

## CASE STUDY

# ABS MPD<sup>®</sup> SYSTEM CLASSIFICATION SERVICES ENABLE SAFER DEEPWATER DRILLING

### MPD SYSTEM CLASSIFICATION

Over the past decade, managed pressure drilling (MPD) techniques have gained wider acceptance for deepwater applications. The extension of MPD to deepwater applications has left many operators with questions about reliability, barriers, riser gas management (RGM) and general pressure protection issues.

### THE ABS MPD<sup>®</sup> SOLUTION - FOCUS ON THE RIGHT QUESTIONS

As a leading class society, ABS developed the *ABS Guide for Classification and Certification of Managed Pressure Drilling Systems* (ABS MPD Guide) that includes the latest safety standards applicable to MPD systems. The guide's framework for standardization of the equipment, distinctive rig-up challenges, and operation of MPD packages for floating drilling rigs arose from extensive offshore integration experience, research and consultation with MPD equipment providers and regulatory agencies.

The ABS MPD Guide addresses several significant challenges such as mechanical integrity, reliability and safety aspects. The ABS MPD Guide also addresses the temporary and permanent conversion of rigs from conventional drilling equipment to pressure control systems suitable for MPD.

### SEADRILL WEST CAPRICORN - THE HEART OF SUCCESS

Seadrill turned to ABS for ABS MPD<sup>®</sup> classification for *West Capricorn*, a 6th generation ultra-deep water semi-submersible. Seadrill's *West Capricorn* features an advanced MPD control system that includes a series of tools and technologies to improve safety and operational capability. Pressure control valves protect the wellbore from unintended high





pressure that can lead to fracturing, and a combined integrated choke/valve control system allows easier control, access and visualization for those present onboard and remotely. The system has redundancy in the form of PRV's, PCV's and electrical chokes. The mass flow meters on each mud-pump and on flow-out measures both density and volume of flow in and flow out. The system can handle both high and low flow rates with use of 6" and 3" electric chokes. ABS conducted an assessment of the equipment and processes using the *ABS Guide for Classification and Certification of Managed Pressure Drilling Systems*.

The classification process involved a joint effort by the MPD equipment provider, drilling contractor and ABS to apply risk assessment methodologies to identify and manage hazards. Once the risks were identified, the equipment provider mitigated risk to an acceptable level where the primary barrier control for the well is at least as effective as, or better than conventional well drilling practices. ABS then provided the analysis and inspection services for verification of compliance with ABS MPD<sup>®</sup> criteria, to support assessment of safer drilling operations.

### THE ABS VALUE - PROVIDE INSIGHT FOR IMPROVING SAFETY

Class notations and certification for MPD drilling systems provides offshore operators and regulators an increased level of confidence that the systems comply with the standards and criteria set forth in the ABS MPD Guide.

Seadrill's *West Capricorn* is the first Column Stabilized Drilling Unit to receive the ABS MPD<sup>®</sup> notation complete with the Maltese Cross, which denotes ABS survey attendance for inspection and verification throughout the process from vendor fabrication to on-board installation.

### THE ABS VALUE - A TRUSTED ADVISOR

Currently, Seadrill is in the process of attaining ABS MPD<sup>®</sup> notation on two additional drillships. ABS acts as a

trusted advisor jointly with Seadrill and the MPD provider to further explore how new safety standards can be adopted by industry stakeholders to improve overall system safety.



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