

COMMENT

Rethinking water in the oilfield

A focus on technology is no longer enough – it's about water management, not water treatment, argues Amanda Brock.



Unlike the water industry which generally trickles along, the history of the oil industry is a tale of boom and bust cycles, and it is currently reeling from the impact of depressed prices. However, with oil now hovering close to \$50 a barrel, the industry is now desperately hoping that this is a sustained rally which could bring much-needed stability to American producers, who are looking to restart and expand operations.

In the pre-downturn environment of 2014, Cap Resources estimated that annual US onshore water management spending was \$51 billion. For 2016, the estimate is less than half of that – a mere \$23 billion.

The recently commissioned GE-Dow Neptune water treatment facility in Wyoming, deploying reverse osmosis and designed to treat up to a million gallons of produced water per day, and the \$275 million Veolia treatment complex being developed in the Marcellus to treat 60,000 barrels a day of flowback and produced water by 2017, are significant exceptions. In this cost environment, it is highly unlikely that similar plants will be developed in the near term unless regulations require greater treatment of produced water before discharge.

With better technology and efficiency gains, the volumes of water needed to hydraulically fracture wells has dramatically increased, while the perceived need for treatment has dramatically decreased. Halliburton, Schlumberger and other oilfield service companies have downsized or eliminated their water treatment departments, focusing instead on the chemistry of adapting fracturing fluids to deal with any quality of water. Small water treatment companies offering mobile units or some specific technology are barely hanging on as the industry focuses on cost, chemical solutions and water management, not water treatment. Many pure water treatment companies have folded, sold their assets, or rebranded themselves to sell comprehensive water management services with minimal treatment. And while many producers tout their recycling records, the reuse

of produced water in a new frac' usually requires minimal treatment with just basic filtration, evaporative ponds, settling tanks and chemicals.

The primary area of new investment and growth in the water sector in the oilfield now relates to infrastructure and pipelines. In the last year, well over \$1 billion has been allocated to management teams and companies such as WaterBridge Resources, Oilfield Water Logistics, H2O and Solaris Midstream, to develop water and produced water infrastructure and pipelines to replace trucking and optimise logistics, or to acquire and build out existing water infrastructure owned by producers who now wish to divest. Companies such as CH2M, Rockwater, and Select are also bidding on projects to help producers develop, build and operate water pipelines and infrastructure. There is also significant growth underway in delivering water sourcing, recycling and disposal services.

There are some regions where the need for water treatment is growing. Oklahoma injects roughly 3 million barrels a day of untreated produced water into salt water disposal wells. However, as a result of increased seismicity, injection well activity is now being restricted in over 10,000 square miles of the state. These injection curtailments are creating significant economic risks for producers who are actively searching for recycling technologies that lower the current costs of treating produced water.

In the downturn, the concept of water treatment in the onshore oil industry has become synonymous with excessive cost. If the industry can avoid treatment, it will – unless forced to treat produced water by increased regulatory requirements or unique issues impacting a specific field. As the market revives, the companies that benefit most will be the midstream water management companies who could also become the primary users of any water technology needed in the oilfield. Stand-alone water treatment and technology companies in the oilfield will be challenged and will need to diversify into adjacent markets. ■

AMERICAS IN BRIEF

- On 9th June, the California Public Utilities Commission authorised \$25.1 million of additional rate revenue for **San Jose Water** in 2016 as part of its final decision on the company's general rate case.

- Having recently floated on Nasdaq, regulated water utility **Global Water Resources, Inc.** continues to slim down its portfolio. The recently announced sale of Willow Valley Water Company to **EPCOR Water Arizona** for \$2.3 million follows the disposal of the Valencia system to the City of Buckeye, AZ, for \$55 million as part of a condemnation case last year.

- **American Water**, by contrast, continues to bolt on systems in key jurisdictions. Last month, it finalised the purchase of the City of Grafton's wastewater system in Illinois for \$600,000.

- The water security afforded by the Carlsbad desalination plant was one of the reasons cited by S&P Global Ratings for upgrading the **San Diego County Water Authority's** credit rating to AAA last month – its highest credit opinion.

- **CH2M** has been awarded a \$1.2 billion design-build contract to construct the City of Houston's Northeast Water Purification Plant Expansion project in Texas.

- Two **Honduran** municipalities have announced plans for water PPPs, as the country looks to tackle the effects of the 2015 drought, whilst reducing the high proportion of residents who receive an intermittent water supply. The municipalities of Lamani and Danlí are actively considering local PPPs (Alianzas Público-Privadas), the latter involving the construction of a water treatment plant to serve 70,000 people.

- **Energy Recovery Inc.** is facing a lawsuit from former employee David Barnes, who alleges wrongful termination and misrepresentation of the company's sales pipeline while he was in a senior sales role with the company. The shares dropped 13% on the news. ■