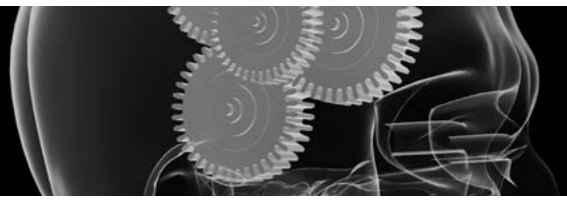

CASE STUDY 10 - When sleep comes nothing can stop it…

What happened?

A drilling company was to drill its first High Pressure High Temperature (HPHT) well. A significant amount of new equipment had been fitted to the drill rig for HPHT service. The company found it hard to recruit tool pushers with HPHT experience in the UK as not much HPHT drilling had been done before in the North Sea. They were able to recruit one tool pusher experienced in HPHT equipment from the US and one from the UK with experience of the standard rig and UK procedures but without HPHT experience. The plan was for the one with HPHT experience to work as day tool pusher and the one without to work as night tool pusher.

Once drilling started it soon became clear that the only way they could work the equipment was for both to be on duty with one maintaining the drill operations while the other concentrated on the HPHT equipment. They came up with a plan that they would both work 20 hour shifts and take alternate 4 hour breaks. They managed this for three days before one fell asleep at a critical stage and they lost control of the well.

What human factors were involved?

What did people do intentionally?

The tool pushers worked longer shifts believing they could remain alert and in control of the situation
The tool pushers thought that the work was so hazardous and demanded so much concentration that it was bound to keep them awake. They underestimated the impact on their mental and physical capabilities. Relying on each other to stay awake was doomed to failure.

The tool pushers decided to continue with the work pattern even though they recognised they were getting very tired and may fall asleep.

What did people do without meaning to?

One of the tool pushers fell asleep
Nobody has conscious control over the point when they fall asleep.

Barriers

- Risk Assessment
- Staffing Levels & Workload

- Fatigue
- Leadership

What can we learn from this incident?

- People aren't superhuman. Organisations and individuals need to understand how mental and physical limitations can impact on safe activities. Manning levels must be properly assessed to ensure safe operations. New equipment and processes may require a temporary over-manning and increased levels of supervision.
- We know that it is possible to fall asleep while driving, even though the consequences are severe. Often we push on despite the warning signs. Once the body decides to sleep we have very little conscious control. Falling asleep is not the only consequence of fatigue. Fatigue also reduces a person's mental capabilities and makes them more prone to making mistakes and poor decisions.
- If you are doing a safety critical job or task and are at risk of falling asleep – stop, get some help and get some rest.
- There is a lot of good advice on how much rest to get, how to improve the quality of sleep and how to assess working patterns for fatigue risk.