Shale Crude Heading East as Louisiana Market Opens Up

Bayou Bridge to start St. James deliveries.

Morningstar Commodities Research
22 January 2019

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Data Sources for This Publication
U.S. Energy Information Administration
CME Group
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Catching Up

As Texas Gulf Coast docks prepare for the tsunami of crude that we predicted last December was coming their way in the next two years, the midstream focus has turned to Louisiana in 2019. Last week saw several updates concerning new crude pipelines linking key terminals within Louisiana. The 480-thousand-barrels-per-day Bayou Bridge pipeline from Nederland, Texas, to St. James, Louisiana, is expected to be completed this month or next. After lagging shale developments for years because most new production comes from Texas, the Louisiana Gulf Coast is now catching up as shippers from basins outside Texas such as the Williston in North Dakota deliver pipeline barrels into this market. This note details pipelines from Texas and links between St. James and the LOOP export facility.

Texas Tsunami

Last year, U.S. crude market developments centered around the Texas Gulf Coast in response to growing production from the West Texas Permian Basin that added an estimated 875 mb/d of new production in 2018 to end the year over 3.7 million barrels/day (according to the Energy Information Administration's Drilling Productivity Report), in the process outpacing existing pipeline capacity out of the region. The congestion disrupted pricing for Permian West Texas Intermediate crude in the basin at the Midland, Texas, hub as well as at delivery points in Cushing, Oklahoma, and at the Gulf Coast in Houston (see our July 2018 note "The Permian Triangle and U.S. Crude Dynamics" and the August follow-up "The Permian Triangle – Midland Discounts Encourage Exports"). Growing volumes of shale crude from Texas and points north are arriving at the Gulf Coast looking for export buyers considering saturated local refiner demand for light grades. Export volumes out of Texas are expected to balloon further during the next two years as a slew of new pipelines delivers additional crude (see our December 2018 note "Pipeline Plans Suggest Tsunami of Exports").

Focus Turning East

This year, market focus is turning to the eastern Gulf Coast as producers and midstream developers seek new routes to refineries and export docks in Louisiana that arguably offer better optionality and avoid the prospect of dock congestion in Texas that may arise if infrastructure there is delayed. Last April, we took a closer look at evolving crude flows in Louisiana in light of faltering flows on the 1.2 mmb/d Capline pipeline between St. James, Louisiana (the regional crude trading hub), and Patoka, Illinois (see "Capline Empties As Louisiana Crude Market Evolves"). Our analysis showed a shrinking domestic market for Louisiana and offshore Gulf of Mexico crudes as well as import grades traditionally shipped north into the Midwest on Capline. New flows of shale crude from North Dakota and heavier grades from western Canada into the Midwest have replaced the need for northbound supplies from Louisiana.

The opening of the 200 mb/d Plains All American/Valero joint venture Diamond pipeline in December 2017 between Cushing and Memphis, Tennessee, replaced supplies previously delivered on Capline and all but extinguished Capline northbound flows. In the circumstances, we concluded that the market for Louisiana benchmark Light Sweet LLS crude blend traditionally delivered at St. James for injection into Capline would migrate south to the Clovelly storage hub on the Gulf Coast as marginal supplies delivered into the eastern Gulf market are now destined for export markets (see "The Future of LLS").

Pipeline infrastructure being planned to come on line this year and next is opening the Louisiana market to new crude supplies flowing east from the Texas Gulf Coast as well as southeast from Cushing and even supplies from as far away as Canada, flowing into the Midwest and then south to St. James on a reversed Capline. We cover developments out of Texas in this note and flows from Cushing and a reversed Capline in an upcoming note.

Bayou Bridge

Looking at eastbound flows, the most significant event is the extension of the Energy Transfer (60% owner and operator) and Phillips 66 (40%) joint venture 480 mb/d Bayou Bridge pipeline from Lake Charles, Louisiana, to St. James that is expected on line in the next two months. When completed, Bayou Bridge will link Sunoco's Nederland terminal at Port Arthur with St. James—providing a second Trunkline conduit for Texas crude to reach at least nine Louisiana refineries along the Mississippi River.

Zydeco Rival

At the same time, incumbent and Bayou Bridge rival—the Shell Midstream owned and operated Zydeco pipeline—which runs between Houston and St. James, is signing up new-term shippers this month to replace contracts for as much as 250 mb/d of its capacity up for renewal. Zydeco has been running full since it was reversed by Shell in 2013 as shippers sought to move Texas shale crude east into Louisiana to replace westbound imports and Gulf of Mexico barrels the pipeline used to deliver to Houston refineries. Now Zydeco must compete head to head with Bayou Bridge on the critical route between Nederland and St. James and it appears to be offering better rates now. Based on currently published Federal Energy Regulatory Commission tariffs, Zydeco ($1.78/barrel) has better terms than Bayou Bridge proposes ($2.20/barrel) for walk-up shippers between these two points. Zydeco discounts the tariff to $1.08/barrel for customers shipping over 100 mb/d, which is far lower than the Bayou Bridge proposed rate for a shipper committing to 50 mb/d plus for five years that is $1.55/barrel with various surcharges for shipping heavier crude.

This head-to-head tariff comparison doesn't account for key differences between the pipelines. Bayou Bridge is an extension to the Energy Transfer's Dakota Access pipeline, DAPL, that ships up to 500 mb/d of Bakken crude from North Dakota to Nederland via Patoka. That means it's likely cheaper for DAPL shippers to use Bayou Bridge to get their barrels to St. James compared with shifting to Zydeco at Nederland. In turn, Zydeco offers shippers direct service from Houston to St. James as well as a lateral at Shell's Houma, Louisiana, terminal that extends direct to the Clovelly hub with access to the LOOP export terminal. Bayou Bridge only delivers to St. James with no direct access to LOOP.

Low Differentials

In terms of market need for these competing pipelines, an important commercial factor is how price differentials between the Texas and Louisiana Gulf Coast markets compare to the tariff cost. In the case of light crude, we compared prices for WTI in Houston with LLS at St. James during 2018. There has been volatility in the spread, as shown in Exhibit 1, but the differential averaged $0.65/barrel during 2018, according to CME Group data. That differential barely covers half of either the walk-up tariff on Zydeco or the proposed uncommitted tariff on Bayou Bridge.

Lack of a price incentive on that leg of the journey doesn't matter to Bakken shippers on Bayou Bridge comparing prices in North Dakota with Louisiana. With Williston Basin production up 256 mb/d, or 21%, between December 2017 and December 2018, according to EIA, Bakken prices saw significant discounts in North Dakota last fall due to congestion, and pipeline takeaway capacity is expected to remain tight out of the region. The average $9/barrel premium of LLS over Bakken crude in North Dakota easily covers the DAPL and Bayou Bridge tariff. In the case of Zydeco, the existing term shippers likely include producer refiners moving equity shale crude from Houston to their Louisiana refineries and/or Louisiana refiners shipping heavy Canadian crude delivered to Houston on the Seaway pipeline across to St. James. With Bayou Bridge opening new capacity and Zydeco term contracts expiring, the newly available capacity will open up the market to spot activity and may result in tariff discounts to attract new customers to both pipelines.

Exhibit 1 LLS St. James Premium Over WTI Houston

Source: Morningstar, CME Group.

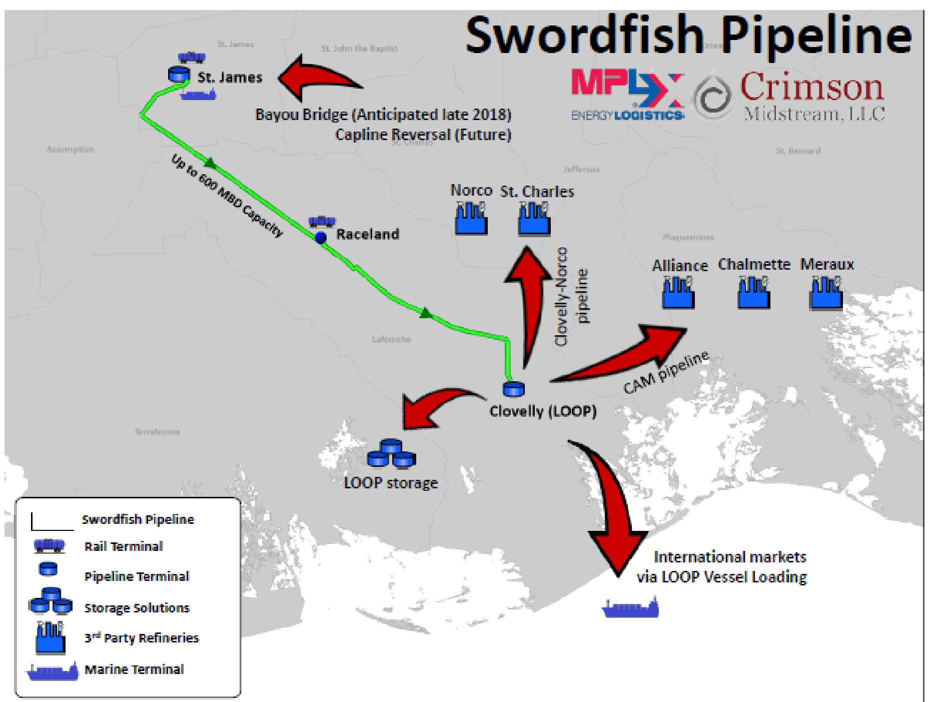
St. James

One important constraint for Bayou Bridge shippers is the changing role of the pipeline's destination point at St. James. As we discussed above, dwindling flows on Capline now restrict St. James to feeding area refineries on the Mississippi in addition to limited exports. The Mississippi River can only accommodate Aframax vessels; meaning tanker size is restricted to 750 thousand barrels. These smaller tankers typically have to be trans-shipped onto larger 2-million-barrel crude carriers for long distance exports to Asia—adding to costs. Local refineries already receive some Texas crude via Zydeco and have access to Louisiana onshore and offshore Gulf of Mexico production as well as imports coming through LOOP. In the circumstances, there is unlikely to be new demand for 480 mb/d of crude delivered by Bayou Bridge to St. James. To that end, producers and midstream partners are planning at least two pipelines linking St. James back to LOOP to provide a path for some of this crude to be exported.

Swordfish

The first of these projects is the Swordfish pipeline being jointly developed by Marathon midstream subsidiary MPLX and Crimson Midstream Holdings. The partners are holding an open season for shippers on this pipeline that began in October 2018 and concludes at the end of January 2019. The proposed pipeline will have initial capacity of 170 mb/d with potential to expand to 600 mb/d based on market demand. The route will connect St. James with a terminal at Raceland, Louisiana, and the Clovelly terminal that connects by pipeline to LOOP (Exhibit 2). Assuming shipper support and permit approvals, Swordfish is expected on line during the first half of 2020.

Exhibit 2 Swordfish Pipeline Project



Source: MPLX Presentation.

ACE Pipeline

A second pipeline proposal, for which an open season announcement came on Jan. 14, is the Phillips 66, Harvest Midstream, and PBF Logistics joint venture ACE Pipeline System. The proposed pipeline will provide an initial 400 mb/d crude capacity between St. James and downstream Louisiana refineries in

Belle Chase (the 247 mb/d Phillips 66 Alliance), Meraux (135 mb/d Valero), and Chalmette (169 mb/d PBF Energy) as well as an optional destination at Clovelly, subject to market demand. The ACE pipeline is expected in service during the second half of 2020.

Coastal Access

These two projects will potentially provide as much as 1 mmb/d of crude pipeline capacity between St. James and the Clovelly/LOOP export hub by the end of 2020. This capacity will allow Bayou Bridge crude access to export docks and will alleviate existing export constraints at St. James.

As we will discuss in an upcoming note, greater access out of St. James to the Louisiana coast also opens new flexibility for crude flows into St. James from a reversed Capline. That note will also cover plans on the drawing board to ship crude direct from Cushing to St. James as well as recent progress in converting LOOP to export crude more rapidly and compete with offshore terminal projects being considered in Texas. All these factors are helping to make the Louisiana market a welcome alternative for domestic producers compared with the often-hectic Texas coastline.

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