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WWT NRPs reduce torque by 36% to help drill 3 laterals on record-breaking well in the North Sea

Overcoming high torque is crucial when drilling an offshore ERD well. Even more so when it is a record-breaking tri-lateral.

Client challenge

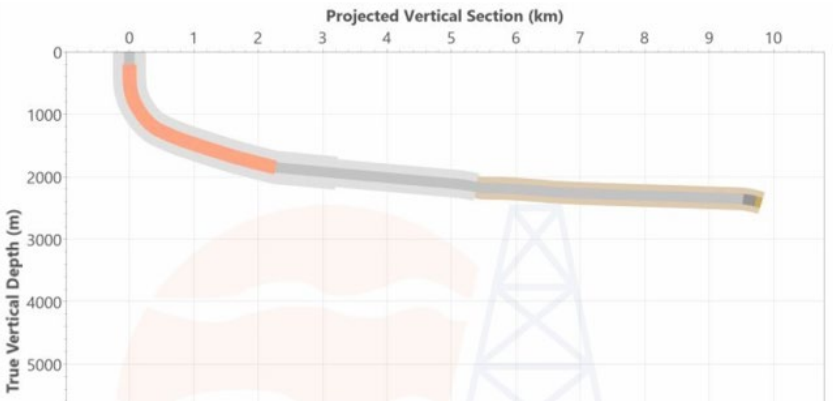
A repeat customer pushing their ERD drilling envelope in the North Sea planned a tri-lateral with a TD approaching 11km MD on the longest one. High torque exceeding DP limits was expected and WWT Non-Rotating Protectors (NRPs) have been a reliable solution and contributor to the success of their previous wells.

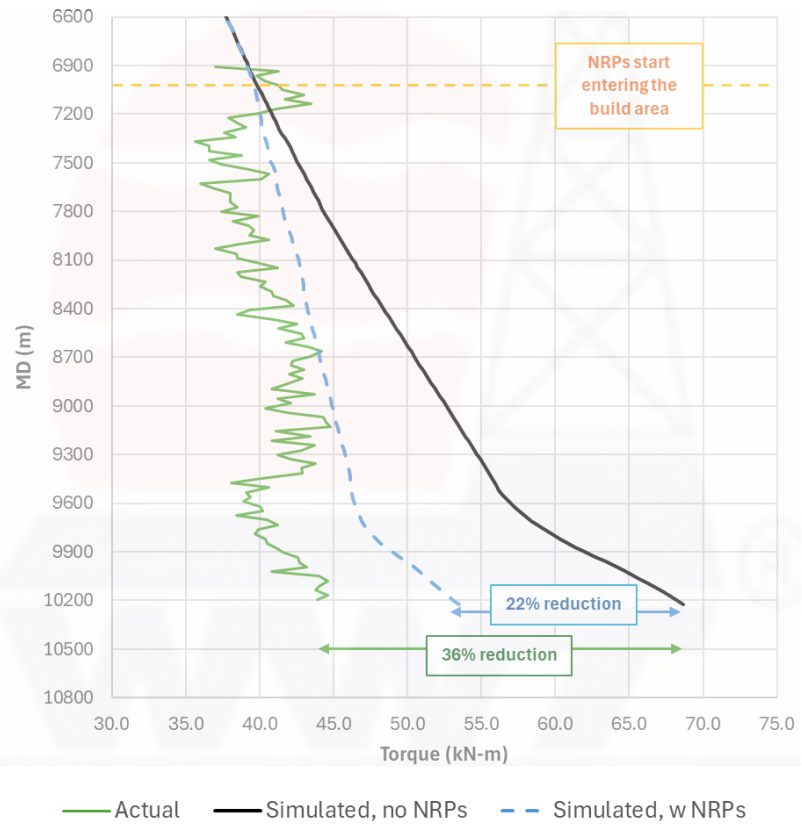
Our solution

By using SS3 NRPs to cover high side forces in the build area, simulations showed that torque can be reduced to stay well within the drill pipe limits. The reduced energy input from surface also allowed for smoother drilling dynamics and enhanced performance.

Results

Three laterals were drilled to 10,194m, 10,895m, and 10,010m MD. Simulations expected torque to approach 70kNm making it impossible to reach these depths without NRPs. However, actual torque with NRPs averaged around 40-45kNm even at 10,895m MD. Backmodels show that NRPs contributed to a torque reduction of 36%, 31%, and 17% respectively, allowing the successful delivery of the well.





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