QATAR: IMPLEMENTATION OF Z-TORQUE ON NF-12 IN QATAR

Z torque has been successfully installed on GDI-8 to suppress stick slip by maximizing the top drives ability to catch the torque waves travelling through the drill string from the bit. This is a different approach compared to SoftTorque which treats the complete drill string as a mass-spring-dampener. Z-Torque increases the mobility of the top drive and counteract torque variations with velocity swings, absorbing the torque waves at the saver sub and preventing them from bouncing back to the bit. This levels the speed and reduces or eliminates stick slip.

GDI-8 is the first drill rig where ElectroProject has implemented Z torque according to Shell's patent in the top drive VFD. A fast bus is installed to allow communicating quickly enough to analyze and counteract with speed correction from controller. The theoretically mobility of the Z-torque without time delays is very good, and thus the requirement for the fast bus. The Z-torque systems widens the window for stick-slip free drilling and is more user friendly as it does not need constant re-tuning against actual drillstring length. Simply turn it on!

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