CASE STUDY

HALLIBURTON

UK North Sea

Operator reduces vessel time and simplifies UK North Sea abandonment

Single-run wellhead severance facilitates efficient subsea removal and supports lower abandonment costs

CHALLENGE

- Reduce vessel time
- Simplify abandonment operations
- Minimize offshore personnel
- Deliver reliable wellhead severance
- Reduce operational risk

SOLUTION

- Deploy single-run severance system
- Cut multiple casing strings in one run
- Reduce equipment footprint
- Minimize personnel requirements
- Support efficient offshore execution

RESULT

- Reduced time per well
- Simplified campaign execution
- Facilitated lower-cost wellhead recovery
- Improved operational flexibility
- Achieved consistent severance results

Overview

An operator in the UK North Sea required a reliable approach to remove multiple subsea wellheads as part of a 10-well abandonment campaign. The operator sought to reduce vessel time, limit offshore personnel requirements, and achieve consistent, verifiable severance results in all wells.

High vessel costs and narrow weather windows increased pressure on the campaign schedule. The operator required a solution that could simplify execution, reduce operational risk, and support safety and environmental objectives.

To meet these goals, the operator selected a single-run wellhead severance approach. The solution delivered complete severance below the seabed in one deployment, reduced intervention time, and supported a more efficient abandonment campaign.

Challenge

The operator faced common challenges associated with offshore abandonment operations. Large-diameter casing strings required a dependable severance method that could deliver a clean cut below the seabed. The operator also sought to avoid the additional time, complexity, and cost that often accompany multiple cutting runs.

Vessel costs represented a significant portion of total abandonment expenditure. Every additional intervention increased campaign duration and reduced operational efficiency. The operator therefore required a solution that could achieve a definitive outcome in a single deployment.

The campaign also required a reduced offshore footprint. Fewer personnel, less equipment, and simpler logistics would help the operator meet safety goals and improve overall campaign efficiency.

CASE STUDY



Secured wellhed on seabed



Secured wellhead on vessel after recovery

Solution

Halliburton collaborated with the operator and diving support vessel (DSV) team to develop a severance strategy based on well conditions and abandonment objectives. The team reviewed detailed well data and selected a high-energy severance system sized to cut multiple casing strings in one operation below the seabed.

The design incorporated a 16-in. outer diameter wellhead charge that cut the 20-in. casing and 36-in. conductor in a single run. This approach eliminated multiple cutting operations and reduced intervention time.

The project team also developed a detailed execution plan that focused on efficiency and risk reduction. The compact system required minimal deck space and simplified offshore logistics. The operator used fewer personnel than conventional alternatives and reduced exposure to offshore operations.

The severance operation delivered a controlled result with no requirement for no residual material management. The approach also supported the operator's environmental objectives and streamlined overall execution.

Result

The operator completed wellhead severance in a single run and reduced vessel time throughout the abandonment campaign. The approach delivered clear and verifiable severance results and eliminated the additional time associated with multiple cutting runs.

The operator also gained greater flexibility through the ability to wet park severed wellheads on the seabed. This option allowed recovery operations later with lower-cost vessels while the primary vessel moved to other work. As a result, the operator improved campaign efficiency and reduced overall abandonment cost.

The simplified execution strategy reduced personnel requirements, minimized equipment demands, and lowered operational complexity. These improvements increased safety and supported efficient offshore operations.

The campaign demonstrated a repeatable approach for subsea wellhead removal in abandonment projects. Through single-run severance, the operator reduced vessel exposure, improved operational flexibility, simplified logistics, and achieved consistent results across multiple wells.

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