

Immediately following the *Deepwater Horizon* tragedy, the Department of the Interior and the Bureau of Safety and Environmental Enforcement (BSEE) issued a series of notices and regulations to improve safety offshore. The latest improvement, the proposed drilling safety rule, addresses key recommendations made after the *Deepwater Horizon* tragedy, closes gaps in existing requirements, and updates BSEE regulations to reflect industry best practices. The proposed rule will:

- Incorporate the latest industry standards that establish minimum baseline requirements for the design, manufacture, repair, and maintenance of blowout preventers (BOP).
  - Existing BSEE regulations do not include recently implemented standards that industry believes are key to ensuring the reliable performance of this equipment.
  - Adoption of these documents will ensure that BSEE's regulations match the performance requirements recommended by the industry in the time since the Deepwater Horizon tragedy.
  - These requirements could help to improve the reliability of surface BOP stacks that have typically been in service much longer than subsea BOP stacks.
- Require more controls over the maintenance and repair of BOPs.
  - Existing regulations contain requirements related to the maintenance and repair of this equipment.
  - The proposed regulation requires an annual review of the repair and maintenance records of the BOP equipment by a BSEE approved third party to ensure that the equipment continues to meet the original design criteria. This ensures that there will be complete traceability of the equipment even if it is serviced or repaired in a foreign jurisdiction.
  - The proposed regulation contains a performance requirement that the equipment be maintained pursuant to Original Equipment Manufacturer (OEM) requirements, good engineering practices, and industry standards.
  - The proposed regulation requires complete traceability of critical components.
  - The proposed regulation includes personnel training requirements for repairs and maintenance.
  - The proposed regulation includes as a regulatory requirement, the complete break-down & detailed physical inspection of BOP not longer than every 5 years (currently an industry standard).
- Require the use of BOPs with double shear rams, which is now a baseline industry standard (API Standard 53).



- The use of double shear rams in the BOP stack increases the likelihood that the drill pipe can be sheared in an emergency.
- The proposed regulation does not include the opt-out provision that the standard contains related to double shear rams. There was disagreement within the industry on whether this opt-out provision was appropriate; however many studies/reviews have concluded this will provide another necessary barrier for wellbore safety.
- Require that shear rams be designed to include a technology that allows the drill pipe to be centered during shearing operations.
  - Some experts believe that the failure of the *Deepwater Horizon* BOP stack to sever the drill pipe was due to the fact that the drill pipe was not centered.
  - At least one manufacturer is currently marketing this technology.
- Require more rigorous third party certification of the shearing capability of BOPs.
  - Existing regulations require independent third-party verification of shearing capability of BOPs, but do not specify any testing criteria.
  - This proposed change places increased controls over the shearing certification process and criteria used to establish shearing performance.
- Request comments on a potential long-term requirement that a technology be installed to allow all equipment in the hole to be severed.
  - Existing BSEE regulations require that the drill pipe be severed and exclude other components in the drill string from this requirement.
  - Although the use of double shear rams and centering devices increase the likelihood that a drill string can be severed, the inability to sever components such as drill collars can present significant complications during a well control event.
  - This requirement could help to drive innovation in safety technologies.
- Expand accumulator capacity for increased functionality.
  - Increased accumulator capacity will help to ensure that the BOP system will close and seal the well.
- Require real-time monitoring capability for deepwater and high-temperature/highpressure drilling activities.
  - The real-time monitoring requirement ensures that the operator has access to onshore technical expertise if needed and that there is another "set of eyes" available during critical operations.



- Many deepwater operators have onshore real-time monitoring capability. This requirement ensures BSEE access to these facilities.
- The requirement also applies to shallow water operators involved in high-risk operations.
- Establish criteria for the testing of subsea well containment equipment in the regulations.
  - o This supplements existing NTL 2010-N10 on well containment.
- Increase the reporting of failure data of BOP to OEMs by operators and drilling contractors.
  - The proposed regulation adopts the voluntary industry reporting protocols for reporting equipment issues.
  - OEMS and drilling contractors have stated that reporting of failure data is necessary to address key safety issues.
- Adopt criteria for safe drilling margins consistent with Department of Justice and Office of the Inspector General (DOI) recommendations arising out of the *Deepwater Horizon* tragedy.
  - Current regulations require the operator to show the planned drilling margin on the Application for Permit to Drill and do not clearly define the term.
  - The new regulations provide a detailed definition of what constitutes a safe drilling margin and requires that a safe drilling margin be maintained throughout drilling.
- Require the use of accepted engineering principles and establishes general performance criteria for drilling and completion equipment.
  - The proposed regulation requires that packers and bridge plugs meet industry standards.
  - The proposed regulation requires the use of accepted engineering practices when operating on the OCS to reduce risks.
  - The proposed regulation requires that equipment has been designed, tested, and rated for the most extreme conditions to which it will be exposed while in service.
- Establish additional requirements for using remotely operated vehicles (ROV) to assist in closing the BOP stack.
  - The current requirement contains general performance objectives for ROV.



- The proposed regulation adopts industry standards on ROV intervention capabilities. This provision will help to standardize this equipment.
- Establish additional guidelines for cementing and the use of centralizers.
  - The proposed regulation provides a general performance obligation to ensure that the operator provides the centralization needed to ensure proper cementing of the well.
- Make the testing frequency of BOPs used on workover operations the same as drilling operations.
  - This change will reduce the testing frequency for BOPs in workover operations.
    This change will result in less "downtime" during operations.
- Request comments on changing the test frequency for both workover and drilling BOPs from 14 days to 21 days.
  - BSEE has historically relied on pressure testing of BOPs in the field to establish the reliability of BOP equipment.
  - BSEE requests reliability data to support the change and requests comments on whether the proposed requirements will increase equipment reliability enough to justify a 21-day test frequency.