

March 15, 2016

Office of Management and Budget
Office of Information and Regulatory Affairs
NEOB, Room 10202
725 17th Street, NW
Washington, DC 20503

Email to: stuart_levenbach@omb.eop.gov

Re: Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control [Docket No. BSEE-2015-0002; RIN 1014-AA11]

To Whom It May Concern:

Murphy Exploration and Production Company appreciated the opportunity to meet with you on 7 March 2016 to present our concerns regarding the Bureau of Safety and Environmental Enforcement's pending rule on Blowout Preventer Systems and Well Control. As a follow-up to our conversation, please accept the items of clarification below.

Drilling Margins:

- API Bulletin 92L does not prescribe a rigid drilling margin. The intent of the Bulletin is to give guidelines and recommendations when drilling margins are reduced due to low fracture gradients. These guidelines provide a pragmatic approach to safely drilling a well without a prescriptive limit. API 92L does suggest guidelines of 2% of fracture gradient during normal operations but has guidelines on how to safely proceed even with some losses under these conditions.
- A requirement to stop and set casing if a lost returns zone is encountered on bottom would not result in the intended positive effect. If the zone is on bottom, prior to running casing, the zone must be completely opened up with sufficient competent rock below to allow isolation of the zone with casing and cement.
- There is no indication in BSEE data that lost returns caused a blowout. (This published BSEE data is 48 events over more than 13,596 new or re-entered wells from 2006 to 2014.)

BOP Equipment:

- The OOC (Offshore Operators' Committee) estimated cost of the "all at once inspection" is \$11,025,000,000 over 10 years vs. the BSEE estimate of \$ 43,000,000.
- The OOC estimate for modifications to surface accumulator systems is \$60,000,000 over 10 years vs. the BSEE estimate of \$2,250,000. This OOC estimate is only for capital cost and installation. It does not account for inevitable downtime during procurement and installation or for future maintenance, nor does this cost estimate account for the fact that many rigs will not have room for these additional accumulator bottles and will most likely require modifications to the vessel. This would, in effect, result in a drilling moratorium during modifications and procurement.

- Remaining OOC estimated costs are \$1,761,267,698 vs. BSEE estimate of \$54,166,667. These remaining costs include, but are not limited to, multiple ROV functions added to the subsea BOP, multiple accumulator bottles added to the subsea BOP, and additional testing.
- Dual shear rams provide little benefit on surface BOPs on floating facilities. These facilities' mooring systems are typically designed for a 100-year storm vs. a dynamically positioned drillship where loss of station is a higher risk. The concern is misplaced in that the BOP is on the surface with a high pressure riser from the seabed to the surface. Additionally, with the BOP at the surface, there is much less concern with having an unshearable component across the shear rams since space out to ensure shearable pipe is located properly is completely straight forward. A primary concern is existing facilities will not be able accommodate the increased space and weight requirements and will not be able to install a rig to drill future infill wells. As discussed, replacing an existing pipe ram with a shear ram is considered a much higher risk, in that a pipe ram offers substantially more utility than a second shear ram in most well control situations.

Real Time Monitoring

- There are designated personnel onshore providing real time monitoring as appropriate. However, this is not on a 24/7 basis. Depending upon well operations and the responsible parties for that operation, (drilling team leader, drilling engineer, geologist, geophysicists) RTM will be conducted at certain times in the well, such as to determine an appropriate casing point depth. The expertise of shore based personnel is valuable in these situations. Day to day safety critical monitoring is left to onsite personnel who are much better placed to carry out these duties.
- As discussed, all data is captured 24/7 for analysis as required.

Cementing

- Lift pressure analysis is proven to be a good measure for cement evaluation, particularly for drilling liners and intermediate strings where the purpose is primarily to hydraulically isolate the well bore above the casing shoe. The most accurate evaluation in these situations is after drilling out the casing shoe, pressure is applied directly to the formation and cement column to calculate the effectiveness of the cement. ("Leak Off Test.")
- Cement Bond Logs are not definitive and on floating rigs pressure cannot be applied to the casing to determine if a micro annulus exists. As a result, the cement bond log may provide an inaccurate evaluation.
- In addition to accuracy concerns, running these logs would require at a minimum one additional day rig time at a cost of over \$1,000,000/day plus the cost of the log

Thank you for the opportunity to further clarify several items of concern with this substantial and very technical pending federal rule. Significant changes will be necessary to make this a safe workable rule that allows for continued offshore operations. As a result, public comment and additional dialogue should be allowed before publication of the final rule.

Sincerely,



Dale Bradford
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Murphy Exploration and Production Company

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