provides producers in the Powder River Basin region the takeaway capacity to support production growth. At Guernsey, this crude can be stored or transported in long-haul pipelines – now in operation or under construction – that take crude to the key market of Cushing or farther to the Gulf Coast. Greater Bakken takeaway should tighten Bakken discounts to WTI prices.

**Oklahoma Sets New Crude Production Record:** According to the latest data from the [EIA](#), April's Oklahoma crude oil production set a new record high of 617 Mbb/d.

**Our Take:** This is the second consecutive monthly record in the state. New pipeline takeaway capacity should come online out of the Scoop/Stack this quarter to boost capacity to 957 Mbb/d. We believe that some of the existing production is being transported on through-going pipelines that deliver to Cushing from originations outside of the Scoop Stack. We expect the availability of takeaway capacity to promote production growth. Greater pipeline takeaway out of the Scoop/Stack region should raise netbacks closer to WTI Cushing prices.

**Williams Begins Service on Offshore Gas Gathering Pipeline System:** Williams placed into service a deep-water natural gas gathering pipeline off the coast of Mobile, Ala., this week. The project extends from Shell-operated FPSO and delivers gas into the Transco pipeline. It adds 260-290 MMcf/d of deliverability.

**Our Take:** Transco is the largest natural gas pipeline by volume in the US with more than 10,000 miles of network from New York to South Texas. The news of this extension is a good development because it helps connect offshore production zones, including the Jurassic shale play with the Transco pipeline. The expansion helps to connect the rich offshore gas reserves in the Gulf of Mexico into demand markets on the mainland. In our opinion, this would help supplement the growing associated gas production in Lower 48 and improve deliverability.

**Exxon's Polyethylene Plant Expansion in Beaumont Completed:** Exxon Mobil announced that the completed expansion of the Beaumont polyethylene manufacturing facility by 650,000 tons per year. The total capacity of the site is 1.7 million tons per year post-expansion.

**Our Take:** Current US ethane production is about 36 million tons per year. The abundance of shale gas available in the Permian has enabled several ethane cracker projects. The ethylene produced is polymerized to form polyethylene at the Beaumont petrochemical facility. We expect that the US ethane recovery at the nation's fractionators should increase to meet both export market and domestic cracker demand to feed further downstream petrochemical projects such as Exxon's Beaumont plant.

**ONEOK Announces Expansions to Natural Gas Infrastructure:** ONEOK announced internally funded capital expenditures to expand its Bear Creek natural processing facility in North Dakota by 200 MMcf/d before the end of 1Q21. It has also announced a 40 Mbb/d expansion of West Texas LPG pipeline in the Permian Basin by 2021, and most surprisingly the firm has plans to add 65 Mbb/d of NGL fractionation capacity in 2 phases before year-end 2021 in Kansas at its NGL hub facilities there.

**Our Take:** The Bear Creek natural gas processing facility is experiencing continued expansion to enable ONEOK to have 1.6 Bcf/d of gas processing in the region when all projects go online. The firm completed additions of 50 MMcf/d in 2018. Additional proposed additions are for 45 MMcf/d in 2020 and 200 MMcf/d in 2021. The most recently announced expansion will generate 25 Mbb/d of C3+ NGL mix. That equates to a processed 5.25 GPM of regional rich gas, excluding ethane. The facility should contribute greatly to regional flaring reduction initiatives. The expansion of fractionation in Kansas is somewhat surprising given that much of the fractionated product will have to be moved elsewhere to growing NGL demand markets. Finally, we welcome the West Texas LPG pipeline system expansion from its original capacity of 285 Mbb/d and recent further expansion of 110 Mbb/d that went online in 3Q18. This line will further be expanded by 80 Mbb/d in 1Q20 and the newly announced 40 Mbb/d in 1Q21. On top of new propane supply being pipelined in from the Permian we think the increased connectivity from the Bakken NGL-rich field into the MidContinent NGL hub, and through interconnecting pipes down to the Mont Belvieu NGL hub, will keep the pressure on NGL prices on the Gulf Coast.

**Potential Ethylene Plant Site Chosen:** Canadian petrochemical developer West Coast Olefins announced this week that it selected a site for a potential ethylene cracker with derivative units in the Prince George region of British Columbia. The plan, currently estimated at CAD \$5.6 billion, includes NGL extraction facilities to recover C2+ for the Enbridge West Coast pipeline, an ethylene cracker, and manufacturing and export logistics for polyethylene and ethylene glycol. A year-end 2020 FID by the developer is said to be pending permitting and more.

**Our Take:** We recognize that regions near hydrocarbon rich producing fields are often well suited for energy-intensive operations including petrochemical manufacturing. This developer will likely have an ample and sustainable long-term supply of rich gas flowing through the Enbridge West Coast pipeline that can yield both the NGL feedstock (as little as 65 Mbb/d if purity ethane is to be the sole feed) and the fuel needed to keep the cracking processes powered up and running smoothly. From an industry viewpoint, it seems like the West Coast of Canada would be a smart place from which to export plastics and glycol to Asian or other Pacific basin markets. We think, however, that vociferous opposition to gas pipeline, LNG, refining and oil pipeline infrastructure will soon appear and raise speed bumps and roadblocks along the way that will likely inflate the timeline and budget while potentially deflating the resolve of the development group. We intend to watch the developments on both the pro and con side of this proposal as time rolls forward. If the project actually starts up, perhaps in the middle part of the next decade, the facility will be a small but welcome new industrial consumer of abundant Canadian hydrocarbon that will help put a floor under west coast gas prices. The plant also could be a competitive small producer and exporter into the Pacific basin petrochemical market.



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