Overview

A North Sea operator was deploying a jack-up drilling unit to drill a number of new wells in the UKCS.

Due to the challenging combination of the 91m water depth and harsh environment the client was concerned about the fatigue loading that the riser and wellhead would experience during the campaign.

An online monitoring system, the first of its kind to be installed on a jack-up, was requested to ensure the integrity of the riser and conductor during the nine month drilling and completion campaign.

Benefits

- The system provided accurate real time data to the drilling team on the motion and forces being experienced by the drilling system (wave height, riser tension, tensioner stroke, riser fatigue damage)
- The drilling team was able to understand the effect of drilling on equipment fatigue life and make informed decisions on how to remain within the optimum operating window, allowing safe all-year operations
- ‘Back to base’ link gave onshore engineering team real-time access drilling data for integrity management

www.pulse-monitoring.com
System at a glance

- DrillASSURE software to interpret gathered data
- 3 INTEGRIpod HM sensors for monitoring jack-up, Texas deck and upper riser motion
- 1 INTEGRIstick and associated logger for monitoring upper riser strain
- 4 pressure transducers to monitor tension in tensioner hydraulic system
- Wave radar for wave height and frequency
- ADCP for water current monitoring

Environmental Sensors
- Wave radar
- ADCP

Topside
- 3 INTEGRIpods for measuring motion of rig, Texas deck, upper riser
- Pressure transducers measuring tension in tensioner hydraulic system

Subsea
INTEGRIpods on:
- lower flex joint
- guide base
- BOP

DrillASSURE software
Collects and interprets data to present real-time data on riser tension, tensioner stroke, wave height and riser fatigue damage

www.pulse-monitoring.com