Taiwan Faces Looming Supply Chasm

Taiwan is looking to Australia to help fill its looming supply gap. After months of rumors and leaks from Taipei, Woodside finally confirmed on November 19 the signature of a key terms agreement with the country's monopoly importer China Petroleum Corp for up to 3 MMt/y from its Browse LNG development off northwest Australia. Browse is due onstream between 2012 and 2015. The agreement also facilitates discussions between CPC and Woodside regarding the purchase of additional output from the Australian company's other projects. Taiwan's demand-supply gap, which is now being filled by product secured on spot terms, threatens to become a chasm toward the end of this decade. Approximately 70% of CPC's long-term sales and purchase agreements expire between 2009 and 2017, and the importer now faces the twin challenge of renewing its base contracts and securing adequate sources of new supply to meet Taiwan's robust demand growth.

Demonstrating the extent of the growing shortfall, CPC tapped the spot market for around 31 cargoes totaling just over 1.9 MMt in the 12 month period ending this September. This equates to one-quarter of the nation's gas demand, and constitutes a significant supply risk for the firm. Dependence on spot product can be expensive as well, as CPC paid between $8 and $11/MMBtu for these extra cargoes. On average, this was about one dollar higher than the $9.08/MMBtu CPC shelled out for term volumes during the same period. It had to look far and wide for the incremental product, sourcing ten cargoes from producers in Egypt, seven from Qatar and six from Oman. Australia also contributed three cargoes while Algeria and Trinidad supplied two each and Nigeria one. Short-term supplies from Nigeria LNG are on the rise, however, following the signature of multi-cargo deals with both BG and Shell covering as many as 16 diversion shipments during the contract year that began October 1.

Taiwan: LNG Terminals & Gas Pipelines

Source: Poten & Partners

Meanwhile, term suppliers in Indonesia and Malaysia largely met their contractual obligations in the 12 month period to September. Indeed, imports from Malaysia were slightly above contracted volumes, suggesting that extra cargoes were delivered from the Bintulu complex operated by Malaysia LNG. Deliveries from Indonesia were on track as well, although initial soundings indicate CPC could get slightly less than planned next year. The Bontang venture in East Kalimantan is currently projecting a shortfall of 39 cargoes in 2008 and CPC may have to absorb six of these shipments (see **LNGWM,** Oct '07). Negotiations to set the Annual Delivery Program are ongoing, however, and this allocation could change.

Startup next year of a contract with Qatar's RasGas II venture will boost CPC's term portfolio. But it is unclear how much this will alleviate the company's spot acquisition program as the SPA does not ramp up to its plateau of 3 MMt/y until 2011. Over half of the volume, including 0.60 MMt in 2008, 1.13 MMt in 2009, 1.54 MMt in 2001 and 1.68 MMt/y from 2011, is slated for Taipower's new TaTan power plant in the northern part of the country. The first two of

TaTan's eight generating units were commissioned in 2006 and are running on diesel oil until the Qatari contract commences. By the end of the decade all eight generators will be onstream and the 4,200 MW power plant will be consuming between 2 MMt/y and 3 MMt/y depending on load factor, making it the largest gas consumer in the country. Assuming the current high oil price environment persists, TaTan should operate at fairly high capacity levels as gas-fired power generation will be more economical than oil based alternatives.

TaTan will get its supplies from a new import terminal at Taichung. Work on Taichung has been completed and a cool-down cargo was delivered from Rasgas in October. However, typhoons have hindered construction of the 36-inch Taichung-Tunghsiao-Tatan offshore pipeline connecting the terminal to the power plant. Work is now expected to be completed in the 3rd quarter of 2008 when regular deliveries into the terminal can begin. Two additional 160,000 cubic meter storage tanks will be added at the Taichung terminal before the end of 2009, boosting total storage capacity to 480,000 cubic meters. CPC also owns and operates Taiwan's only existing terminal in Yung An, which is due to receive an estimated 7.8 MMt this year.

It remains to be seen how CPC will procure the additional supplies needed to meet Taiwan's growing gas demand. Based on current trends, which are largely driven by the power sector, LNG consumption will exceed 10 MMt/y by the end of the decade. This will climb further to 13 MMt/y by 2015. While CPC has term contracts totaling 8.7 MMt/y with producers in Indonesia and Malaysia, almost three-quarters of this will expire between 2009 and 2017 (see table). This promises to push the gap between demand and supply to between 2.5 MMt and 3 MMt in 2010 rising as high as 6.5 MMt/y by 2015.

Taiwan: Long-term LNG Purchase Contracts

Export Country	Export Venture	Start Year	End Year	Volume MMt/y
Indonesia	Bontang	1990	2009	1.57
Indonesia	Bontang	1998	2017	1.84
Malaysia	MLNG Dua	1995	2014	2.25
Qatar	RasGas II	2008	2033	3.00

Source: Poten & Partners

Indonesia's Pertamina, who sells LNG to CPC under two separate contracts totaling 3.41 MMt/y, has made no secret of the fact that it is giving preference to its Japanese customers and won't renew a 1.57 MMt/y deal with the Taiwanese firm that expires in 2009. CPC may have more luck renewing a sale and purchase contract with Malaysia Dua for 2.25 MMt/y ending in 2014. Petronas has indicated a willingness to sign another SPA in exchange for concessions from the company on price (see **LNGWM,** Apr '07). But even if it manages to keep these volumes, CPC will have no choice but to turn to other suppliers. Indeed, the initial agreement with Woodside on Browse is likely to be only the first step in what could be a painful procurement process.