

Sulzer pumps increase recovery rates

Sulzer has delivered 15 of the largest pumps in its CP range to an operator in Iraq's Rumaila oil field. The pumps are part of a project to introduce enhanced oil recovery (EOR) technology at several of the customer's well sites. The ten-stage Super Duplex CP pumps will each deliver more than 500 cubic meters of water per hour at just under 200 bar to the well, increasing recovery rates significantly.



Class-leading efficiency and reliability

Following on from initial consultations between the customer and Sulzer oil and gas specialists, the company's CP pumps were selected for the EOR application. The volute design of the CP range offers improved energy-efficiency over alternative designs: the Sulzer pumps could deliver the required pressure and volume using a 4.6 MW motor running at 3'000 rpm. That would save between 300 and 500 kW of installed power at each pump, reducing the capital cost of the equipment and delivering significant operating cost savings over the lifetime of the installation.

The remote location of the Rumaila field also meant that reliability and straightforward maintenance were a priority. The CP pump offers good solids tolerance, reducing the risk of damage if sand is carried over into the feed water. In addition, the pump casings are axially split, allowing for easy access when maintenance is required. With a long-track record of work with Iraq's oil and gas industry, Sulzer has specialist local field service teams in the country to support its customers on-site.



Engineered to order

While the CP pump has a standardized and well-proven design, pumps of this size are engineered to meet the customer's precise operating specifications. For this project, that meant the Sulzer team had to complete an end-to-end design, source, build and test program in line with the customer's demanding delivery schedule.

As part of the engineering specification, the Sulzer sourcing team had to find a specialist NORSOK-qualified foundry that could produce parts using a particular grade of super duplex stainless steel. The high quality material was central to the design of the pumps and would provide long-term durability in the arduous application.

The fifteen pumps and their drive motors were all assembled on skids and string-tested at Sulzer's Leeds facility before onward shipment to Iraq. Once in the country, Sulzer field engineers helped the customer install the pumps into three purpose built pumping stations. All 15 were delivered on time in accordance with the customer's build schedule.

Following on from the success of the new water injection system, Sulzer is also working with the customer to supply retrofit fit technology for a number of legacy BB4 pumps across its Rumaila operations. The customer's existing pumps had a poor reliability track record, with corrosion and erosion leading to a mean time before failure (MTBF) of just 18 months. Sulzer's proven retrofit technology uses modern materials and an improved design to extend MTBF to six or seven years, further enhancing the oil company's operations.

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