2012-2017 OCS leasing program draft PEIS comments Attachment A

Effective Oversight Requires Key Legislative, Regulatory, Enforcement and Transparency Upgrades

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Without an adequate legislative and regulatory framework, effective enforcement, and public transparency, the federal Bureau of Ocean Energy Management (BOEM) and the Bureau of Safety and Environment Enforcement (BSEE) are toothless overseers of offshore oil and gas operations and cannot prevent major oil spills. Effective oversight of the offshore industry is an ongoing and iterative task and at no point will all needed measures be in place. Nevertheless, currently there are many well-recognized deficiencies in the industry's oversight that need to be addressed *before* the public would feel confident in the safety of offshore operations. Because significant regulatory changes require research and public notice and comment, it likely will take several years – perhaps as long as 5-10 – until necessary changes are fully enacted. Additionally, it could take years before BOEM and BSEE have sufficient numbers of trained staff. This document contains and discusses key upgrades needed to increase offshore safety and environmental protection.

As background, one month after the *Deepwater Horizon* spill the Department of the Interior issued non-legislative, technical recommendations to the President on changes needed in the near- and long-term in a report entitled *Increased Safety Measures for Energy Development on the Outer Continental Shelf*[1] (Interior report). These recommendations – some of which have been implemented - were only a starting point, however. Since then, the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (Oil Spill Commission), the BOEMRE/U.S. Coast Guard Joint Investigation Team, and the National Academy of Engineering/National Research Council have issued comprehensive reports and made numerous additional recommendations for oversight; it's likely that additional investigations (e.g., by the Chemical Safety and Hazard Investigation Board) and other research following the spill will result in more recommendations.

Legislative Upgrades

The Oil Spill Commission recommendations included the following key statutory upgrades. The Commission recommended that Congress:

- "[P]rovide a mechanism…for adequate, stable, and secure funding to the key regulatory agencies – Interior, Coast Guard, and NOAA."[2]
- Develop a new statute for offshore safety-related responsibilities.[3]

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[1] Department of the Interior, Increased Safety Measures for Energy Development on the Outer Continental Shelf (May 27, 2010), *available at* http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=33598.

[2] National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling, Recommendations at 8 (January 2011), *available at* http://www.oilspillcommission.gov/final-report.

[3] *Id.* at 9.

- "Significantly increase the liability cap and financial responsibility requirements for offshore facilities."[4]
- "Provide protection for "whistleblowers" who notify authorities about lapses in safety…[by amending] the Outer Continental Shelf Lands Act or specific statutes to provide the same whistleblower protection that workers are guaranteed in other comparable settings."[5]

These common-sense legislative recommendations need to be implemented to ensure that: 1) there are sufficient oversight personnel for offshore operations, 2) there's a clear mandate to ensure safety and environmental protection and not to just promote drilling among oversight staff, 3) offshore operators have access to the funds needed for cleanup and compensation should a major spill occur, and 4) those who choose to be whistleblowers would not place their livelihoods in jeopardy to ensure the safety of offshore operations.

Regulatory Upgrades

According to the National Academy of Engineering/National Research Council, "An appropriate regulatory system should:

- Be effective both in regulating high risk/high consequence wells, such as those in deepwater or those likely to encounter very high pore pressures, and relatively low risk wells, such as in-fill wells in relatively shallow water. As part of being an effective regulatory system, provide a mechanism for the government to assess the risks (and the measures proposed to manage those risks) associated with the proposed well plan. Also provide a way for the government to assess the competence of the companies and individuals to be involved in carrying out the proposed drilling activities.
- Incorporate a formal management of change process that would allow well plans and procedures to adapt to uncertainties in geology and pore pressure, to changing weather conditions, among other factors, while keeping parties informed of ongoing changes.
- Work effectively with the structure of the U.S. offshore oil and gas industry. Encourage the development and integration of a strong safety culture and safety management systems among operating companies (and Joint Venture partner companies), drilling contractors and service companies.
- Ensure that all drilling activities are conducted with risks reduced as low as reasonably practical, and
- Motivate industry to invest in technologies and processes that will further minimize risk."[6]

Since the *Deepwater Horizon* spill, BOEM and BSEE's predecessor agency, BOEMRE,[7] finalized two key rulemakings and several Notices to Lessees[8] which are not considered as enforceable as rulemakings. One of the rulemakings addresses various aspects of drilling safety and the other requires offshore operators to develop and maintain a Safety and Environmental Management System. While these rules are needed, they do not represent all the regulatory reforms recommended

[4] *Id.* at 45-47.
[5] *Id.* at 6.
[6] National Academy of Engineering and National Research Council, Macondo Well – *Deepwater Horizon* Blowout: Lessons for Improving Offshore Drilling Safety at 87 (December 14, 2011), *available at* http://www.scribd.com/doc/75669013/NAE-report-on-the-Deepwater-Horizon-disaster.
[7] Bureau of Ocean Energy Management, Regulation and Enforcement.
[8] See Offshore Drilling Safety Reforms at http://www.boemre.gov/ReorganizationRegulatoryReform.htm.

in the Interior report, by the National Commission on the *Deepwater Horizon* Oil Spill, by the BOEMRE/U.S. Coast Guard Joint Investigation Team, and by the National Academy of Engineering/National Research Council.

These reports include the following key regulatory upgrades that have not yet been implemented:

- Require blowout preventer (BOP) equipment certification and initiate other, needed BOP upgrade rulemakings.[9] "BOP systems should be redesigned to provide robust and reliable cutting, sealing, and separation capabilities for the drilling environment to which they are being applied and under all foreseeable operating conditions of the rig on which they are installed. Test and maintenance procedures should be established to ensure operability and reliability appropriate to their environment of application."[10]
- "Given the critical role that margins of safety play in maintaining well control, guidelines should be established to ensure that the design approach incorporates protection against the various credible risks associated with the drilling and completion processes."[11] "During drilling, rig personnel should maintain a reasonable margin of safety between the equivalent circulating density (ECD[)] and the density that will cause wellbore fracturing."[12]
- Require that all offshore operators utilize state-of-the-art casing and cementing practices.[13] "All primary cemented barriers to flow should be tested to verify quality, quantity, and location of cement. The integrity of primary mechanical barriers (such as the float equipment, liner tops, and well head seals) should be verified by using the best available test procedures. All tests should have established procedures and predefined criteria for acceptable performance and should be subject to independent, near-real-time review by a competent authority."[14]
- "The general well design should include the review of fitness of components for the intended use and be made a part of the well approval process."[15]
- "Instrumentation and expert system decision aids should be used to provide timely warning of loss of well control to drillers on the rig (and ideally to onshore drilling monitors as well). If the warning is inhibited or not addressed in an appropriate time interval, autonomous operation of the blind shear rams, emergency disconnect system, general alarm, and other safety systems on the rig should occur."[16] "Rigs should be designed such that their instrumentation, expert system decision aids, and safety systems are robust and highly reliable under all foreseeable normal and extreme operating conditions…The aggregate effects of cascading

[9] Department of the Interior, Increased Safety Measures for Energy Development on the Outer Continental Shelf at 19-22.
[10] National Academy of Engineering and National Research Council, Macondo Well at 4. Recommendation 4.3 adds, "Industry and regulators should develop fail-safe design requirements for the combined systems of rig, riser, BOP, drilling equipment, and well to ensure that (1) blowouts are prevented, and (2) if a blowout should occur the hydrocarbon flow will be quickly isolated and the rig can disconnect and reposition. The criteria for these requirements should be maximum reasonable assurance of (1) and (2), and assured successful crew evacuation under both scenarios." *Id.* at 65
[11] *Id*. at 4.
[12] *Id.* at 32.
[13] Department of the Interior, Increased Safety Measures for Energy Development on the Outer Continental Shelf at 23-25.
[14] National Academy of Engineering and National Research Council, Macondo Well at 4.
[15] *Id.* at 32.
[16] *Id.* at 4.

casualties/failures should be considered to avoid the coupling of failure modes to the maximum reasonable extent."[17]

- Institute personnel training requirements for safety training including for casing and cementing operations.[18] While not in the Interior report, The Wilderness Society urges BOEMRE to enact related operator qualification requirements, as is the case for pipeline safety (see 49 CFR 195, Subpart G – Qualification of Pipeline Personnel).
- "Industry, BSEE, and other regulators should foster an effective safety culture through consistent training, adherence to principles of human factors, system safety, and continued measurement through leading indicators."[19]
- "Engage a competent, independent engineering consultant to review existing regulations for adequacy and "fit for purpose" as a first step toward benchmarking U.S. regulations against the highest international standards. Following this review, develop and implement regulations for safety and environmental protection that are at least as rigorous as the regulations in peer-oil-producing nations."[20]
- "Require operators to develop a comprehensive "safety case" as part of their exploration and production plans"[21] for certain high-risk areas including the Arctic.
- "Develop more detailed requirements for incident reporting and data concerning offshore incidents and "near misses"…such reporting should be publicly available…"[22] "Industry, BSEE, and other regulators should improve corporate and industry-wide systems for reporting safety-related incidents. Reporting should be facilitated by enabling anonymous or "safety privileged" inputs. Corporations should investigate all such reports and disseminate their lessons-learned findings in a timely manner to all their operating and decision-making personnel and to the industry as a whole. A comprehensive lessons-learned repository should be maintained for industry-wide use. The information can be used for training in accident prevention and continually improving standards."[23]
- "Data logger systems should be designed to accurately handle the bandwidth of sensor data which may arise under the most stressing casualty conditions. The systems should be able to transmit real time to shore so that accurate records are potentially available for root cause determination in subsequent investigation[s]."[24]
- "BSEE and other regulators should identify and enforce safety-critical points during well construction and abandonment that warrant explicit regulatory review and approval before operations can proceed…[25] BSEE should establish safe operating limits, which when exceeded, would require regulatory approval for operations to proceed."[26]

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[17] *Id.* at 65.
[18] Department of the Interior, Increased Safety Measures for Energy Development on the Outer Continental Shelf at 24.
[19] National Academy of Engineering and National Research Council, Macondo Well at 5.
[20] National Commission on the *Deepwater Horizon* Oil Spill, Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling, Recommendations at 5.
[21] *Id.*
[22] *Id.* at 6.
[23] National Academy of Engineering and National Research Council, Macondo Well, at 5.
[24] *Id.* at 66.
[25] *Id.* at 5.
[26] *Id.* at 92. "Examples of safe operating limits are the functionality of safety-critical systems such as the BOP (see Chapter 3) and the difference between the equivalent circulating density and the fracture gradient not being greater than a certain minimum (either during drilling or cementing) (see Chapter 2)."

- As in the United Kingdom, "BSEE should consider the use of independent well examiners, to help in reviewing well plans and in regularly monitoring ongoing activities during drilling, completion and abandonment."[27]

The BOEMRE/U.S. Coast Guard Joint Investigation Team Report of Investigation on the *Deepwater Horizon* event contains extensive regulatory and other types of technical recommendations for BOEM and BSEE to implement. The report states that -

> MMS regulations in place at the time of the blowout could be enhanced in a number of areas, including: cementing procedures and testing; BOP configuration and testing; well integrity testing; and other drilling operations. In addition, the [BOEMRE panel of investigators or the Panel] found that there were a number of ways in which the MMS drilling inspections program could be improved. For example, the Panel concluded that drilling inspections should evaluate emergency disconnect systems and/or other BOP stack secondary system functions.[28]

The Report of Investigation includes additional, specific recommendations including improved definitions in Notices to Lessees and in regulations, enhanced incident and well activity reporting, better interpretation guidance on negative test procedures, and needed research.[29]

Enforcement and Transparency Upgrades

Last, enforcement by government and governmental accountability and transparency are essential to ensure good performance by operators and regulatory agencies, respectively. Effective enforcement by government likely ought to focus on the most serious violations of requirements, ongoing violations even if they are of minor requirements, and violations that result in harm to human health and the environment. Fair, clear, consistent and attention-getting enforcement is critical to a well-functioning regulatory system.

To ensure good performance by government, BSEE will need to post on the web in an analyzable form information on its inspections and enforcement actions. And building on the Oil Spill Commission's incident reporting recommendation listed above, BSEE needs to post extensive user-friendly, comprehensive, and sortable information on releases and their causes.

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[27] *Id.* at 92.
[28] The Bureau of Ocean Energy Management, Regulation and Enforcement report regarding the causes of the April 20, 2010 Macondo well blowout, Executive Summary at 7 (September 14, 2011), *available at* http://www.boemre.gov/pdfs/maps/DWHFINAL.pdf.
[29] *Id.* at 202-210.