



eRED[®] Valve Provides Efficiencies and Time Savings in Downhole Operations

VALVE OPERATES REMOTELY AFTER 23 MONTHS DOWN HOLE UNITED KINGDOM

CHALLENGE

- » Eliminate the need for deployment of dual-bore riser
- » Eliminate intervention runs required for annulus barrier
- » Reduce risk of waiting on weather

SOLUTION

- » eRED[®] valve, which could be installed on the annulus short string to act as an annular barrier, thus reducing the time associated with conventional plug and prong barriers requiring intervention runs
- » eRED valve could be preprogrammed to remotely operate downhole, using pressure and timers

RESULT

- » Eliminated need for a dual-bore riser and multiple intervention runs to set annular barrier
- » Reduced rig time by at least 22 hours per well
- » Mitigated exposure to operational and HSE risks

OVERVIEW

An operator in the UK sector of the North Sea was planning a subsea completion campaign and needed new methods for improving operational efficiency. In particular, the customer wanted to reduce the rig time associated with completion testing prior to blowout preventer (BOP) removal and christmas tree installation.

Halliburton proposed the use of the eRED[®] valve, which would be installed on the annulus short string to act as an annular barrier that would reduce the time associated with conventional plug and prong barriers that require intervention runs.

The remote functionality of the eRED valve allowed the client to function the valve a total of five times, which negated the need for multiple intervention runs to achieve the same result. The eRED valve also eliminated the need to run a dual-bore riser to install and test the annular barrier, as well as during the annular barrier recovery phase. Not only did the eRED valve provide rig-time savings, but it also reduced the exposure to operational and health, safety, and environmental (HSE) risks associated with intervention operations.



CHALLENGE

The operator’s previous method for hanger installation and completion testing involved the deployment of a dual-bore riser and multiple intervention runs to allow for plug installation on the annulus bore. This can be a time-consuming operation, especially as the North Sea is subject to adverse weather conditions that can result in waiting on the weather to complete the operation. Faced with these challenges, the operator was interested in using a different technology that would eliminate the need for dual-bore riser deployments and intervention runs.

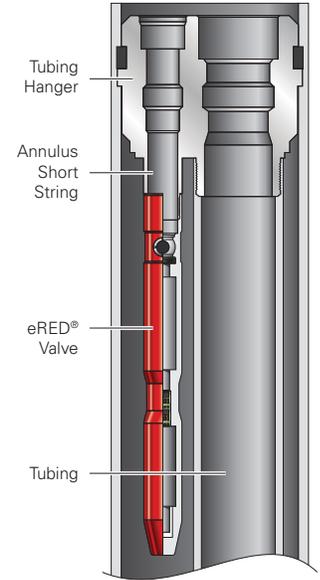
The eRED valve was remotely operated five times - saving at least 22 hours of rig time.



SOLUTION

To address these challenges, Halliburton proposed the use of the eRED valve as the annular barrier. The eRED valve was made up to the annulus short string on the hanger assembly onshore and tested. The assembly was then shipped offshore and installed in the well.

The eRED valve was deployed in the closed position to allow relevant tests to be conducted with the tubing hanger locked in the wellhead. The eRED valve was then opened, using a pressure command to allow the packer to be set. On completion of successful packer setting and inflow testing on the safety valve, the eRED valve was closed to allow the tubing hanger to be tested from below. The eRED valve was opened with a pressure command to bleed the pressure down from the annulus and reclosed after a short timer delay. The closed eRED valve was pressure tested to confirm the barrier prior to removing the BOP. The eRED valve was then opened with a pressure command – 23 months after closure – once the christmas tree had been installed.



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RESULT

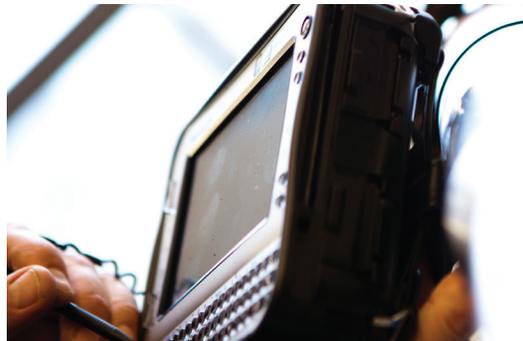
Significant milestones achieved on this job include:

- » The eRED valve was remotely opened after 690 days (23 months) down hole – a record for the product.
- » The eRED valve was remotely operated five times (open>close>open>close>open), which minimized the number of intervention runs required.
- » The eRED valve enabled the operator to save at least 22 hours of rig time per well.
- » The functionality of the eRED valve negated the need for a dual-bore riser during annular barrier installation and recovery phases.
- » The operational and HSE risks involved with rigging up/down, testing pressure control equipment (PCE), and running slickline were greatly reduced.

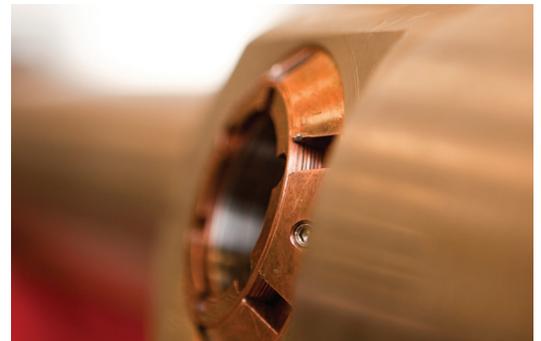


Did You Know

To date eRED valves have been functioned more than 1380 times - each time removing a wireline run from an operation.



eRED® Valves are pre-programmed via a USB interface prior to deployment.



Twin Flow Port the eRED valve uses two flow ports to control the flow through the well.

www.halliburton.com

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