

New US cokers to process heavy/medium grades

US refiners are building coker capacity to process the increased supply of heavy crude from western Canada and medium grades from the deepwater US Gulf (APC, December 7, 2005, p5). The heaviest concentration of new capacity will be in the northern US, near the burgeoning supply of heavy crude produced from western Canada's oil sands projects. Refiners want to profit from large discounts of heavy-to-light crude prices, and they expect this differential to persist for many years. Canada's heavy crudes have seen particularly wide discounts to light sweet benchmark WTI because of the relative isolation of production sites from US demand centers, and the seasonal winter dip in regional asphalt demand. New pipeline connections will move the heavy crude to bigger markets in the US, and refiners are responding to the greater supply with new coking units to process the crude. Enbridge's completion of its 125,000 b/d Spearhead line to take heavy Canadian crude to Cushing, Oklahoma, in the second quarter of this year is an important first step (APC, February 8, 2006, p9). The Spearhead line has spurred plans by ConocoPhillips to build a 25,000 coker at its refinery in Borger, Texas, which will have access to the line (APC, December 7, 2004, p6). Work at the Borger coker should be completed in the second quarter of 2007. Marathon says new connections could lead it to build a new coker at its 192,000 b/d refinery at Robinson, Illinois--along with the previously announced cokers at Detroit, Michigan, and Catlettsburg, Kentucky (APC, December 5, 2005, p8). The refiner is conducting feasibility studies for a refinery expansion, including the construction of new coking capacity, sources say.

Refiners on the Gulf coast will add coking capacity to accommodate new offshore crude streams. US independent refiner Valero plans to finish a 25,000 b/d expansion of its 80,000 b/d Port Arthur, Texas, coking unit this summer (APC, August 8, 2005, p10). Valero, which completed the acquisition of Premcor last September, already produces 1.3mn mt/yr of 6.5pc sulphur coke, 37 HGI, coke at the 250,000 b/d Texas refinery. Port Arthur refineries are close to a landfall point for the new heavy sour Southern Green Canyon deep-water crude stream. Total plans to progress with a \$900mn coking project at its Port Arthur refinery this year, for completion by 2010. This will provide a potential outlet for Total's extra-heavy oil output from Venezuela and for future production from Canadian oil sands. Heavy crude production in Ecuador and Brazil is likely to promote coker construction. Brazil's state-controlled Petrobras is joint owner with Astra at Pasadena Refining's 100,000 b/d refinery at Pasadena, Texas. The last big addition of coking capacity was in the last 1990s when state-owned companies Pemex of Mexico, and PdV of Venezuela, backed projects at the US Gulf coast to create a secure market for their heavy crude.

New US cokers planning to use Canadian crude

Company	Location	Added capacity Mt/d	Online date
BP	Whiting, Indiana	1123	2009
Cenex (CHS)	Laurel, Montana	800	end 07
Coffeyville	Coffeyville, Kansas	959	2006
ConocoPhillips	Borger, Texas	1405	2Q07
ConocoPhillips	Ferndale, Washington	1370	2009
ConocoPhillips	Wood River, Illinois	4521	4Q2008
Frontier	Cheyenne, Wyoming	685	2Q2007
Marathon	Catlettsburg, Kentucky	2055	2009-10
Marathon	Detroit, Michigan	822	2010+
Marathon	Robinson, Illinois	Details unclear at this time	
Tesoro	Anacortes, Washington	753	1Q2008
United	Warren, Pennsylvania	822	1Q2008
Valero	Lima, Ohio	Proposed JV deal w/ EnCana dead; Valero may proceed w/ new coker	

15,315 Mt/day

6.5% sulfur