

The Battle to Reduce Drilling NPT: Technology, Processes & People

Operators recognise that the situation of the drilling non productive time (NPT) is running at unacceptably high levels. Thirty percent drilling NPT is not an uncommon figure. The inability to deliver all the wells planned each year is becoming business critical – reaching a 45% failure rate in a bad year. The number of metres drilled per day rig is falling dangerously and continuously. These problems contribute to escalating costs and potentially missed production targets. How can this trend of deteriorating drilling performance be counteracted?

Whilst there are many contributors to overall NPT - from equipment failure to poor logistics - a major factor in drilling NPT has long been identified as formation instability in one form or another, especially in shale. It has therefore been obvious that ensuring formation stability would greatly reduce NPT, and for decades the industry has dedicated hundreds of man years to the subject in terms of R&D, product development, etcetera. Even though these efforts have contributed significantly to our ability to drill more and more difficult wells, the brutal economical reality remains that they have failed to resolve the NPT issue. We must therefore ask ourselves why is this? Is it because our scientific understanding of root causes is still insufficient? Do we lack the proper equipment and technology? Is it because of a lack of awareness and adequate education of the end users concerning a very complex subject? Is it organisational – for example, inability to create and maintain learning curves? Or is it something else? The industry has many examples, from stuck pipe to drilling vibrations, where a focus on the problem brought major improvements that were then quickly lost once the focus had gone. How can we retain the gains we make?

These questions and more can be applied to all aspects of drilling and well construction. While not restricting ourselves to wellbore instability, we will use that as an important NPT driver to highlight issues and potential solutions, recognizing that such insight can be applied more broadly.

In a world in which wells are getting more and more challenging, people and budgets are under pressure, rigs are in short supply, technology is not being used appropriately, we have as an industry forgotten many hard and costly lessons learnt. We need to be able to identify, quantify and manage risks and uncertainties to reduce NPT to more acceptable levels. Can we do better through automation, hardware development, improved procedures, better informed decision making, different organisational models, training and development, or what? The battle to reduce drilling NPT is on!

Forum outline

The Forum will start by reviewing recent industry NPT to set the context to the problems we face. Our objective is to identify and quantify the critical issues, and to try to answer the most difficult of them. This will be done through a series of technical sessions, lead by recognised specialists within the chosen themes. Their remit is clear: what can we do to reduce the downtime during well construction and improve global drilling NPT?

Who should attend?

Drilling Engineers, Drilling Managers, Wellbore Stability Experts, Geomechanics Engineers, Fluids Engineers, Well Construction Engineers, Well Planning Geoscientists, Operations Geologists and Knowledge Management Specialists