



I'm Waiting For The Crude – Keystone Marketlink Comes to Texas

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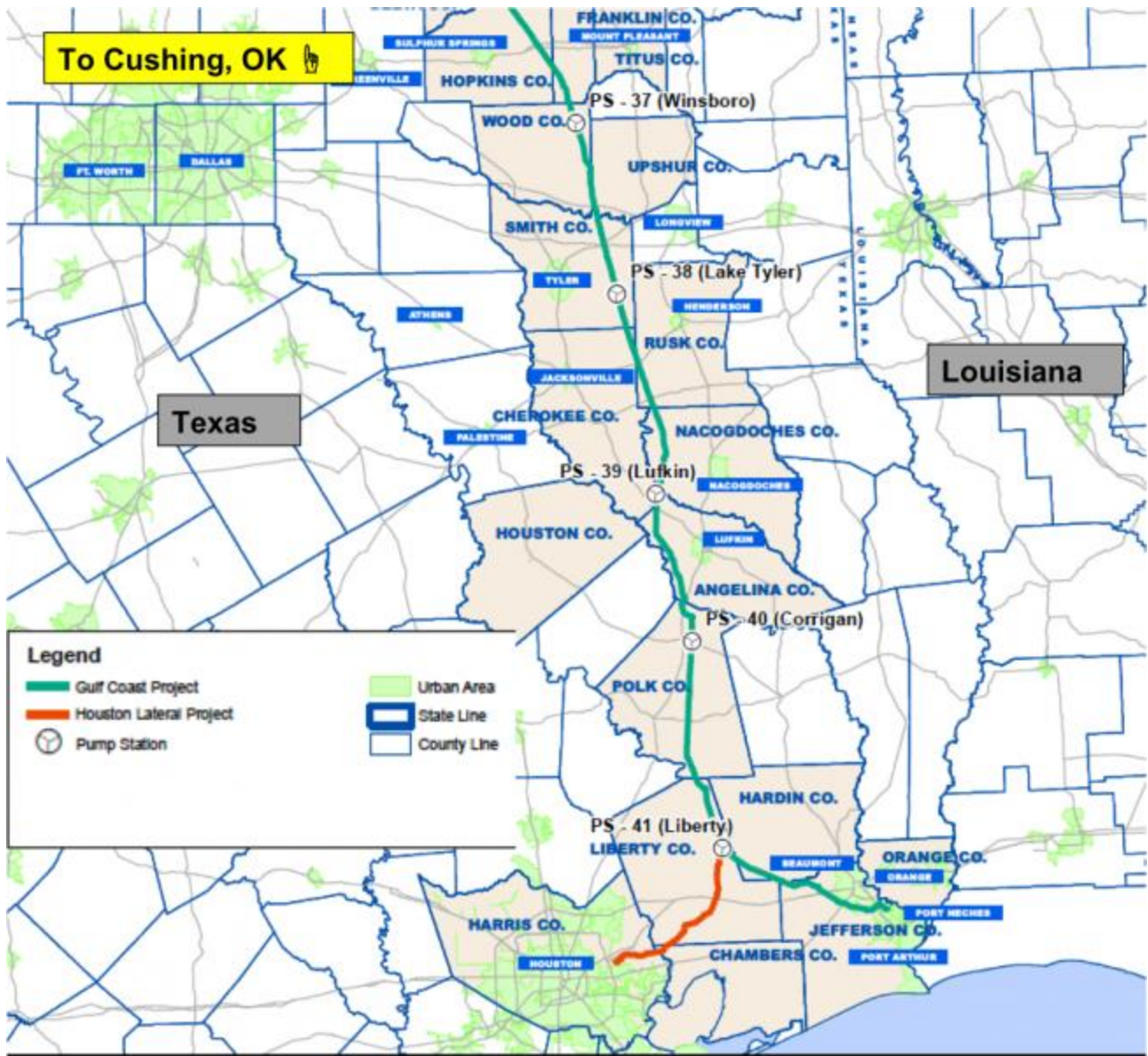
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So far in 2013 around 645 Mb/d of new crude oil pipeline capacity has opened up to ship supplies to the Texas Gulf Coast. Early this month (December) line fill starts on the largest new capacity addition to date – the 700 Mb/d Keystone Gulf Coast Pipeline. The new pipeline runs from Cushing to Port Arthur and will carry mostly Canadian heavy crude. Today we wonder if all that crude will find a home.

The first episode in this series described 4 MMb/d of current and planned expansions to crude transportation capacity into the Texas Gulf Coast region (see [Handling The Texas Gulf Coast Crude Flood](#)). Our analysis showed that the new incoming light crude capacity will exceed Texas Gulf Coast demand by somewhere north of 0.5 MMb/d by the end of 2015. In episode two we described how some of these excess crude supplies would move east on the reversed Ho-Ho pipeline (see [Gulf Coast Crude West to East Flows](#)). In episode three we looked at how shippers could divert supplies away from Texas Gulf Coast congestion (see [Texas Gulf Coast Bypass Options](#)). This time we consider the impact of the Keystone Gulf Coast pipeline.

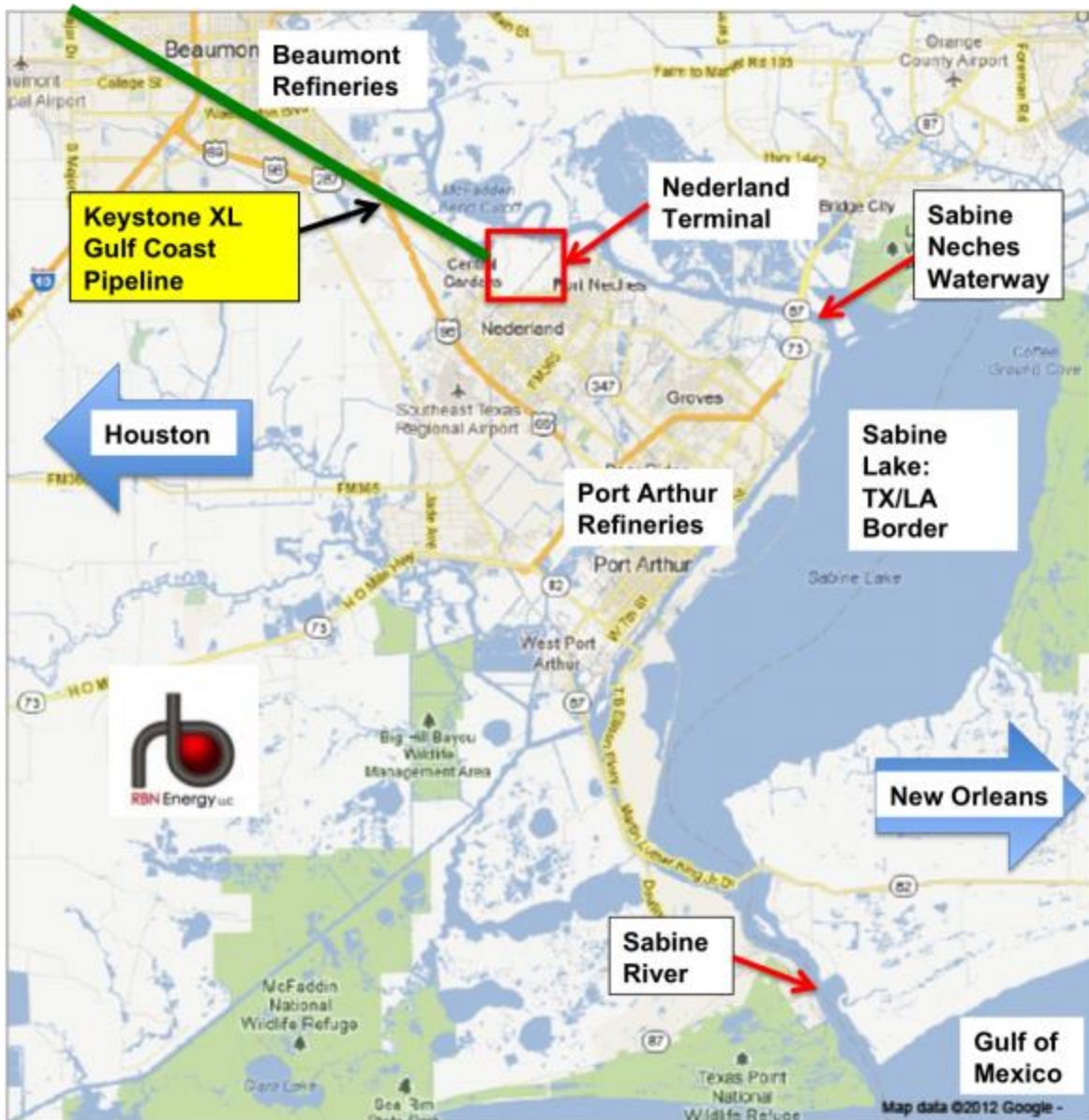
One of the more confusing features of the Keystone Gulf Coast Pipeline is what to call it – the name seems to change in real time. That is probably due to a desire to disassociate the southern Gulf Coast section of the pipeline from delays in permitting the Canada to US Keystone XL pipeline. Owner and operator TransCanada most recently set up a subsidiary to operate the pipeline called Marketlink LLC and it should now apparently more properly be called the Cushing Marketlink Pipeline so we will go with CMP as an abbreviation.

The 36-inch-diameter CMP runs 485 miles from Cushing, OK, to Nederland, TX (see green line on the map below). The line will have an initial capacity of 700 Mb/d with the option to expand to 830 Mb/d. It is almost ready to commence operations but before that can happen it has to be filled with oil – a process known as “line fill”. We described how line fill works and provided a formula to approximate the volume of oil required back in May 2012 (see [A Time for Gas A Time For Crude – Part 2](#)). According to that formula CMP requires 3.5 MMBbl of line fill. Marketlink LLC has said the first pipeline deliveries will be made before the end of 2013. The company is also constructing a 48-mile Houston Lateral pipeline (orange line on the map) that will run from the Liberty pumping station to East Houston and should be online by the end of 2014 with 130 Mb/d capacity.



Source: TransCanada Website and RBN Energy

The initial destination of the CMP is the Sunoco Logistics (part of Energy Transfer Partners) Nederland terminal. We have covered the Nederland terminal in two previous blog posts (see [Nederland Crude Wonderland](#) and [Nederland Crude Volume Surges](#)). The terminal is located on the Sabine-Neches waterway between Beaumont and Port Arthur, TX and has 22 MMBbl of storage capacity (see map below). The location is in the heart of Beaumont/Port Arthur refining country – home to four large refineries owned by ExxonMobil (Beaumont, 365 Mb/d), Valero (Port Arthur, 310 Mb/d), Total (Port Arthur, 174 Mb/d) and Shell/Saudi Aramco (Motiva 600 Mb/d). The Sabine Neches Waterway connects to the Gulf of Mexico, providing waterborne access to the entire Gulf Coast region. Nederland is about 100 miles East of Houston and 350 miles West of New Orleans.



Source: RBN Energy

Supply

Last month (November) TransCanada told analysts on a 3Q 2013 earnings call that they expect initial shipping volumes on the CMP to be about 550 Mb/d or about 150 Mb/d less than nameplate capacity. There are three reasons that we identified why the pipeline will start out at less than full capacity. The first and most significant of those reasons is the lack of incremental crude supplies from US or Canadian production arriving by pipeline into Cushing that can feed the CMP. That's because existing pipeline routes out of Canada via Steel City, NB to Cushing (the original Keystone pipeline) or via Clearbrook, MN (the Enbridge Mainline) are already full. Additional capacity to move more Canadian barrels to Cushing is not expected online until the Enbridge Flanagan South pipeline is completed in mid 2014. That pipeline will open up 585 Mb/d of capacity from Chicago to Cushing. Until then, crude flowing into the CMP from Cushing will have to come from Cushing storage or displace existing supplies currently feeding Midwest refineries.

A big part of the supply challenge upstream from Cushing is that the delayed Keystone XL pipeline from Hardisty was supposed to feed crude into Cushing that would flow into the CMP all the way to the Gulf Coast. When the Keystone XL is built it will carry 830 Mb/d of crude from Canada and (via an “on ramp” in Montana) the Bakken. That pipeline is now delayed until at least 1Q 2016 if it receives a presidential permit. So in the circumstances it’s not surprising that producers who originally signed up to ship barrels on the complete Keystone XL pipeline may not be able to take up capacity on the Cushing leg only. Compelling evidence that CMP is undersubscribed came earlier in November when TransCanada launched an Open Season seeking additional shippers on the pipeline. That solicitation meant that there is still space available on the pipeline for long-term shippers. The challenge for those shippers will be securing supplies in Cushing. That’s reason number 2 why the CMP will not start out at full capacity.

And reason number 3 is that although nameplate capacity on the CMP is 700 Mb/d that supposes the pipeline is carrying light crude. If in fact the crude in the line is heavier with higher viscosity, capacity will be reduced. That is because the volume of crude that can be pushed through the pipeline is determined by pipeline diameter, pumping power and how easily the crude flows (viscosity). Assuming the 700 Mb/d potential was calculated on light crude that flows easily, the maximum volume of heavy crude will be lowered by as much as 15 percent according to some estimates we have read – which would equate to about 100 Mb/d – bringing available capacity down to 600 Mb/d.

Demand

Next we take a look at demand for crude arriving at Nederland on the CMP. Our assumption is that the majority of the crude being shipped initially will be Canadian diluent blend heavy crude such as the Hardisty benchmark Western Canadian Select (WCS). That crude is best processed by refineries with heavy crude coking capacity (see [Complex Refining 101](#)). In July (2013) we looked at the refinery crude supply demand balance for Texas Gulf Coast refineries – including the four Port Arthur/Beaumont refineries (1.5 MMB/d capacity) that can be fed direct from the CMP (see [Rock The Basin Part 4](#)). Back then we made estimates based on April 2013 Energy Information Administration (EIA) company level import data that these four refineries imported 0.8 MMB/d of crude between them and that 75 percent of that crude was medium and heavy. Looking at the latest data for September 2013, imports increased to almost 1.0 MMB/d with 79 percent being medium and heavy. The August heavy crude imports for the four refineries were about 415 Mb/d and medium imports about 350 Mb/d. The Total and Valero Port Arthur refineries imported mostly heavy crude from Mexico, Venezuela and Columbia. The ExxonMobil Beaumont refinery and Motiva Port Arthur refineries imported a mixture of medium and light crudes. From this data we can imply that other commitments aside, the four local refineries could consume at least 400 Mb/d of Canadian Heavy crude delivered via the CMP.

If CMP flows an initial 550 Mb/d then that leaves about 150 Mb/d of crude from the pipeline to be consumed outside the Port Arthur/Beaumont region. Aside from barge shipments to other refineries along the Gulf Coast, the only other outlet for CMP supplies is via the Shell Oil Houston to Houma (Ho-Ho) pipeline that is currently being reversed between Port Arthur and Houma, LA. We covered the latest developments on that reversal, due

online by the end of 2013 in [Part 1](#) of this series. Once online the Ho-Ho reversal will provide 375 Mb/d of capacity to ship crude to Louisiana refineries.

How Much Crude Will Really Flow?

To sum up, the CMP will only be delivering a maximum of 550 Mb/d of crude once it comes online and the actual number of barrels will depend on two factors. First the extent to which local refineries switch their heavy crude supply from existing vendors and second that the Ho-Ho reversal is up and running when CMP starts - providing a route for any excess barrels to get to Louisiana. The Ho-Ho reversal could certainly be online but the four local refineries will likely take time to change their diet to Canadian barrels and the capacity of Ho-Ho to handle the balance of MCP shipments is limited to 375 Mb/d. So the bottom line is that it will be difficult if not impossible for local refineries to absorb 550 Mb/d of CMP crude immediately. That means any crude shipped over and above refinery demand will just accumulate in Port Arthur/Beaumont storage. We therefore suggest that initial throughput on the MPC could actually be far less than 550 Mb/d.

So just as we saw with the start up of the expanded Seaway capacity in January of this year, the CMP looks likely to start slowly and build up volumes over time rather than to deliver 700 Mb/d on day one. Storage at Port Arthur is also likely to be in great demand from those shippers that have committed to CMP and do not have ready buyers at the Gulf Coast. Also look for crude inventory at Cushing to fall as the CMP fills up and for shippers to bid up prices in search of supplies to meet their pipeline commitments.

Next in this series we look at the impact of Phase 4 of the Seaway pipeline from Cushing (expected online at the end of 1Q 2014) on the crude supply balance at the Gulf Coast as well as the price impact of the new supplies on CMP and Seaway.

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