

MMS is preparing proposed rules for subsea BOPs

THE US MINERALS Management Service (MMS) is preparing a Notice of Proposed Rulemaking (NPR) regarding effective use of BOP systems. The NPR is designed to prevent the accidental or unplanned disconnect of subsea BOP systems, and aid in securing the well in a timely manner in the event of a riser disconnect.

A new issue is well control via diverters. The proposed rulemaking stems from four events that occurred between 2000 and 2003, a four-year span, according to **Don Howard**, Regional Supervisor, Field Operations for the MMS.

The first event was an accidental lower marine riser package (LMRP) disconnect, Mr Howard said. The LMRP button was pushed rather than for the blind shear ram. Since it was not part of a primary system but rather part of the secondary system, the blind shear did not close and drilling mud was released from the riser. There was no loss of well control because it was a cased hole.

In the second event, a lock-out device on the LMRP disconnect button was being installed when the riser disconnect button was inadvertently pushed, according to Mr Howard. In this case the BOP didn't close due to an abnormal emergency disconnect sequence.

The crew was running the liner and kept the riser on the stack, making it easier to reconnect. There were no other methods to remotely operate any of the BOP stack functions.

In 2003, the industry experienced a riser failure, the MMS supervisor said. In this particular event, the system separated at approximately 3,000 ft in 6,000 ft of water. The drilling riser parted and BOP communications were temporarily lost. The Deadman system automatically activated the blind shears and secured the well. Communication was reestablished and the driller was able to see that the well was secured.

The fourth event involved a drift off while a rig was drilling in dynamically positioned mode, he explained.

PROPOSED RULE

Under the Subsea BOP draft NPR, MMS is considering intervention and control

methods, according to Mr Howard said.

"Each subsea BOP must have ROV intervention capability and the ROV must be capable of closing one set of blind shear rams and one set of sealing rams," Mr Howard explained.

Secondary BOP control options should be capable of closing a shear ram to seal the well with a deadman autoshear, ROV or acoustical system, he said.

The NPR addresses choke and kill lines, boost lines, and sealing testing requirements and riser inspection types and frequencies. The NPR also would require the operating mechanics or mechanical barrier on panels to be designed with two-handed operation of the LMRP disconnect system, and they must be clearly labeled.

Additionally, the NPR seeks to require written operating procedures for the BOP and LMRP, and knowing the minimum knowledge requirements for personnel authorized to operate and maintain critical BOP components.

"Some of the things we had to deal with in coming up with the proposed rule included ROV launch constraints," Mr Howard said, "that may have a bearing when an ROV can be used."

NPR ISSUES

Loop current incidents could change the way the MMS looks at ROV intervention, Mr Howard said. The MMS received requests to examine the riser system in relation to loop currents that could delay an ROV inspection by a matter of days in some cases, reasoning that if an ROV can't be launched, the BOP stack could not be closed.

The MMS is also looking at the ROV/ram closure times. The agency previously believed that this procedure would take only a short time but now is being told that it could be a 10-15 minute operation.

The reliability of acoustical systems is being examined and whether they are as reliable as they need to be in order to guarantee a shut in. Riser/BOP inspection frequency and bolt/insert inspection types and frequency are also being determined.

The MMS is also looking at the amount of time that a riser system including BOPs are left on bottom without inspection at the surface.

"When you drill a well for three months, and move over (to another well) dragging the BOP over to a new wellhead, you may not be taking a physical look at the BOP stack for six months," Mr Howard said.

Choke and kill lines and booster seal inspection and replacement are other issues the MMS is examining amid some incidents that these lines have leaked.

"How do you catch that if you can't get an ROV down?" asks Mr Howard.

LOOP CURRENTS

The industry has had three riser/choke incidents, according to Mr Howard, three drift offs, and problems with riser clashing and fatigue issues as a result of loop currents in deep water.

They impact the industry in the design, operation and scheduling changes of drilling and production equipment and require additional inspections of risers and platforms. The effects of loop currents can delay first production and result in additional capital expenditures and operating costs.

The MMS is considering issuing a Notice to Lessees (NTL) that would require ocean current monitoring with Acoustic Doppler Current Profiling (ADCP).

"It is very expensive so cost is an issue, the number needed is an issue, the maintenance of the system is an issue," Mr Howard noted, "but we are looking at this longer term and how it is affecting the riser and the design of risers, permanent structures and mooring system designs."

The MMS is also examining whether such a monitoring system would be Gulf-wide for all MODUS or limited only to areas where loop and eddy currents affect drilling and production operations.

The information would be submitted to the MMS and then distributed to the industry. ■