Case study: Offshore Azerbaijan

REACH subsurface safety valve provided reliable solution to unplanned drilling challenges

During the drilling phase, a customer in offshore Azerbaijan encountered an issue that led to a deviation in the completion design from other wells in the area. This issue forced the customer to run smaller casing than originally planned. This change would force the customer to set the safety valve further uphole, an undesirable option because of debris-related concerns. The only other option was to change the valve design. The incumbent service provider was unable to deliver a validated valve that met the customer's specifications.

The customer contacted Baker Hughes for a solution. Baker Hughes suggested the **REACH™ subsurface safety valve**. This next-generation technology provides reliable, fail-safe performance in ultra deep-set applications, exceeds API 14A V1 requirements, and operates reliably in debris-laden environments without the need of a nitrogen charge.

A highlight of the REACH safety valve is the balance line capability which can provide interventionless force closure. The balance line feature can help save customers millions of dollars in avoiding future light intervention work, should the well develop flow assurance issues such as scale or asphaltene deposition over time. An optional integral chemical injection feature is also available to help performance in highly hostile environments. In less than three months, Baker Hughes completed a scaled design package, held detailed design and reliability meetings, completed additional slam testing in excess of API-14A requirements, and delivered two valves that met the customer's requirements. The REACH safety valve's slim OD allowed the valve to be set in the smaller casing and still have room for cable bypass.

Baker Hughes engineers arrived on site and trained the district personnel on the new technology not only to ensure the completion would run smoothly, but to avoid any avoidable health, safety and environmental (HSE) problems. The valve was installed downhole and inflow tested without any issues. The well-trained crew experienced zero HSE issues or nonproductive time during the operations.

The on-time delivery of the REACH subsurface safety valve prevented well completion delays, putting the customer's well plan back on schedule and avoiding $15MM USD in rig delay costs.

Challenges

- Install safety valve at original planned installation depth
- Mobilize operation to avoid costly rig delays

Results

- Installed REACH safety valve successfully in a critical deepwater well
- Experienced zero HSE issues
- Avoided $15MM USD in rig delay costs