

December 8, 2010

Department of the Interior  
Bureau of Ocean Energy Management, Regulation  
and Enforcement  
Attention: Regulations and Standards Branch (RSB)  
381 Elden Street  
MS-4024  
Herndon, Virginia 20170-4817

Re: Increased Safety Measures for Energy Development on the  
Outer Continental Shelf (OCS) 1010-AD68  
Comments of WEST Engineering Services on the Interim Final Rule

---

Dear Sirs:

WEST Engineering Services ("WEST") is a professional engineering firm providing consulting, training, and survey and certification services for drilling and well control equipment on rigs of all types, throughout the world. WEST has recently been described as one of the industry's premier authorities in blowout preventers ("BOP's"). WEST has closely followed legislative and regulatory efforts in the wake of the *Deepwater Horizon* disaster.

On October 8, 2010, the Bureau of Ocean Energy Management, Regulation and Enforcement ("BOEMRE") issued its interim final rule, known as the "Drilling Safety Rule" (the "Rule") and invited public comment during the following sixty days. WEST appreciates the opportunity to submit the following comments regarding (1) third party certification and (2) the mandatory training of rig employees.

I. Third Party "Certification."

The Rule makes repeated references to third party "verification" of certain matters related to well control equipment, including BOP's. WEST believes the appropriate functional terminology should be "certification," rather than "verification." In industry practice, "certification" and "verification" are different functions. A party that "*certifies*" a process is different from the party that "*verifies*" the certified process is being followed. This is more than a definitional difference.

For example, the Rule, as written, requires independent third party "verification" that a subsea BOP stack is designed for the specific equipment used on the rig. Under the Rule, an independent third party must "verify" that the subsea BOP stack is compatible with the specific well location, well design, and well execution plan. The independent third party must "verify" that the BOP stack will operate in the conditions in which it will be used. A central requirement of the Rule is the required submission of independent third party "verification" and supporting

documentation showing that the blind shear rams in the BOP stack are capable of shearing any drill pipe in the hole under Maximum Anticipated Surface Pressure. •

In each of these circumstances, WEST submits that the appropriate functional description should be “certification” and “certifies.” Approved third parties are to “certify” plans and processes through the application of engineering expertise. The implementation of such “certified” plans and processes are then “verified” through governmental or other inspection.

An analogue may be helpful in highlighting this critical functional distinction. When an aircraft manufacturer designs and builds an aircraft, each phase of the program requires review and approval of that particular phase before the program can continue. During design, reviews are held at various stages such as the Preliminary Design Review (usually held at the 33% design completion timeframe); the Critical Design Review (usually held at 66% design completion); and the Design Certification Review (usually held just prior to initiation of production). Each review involves both the customer and the aircraft manufacturer and culminates in a “certification” that the design is adequate to proceed to the next phase. “Verification” is not possible during these “paper” reviews.

The reviews “certify” that the aircraft design meets the design specifications, that all regulatory requirements have been met, that the aircraft can achieve its intended purpose within the bounds of technology, and that it can be maintained and operated safely and effectively. “Verification” can only occur when the first aircraft is built and flight tested. Only then can its performance be “verified” to meet the intent of the design specifications, and only after flight test “verification” will production of the aircraft proceed.

The offshore drilling rig analogy is that the development of the Drilling Plan, the Safety Case Plan, the BOP Stack Configuration requirements, and other associated documentation is equivalent to the design phase of the aircraft development program described above. Independent third parties should “certify” each of these steps. “Verification” is the process of ensuring that the actual hardware to be used during the drilling operation fulfills the requirements of the plans and configuration requirements. “Verification” also ensures that the rig equipment is structurally and operationally capable of meeting the drilling, well control, and safety requirements of a particular well site, as demonstrated by the hardware’s prior operational history and subsystem testing.

## II. Mandatory Training Requirements.

Since its formation in 1984 in Aberdeen, Scotland, WEST has provided industry-standard training at its Houston headquarters to technicians, rig operators, drillers, and government regulators from around the world on all types of well control equipment. WEST supports increased regulatory requirements for the training of rig employees working on the OCS.

The Rule amends *Reg. § 250.1503A(b)* to declare:

“If you conduct operations with a subsea BOP stack, your employees and contract personnel must be trained in deepwater well control. The trained employees and contract personnel must have a comprehensive knowledge of deepwater well control equipment, practices, and theory.”

The Rule further states that certain matters, including the “study” of “additional safety training and certification requirements” will be addressed by BOEMRE either in the “near future, or at a later time after further review and analysis.” It would, therefore, appear that BOEMRE will elaborate on training requirements in future rule-making procedures. WEST wishes to be heard in such future proceedings and is prepared to provide information and advice to BOEMRE as it conducts reviews and analyses of proposed training requirements. (In this regard, WEST wishes to note that proper training in surface BOP’s and well control equipment and procedures is also vitally important. Indeed, some WEST studies indicate that surface BOP equipment can be less reliable than subsea BOP equipment.)

We understand that the Rule is designed to implement the safety measures recommended by Secretary Salazar in his May 24, 2010 Report to the President, “Increased Safety Measure for Energy Development on the Outer Continental Shelf.” Section III.C.2 (“Recommendation 4”) of that Report provides that “[t]he Department will immediately establish a workgroup to investigate safety training requirements for floating drilling rig personnel and possible requirements for independent or more frequent certification and testing of personnel and safety systems.” WEST would be pleased to participate in such a workgroup and/or to assist the Department in any other way in developing these requirements.

WEST is supportive of work such as this and of the related suggestions contained in Recommendation 4:

- Establishment of an oil production safety program similar to the Nuclear Regulatory Commission reactor safety program;
- Establishment of an analytical methodology to assess safety systems in the event of multiple component failure or excursions outside normal environmental ranges (*See* Jeff Sattler, *Pull Your BOP Stack – Or Not? A Systematic Method to Making This Multi-Million Dollar Decision*, paper prepared by a WEST engineer for presentation at the Society of Professional Engineers International and International Association of Drilling Contractors Conference, Amsterdam, The Netherlands, March 17-19, 2009; Case Study 2 involved “simultaneous leaks and failures in the LMRP and BOP stack ... experienced while conducting periodic function testing on a stack operating in west Africa”);
- Strengthening of technical support to the Department and other regulatory authorities, including independent technical review of regulations and standards;
- Chartering a longer-term technical review of BOP equipment and emergency backup system reliability; and
- Adoption of best practices from other agencies with similar responsibility for safety regulation of technically complex systems, such as FAA, NRC, NTSB, and the Chemical Safety Board. In this regard, WEST believes that the safety practices of NASA would also provide useful guides to the appropriate regulation of complex systems.

Several proposed formulations of appropriate training systems have emerged during the public discussion of the *Deepwater Horizon* catastrophe. Proposals have separately addressed the training of rig employees and the training of DOI inspectors.

With respect to the training of rig employees, certain legislative proposals would have prohibited the issuance of drilling permits until after approval of a safety management plan describing the experience levels of all crew members and designating two crew members as having oversight responsibility for the safety of the well system. Additionally, all rig employees were to satisfy certain prescribed training and experience requirements. Training would be conducted pursuant to uniform standards, and DOI would be required to monitor such training programs and attend training sessions. Under certain Congressional proposals, any offshore worker with less than five (5) years of applied experience would be required to pass a certification test, after receiving appropriate training, and would be required to demonstrate aptitude for critical technical skills. WEST is supportive of each of these requirements but believes the Congressional proposals represent absolutely minimal requirements. Even many years of experience does not mean that a rig worker possesses the critical skills to conduct activities such as maintenance on a BOP stack or operation of a BOP control panel. Tests would be appropriate, in WEST's view, in order to allow a worker to "opt-out" of elementary training, but critical skills in the maintenance and operation of BOP's can be acquired only through supervised instruction.

With regard to the training of government inspectors (an effort in which WEST is presently engaged), an underlying policy question is whether it is necessary to vastly expand the number of federal compliance inspections. While qualified federal inspectors have a vitally important role to play, no amount of federal inspection can take the place of a competent, well-trained work force on the rigs and of appropriate independent third party certification of the well control systems and equipment on the rigs.

The training and demonstrated competence of rig employees should be part of the third party *certification* process. The role of federal inspectors should be to *verify* that the certification documents are being followed throughout the drilling process.

A separate question is whether, as proposed in legislation that has passed the House of Representatives, DOI should create a "National Oil and Gas Health and Safety Academy," in order to train federal inspectors. West does not believe such an academy is a necessary or appropriate addition to DOI. Such training is currently available and can be immediately, economically and efficiently provided by qualified third party providers in the private sector. Creation of yet another government entity to provide such training is simply not necessary.

### III. Conclusion.

The national goal of safe operation on the OCS will be achieved through judicious use of certification, verification and inspection. A vital aspect of a new safety regime must be creation of a well-trained and competent workforce. WEST is prepared to participate in the creation and implementation of these efforts.

Sincerely,

*Michael E. Montgomery*

Michael E. Montgomery  
President