CASE STUDY

Injection Pump Upgrade Maximizes Oil Production

A North Sea operator needed to increase water re-injection capacity to maintain field production rates. Sulzer engineers achieved this by completely replacing the cartridge of the original non Sulzer manufactured injection pump.

The upgraded pump on test

The challenge

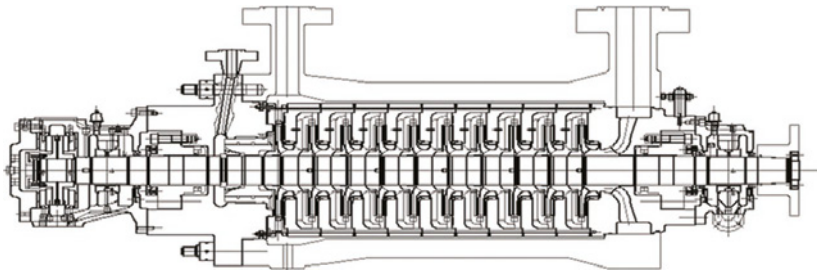
The existing injection pump could not deliver sufficient flow to maintain oil production due to power limitations on the platform. The need was for as large an increase in flow as possible within the power constraints of the driver and hydraulic limitations of the suction pipework. In addition the mechanical design of the pump was outdated by modern standards. Advances in surface coatings such as SUMEPUMP™ pump coatings provide excellent wear characteristics extending component life and reducing routine maintenance.

The solution

A completely new Sulzer pump cartridge was designed to fit the existing barrel maintaining the original footprint, connections and driver. The suction guide was specifically designed to optimize performance reducing the risk of cavitation at higher flow rates. More robust mechanical design and SUME coatings reduced wear and routine maintenance.

Customer benefit

Increasing re-injection rates means an increase in power consumption by the injection pumps. On platforms, finite power is available so retrofitting to efficient Sulzer designs is an effective way of increasing production at minimal cost. As increased flow rates can cause suction problems leading to cavitation damage, the pump inlet must be carefully designed lifting performance to match the new flow. This approach avoids costly modification to the suction pipework and associated systems. Sulzer technology allowed a 20% increase in platform production rates.



The new Sulzer cartridge in the existing barrel casing

The Sulzer difference

One of Sulzer's core business segments is the oil and gas industry. Our effective retrofit solution allowed the operator to increase re-injection flow improving platform production rates by 20% in a shorter time and at lower cost than installing new pumps.

Contact
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Applicable markets
PRN, oil and gas

Applicable products
Retrofit

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