

Helium Markets Finding Equilibrium

By Phil Kornbluth

Roughly two years after the start of production from the Qatar 2 helium source turned a severe shortage to a veritable glut of supply almost overnight, helium markets may finally be showing signs of stability.

While helium demand remains very sluggish and “potential” supply continues to be significantly greater than demand, several factors have combined to help firm up helium markets. After falling precipitously in markets in close proximity to Qatar and by 20 percent or more in markets less directly impacted by Qatar supply, helium prices may also be finding a bottom for the current cycle.

If the excess capacity is still there and demand is sluggish, why are markets beginning to firm up?

Probably the most important factor is that the major global helium suppliers have developed new ways to temporarily take supply off the market. The great majority of the global helium supply chain consists of six liquid helium plants that are linked to the US Bureau of Land Management’s (BLM) Pipeline and Storage System and 10 other plants located elsewhere in the US and overseas. Of the 16 total plants, only the six plants tied to the BLM Pipeline and Storage System have the flexibility to turn down, or shut off, production to remove supply from the market. They are able to do this because the BLM System gives the helium refiners who own and operate these plants the ability to store crude helium within the Cliffside Field near Amarillo, Texas. The non-BLM plants do not have this turndown capability as liquid helium is produced as a byproduct of either natural gas or LNG production. Helium production from these plants is generally sold under inflexible “take-or-pay” contracts, which force the industrial gas companies who have contracted to purchase the helium to pay for it, even if they are unable to take delivery.



Helium is being re-injected into the BLM pipeline at Badger Midstream Energy’s Keyes, Oklahoma plant.

When a large new source like Qatar 2 enters the global market, the normal market reaction is to turn down/shut off as much existing production as possible along the BLM System. This removes supply from the market until the new capacity has been absorbed. In times past, this has usually been sufficient to absorb new supplies in an orderly manner. However, with Qatar 2 representing such a large increment to supply (1.3 – 1.4 BCF/year), and demand destruction of

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up to 10 percent of total world demand during the helium shortage that took place from 2011 – 2013, simply turning down (and shutting off in some cases) BLM production was not sufficient to rebalance global helium markets. With excess supply still sloshing around in the

markets, some of the suppliers with large new take-or-pay obligations at Qatar 2 (and pre-existing take-or-pay obligations elsewhere) found themselves rapidly building liquid helium inventory to the point where they had few, if any, helium ISO containers available to fill. In some instances, this created extreme pressure to sell product or risk missing take-or-pay obligations due to full storage. In fact, there were a number of instances where take-or-pay obligations were missed.

More recently, some suppliers have taken the creative and unprecedented step of transporting bulk liquid helium that they are obligated to purchase from their take-or-pay sources to the BLM Pipeline where they vaporize and compress the helium and inject it into the BLM System. Essentially, they are taking the ultra-pure liquid helium and turning it back into crude helium, which can be stored for future use. This “re-injection” activity has been taking place at the Badger Midstream Energy plant in Keyes, Oklahoma, and may be taking place elsewhere. While re-injection

is expensive, with costs to inject the helium into the BLM System and purify and liquefy it at a future time, the costs associated with re-injecting are far less than the cost of missing take-or-pay obligations. Moreover, re-injection allows the re-injectors to avoid having to recognize immediate financial losses. The ability to re-inject seems to have mitigated some of the urgency related to the risk of missing take-or-pay obligations and appears to be having a stabilizing effect on the market.

Re-injection is not the only factor in what appears to be a stabilizing market. Prices have already fallen quite a bit from their peaks during the shortage, and there are signs that some of the major suppliers may be starting to feel cost pressures. Recent bid pricing for supply at the sourcing level (i.e. what the major helium suppliers pay energy companies) has been at surprisingly high levels given the continuing oversupply, with prices rumored to be significantly above pre-existing market prices. It remains to be seen how these recent bids could impact the major suppliers' cost to secure

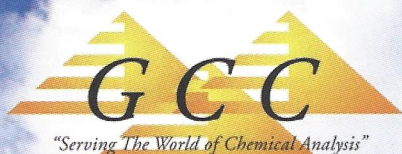
helium supplies, but there is a growing expectation that costs will increase as contract prices are renegotiated. To the extent that their costs increase and profits from the sale of helium are squeezed, it is reasonable to expect that helium suppliers will try to pass cost increases through to their customers. If nothing else, they will strenuously resist further price and margin erosion.

Finally, helium market participants are once again being reminded that helium supplies can be subject to periodic outages, and oversupply can turn to shortage rather quickly if production from large sources experiences extended outages. Qatar 2 experienced reduced production of approximately 20 percent due to plant maintenance in March. And the world's other very large source, ExxonMobil's facility in Shute Creek, Wyoming, is planning its first major maintenance outage in three years during the July – September period. This will include approximately three weeks of total shutdown, as well as an estimated nine weeks of production at 50 – 80 percent of normal levels. Besides taking

excess supply off the market and reducing inventory, periodic outages remind helium market participants that helium supply remains fickle.

In summary, while helium supplies remain plentiful, the major helium suppliers have learned to improvise to take supply off the market and reduce the pressure to place product or miss their take-or-pay obligations. Throw in the threats of a possible cost/profit squeeze and future plant outages and we finally have the makings of more stable market conditions. ■

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