

BSEE Regulations and Standards Branch
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Reference: **RIN 1014-AA52**, "Oil and Gas and Sulfur Operations in the Outer Continental Shelf-Blowout Preventer Systems and Well Control Revisions"

General Comments: BSEE's proposed revisions to the Well Control Rule (WCR) provide an excellent opportunity for continued dialogue on issues that are fundamental to safety achievement and pollution prevention. In light of the critical importance of maintaining well control, a limited WCR update every one to two years is recommended to facilitate ongoing public comment. Additionally, periodic BSEE workshops are recommended to review well control incidents, precursor events, failure information, and related data. This will help ensure the rigorous performance analyses necessary for continuous safety improvement and compliance with the BAST provision of OCSLA.

Comments on the proposed WCR revisions:

A. Proposed revision to BOP system performance standard at § 30 CFR 250.730(a):

BSEE's proposed language: Your BOP system must be capable of closing and sealing the wellbore at all times to the well's maximum kick tolerance design limits.

Recommended language: Your BOP system must be conservatively designed for the operations to be conducted, and must be capable of closing and sealing the wellbore at all times.

Discussion:

1. BSEE is proposing a well-specific performance standard for BOP equipment that is not well-specific. Consistent with the title and content of 250.730, the performance standard should be for the BOP system, not a specific well operation or a single well plan.
2. The BOP system should be conservatively designed for the range of operations that the rig will perform (e.g. deepwater GoM exploratory drilling). More specifically, BOP equipment should be able to control any potential influx of hydrocarbons into the well. Wellbore integrity is, of course, critical to well control and drilling safety, but should not be a limiting factor in determining the adequacy of the BOP system.

3. Wellbore integrity limits will influence well control and BOP actuation decisions and may limit the maximum pressure to which the BOP equipment could be exposed. However, well design projections are often imprecise, particularly for exploratory wells.
4. The proposed performance standard could facilitate the use of a marginal BOP system to drill a deepwater exploratory well in the GoM. That should never be acceptable regardless of well design parameters. The BOP system should be sufficiently robust to account for well planning uncertainties.
5. The proposed regulation inadvertently incentivizes sub-optimal well design as necessary to justify a specific rig.
6. Preamble statement: *"A BOP functions as a mitigation device, designed to backstop other prevention mechanisms to keep a well from progressing to a full blowout; **its purpose is not to halt a full blowout once it has commenced.**"* This statement echoes some rather convenient assertions in the wake of (but never before) the Macondo blowout. What is a "full blowout" as opposed to a loss of well control or partial blowout?
7. The evidence (and final outcome) suggests that the integrity of the Macondo well was sufficient for a properly designed and maintained BOP stack with 2 full bore shear rams to have shut-in the well after it began flowing (i.e. to halt a full blowout).
8. Macondo well integrity would also have been sufficient to kill the well in May 2010 if BP's top kill program had been more aggressive. Per Dr. Tyagi's important paper for the National Commission (see reference below): *"It is very likely that if the top kill had been designed to deliver more than 109 bpm of 16.4 ppg drilling fluid below the BOP stack for a sustained period, the Macondo blowout could have been stopped between May 26-28, 2010. Given that the well was successfully shut-in with the capping stack in July, and that the subsequent bullhead (static) kill was successful, certainly a higher rate top kill would have been successful at that time."*
9. The point is that well circumstances may be uncertain, and the BOP system should be sufficiently robust to halt flow whenever necessary.
10. The subject performance standard correctly requires the capability for "sealing the wellbore at all times." In that regard, the BSEE regulations at **§ 250.734** are deficient in that they only require that one shear ram be capable of sealing the wellbore. Absent two sealing shear rams, critical BOP emergency systems, including the Emergency Disconnect Sequence (EDS), Automatic Mode ("deadman"), and Autoshear functions, lack full redundancy. Dual sealing shear rams have been BAST for more than a decade, and the regulations should be revised accordingly.

B. Proposed revision to remove the option to send failure reports and data to a designated third party (i.e. the Bureau of Transportation Statistics).

Discussion:

1. I support this proposed revision as a means of increasing efficiency and reducing costs.
2. BSEE correctly contends that *"if BSEE does not become aware of certain failure reports and trend data until it receives an annual report from BTS, it limits BSEE's ability to address failures and trends in a timely and meaningful manner."*
3. These failure data are important beyond BSEE. BSEE has an obligation to summarize and post or otherwise present these and other safety and performance data in a timely manner.
4. Per point 3, **BSEE's incident tables and accompanying information are unacceptably out of date, and serious accidents, including fatalities, are not publicly announced in a timely manner.** As of 11/9/2022, the incident data tables for 2021 have still not been posted.
5. The data confidentiality issue requires further clarification. As noted in the preamble, data submitted to BTS were protected under CIPSEA, and this protection will be lost if BTS is no longer the data recipient.
6. While confidentiality is required for certain privacy, geologic, and financial data, access to most safety data should not be restricted. Some companies have prioritized "safe reporting" (a euphemism for reporting as little as possible?) to the detriment of safety achievement.
7. Continuous safety improvement is dependent on continuous improvement in data gathering and analysis.

C. Proposed revision to § 250.732 to require that BOPE I3P's be accredited by an SDO.

Discussion:

1. The value added by I3Ps and SDO accreditation has not been demonstrated. My experience as a regulator and consultant has been that the performance of I3Ps and accreditors is uneven.
2. The use of I3Ps is no panacea, and may blur accountability and create gaps in analyses and oversight.
3. Accreditation by organizations best known for industry advocacy does not build public confidence.
4. The NASEM SEMS study referenced below concluded that ***"A properly conducted, truly independent internal audit is potentially more effective than an independent third-party audit, as it reinforces***

ownership of the safety culture." This may also be the case for equipment certification, platform verification, and well plan reviews.

5. SEMS and the BSEE regulations establish the principle of operator responsibility, which has been a fundamental tenet of the OCS regulatory program since its inception. BSEE's extensive third party requirements contradict that fundamental principle.
6. Operators should have the freedom to determine the best means of verifying compliance and best practices, and ensuring that their contractors do the same. Through BSEE's inspection, investigation, and SEMS audit programs, operators should be held strictly accountable for their performance in that regard.
7. **BSEE should conduct a study**, perhaps by the NASEM Marine Board or a similar independent entity, of the benefits and limitations of third party reviews and accreditation programs.

D. Proposed revision to § 250.733 to require installation of dual shear rams on surface BOP stacks on floating platforms when the stack is replaced.

Discussion:

1. This makes sense, but consideration should be given to the extent to which this revision might create a disincentive for replacing old BOP stacks.
2. Dual shear rams may also be appropriate for some bottom-founded platforms depending on well and reservoir considerations. Perhaps 250.733 should be revised to provide for risk assessments where BSEE believes dual shear rams at surface facilities may be appropriate.

E. Proposed revision to § 250.734(a)(4) to require ROV intervention capability to both open and close each shear ram, ram locks, and one pipe ram.

Discussion: I concur with this proposal.

F. Proposed revision to paragraphs (d)(2)(ii) and (d)(3)(iii) of § 250.737 by adding the requirement that, if BSEE is unable to witness the testing, the operator must provide the initial test results to the appropriate District Manager within 72 hours after completion of the tests.

Discussion: I concur with this proposal. To facilitate continuous safety improvement, BSEE should review these test data in combination with the required failure reports and provide periodic performance summaries.

References:

Tyagi, Smith, and Bourgoyne, 2011. *ANALYSIS OF WELL CONTAINMENT AND CONTROL ATTEMPTS IN THE AFTERMATH OF THE DEEPWATER BLOWOUT IN MC252*, FINAL REPORT to the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Louisiana State University
Baton Rouge, LA

Transportation Research Board. 2012. *TRB Special Report 309: Evaluating the Effectiveness of Offshore Safety and Environmental Management Systems*.
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