



Written Testimony of Dr. Donald F. Boesch
President of the University of Maryland Center for Environmental Sciences
before the
U.S. Senate Committee on Energy and Natural Resources
Bureau of Ocean Energy Management's 2017-2022 OCS Oil and Gas Leasing Program
May 19, 2016

Chairwoman Murkowski, Ranking Member Cantwell and members of the Committee, my name is Donald Boesch and I am the President of the University of Maryland Center for Environmental Science. I have been involved in scientifically assessing the environmental impacts of offshore oil and gas development since 1985.¹

It was about six years ago to this day when I received a telephone call that led to my appointment as one of the seven members of the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. The Commission submitted its report² on January 11, 2011, and my testimony today includes perspectives on implementing the Commission's recommendations.

Years later, I was a witness in the trial on the matter of Clean Water Act (CWA) violations by BP with regard to the seriousness of environmental harm. I was also a consultant to the Department of Justice and to the Federal Natural Resource Trustee agencies on issues related to legal settlement, damage assessment and restoration plans.³ Additionally, I serve on the Advisory Board of the National Academies' Gulf Research Program that is supporting research and development related to offshore oil system safety. I will offer additional perspectives based on these experiences.

In March 2016, Secretary Jewell announced the Proposed 2017-2022 Oil and Gas Leasing Program on which this hearing focuses. The program proposes 10 lease sales in the combined Gulf of Mexico Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska. No lease sales are proposed for the Pacific or Atlantic OCS. The proposed program should be evaluated in the context of the 2010 Deepwater Horizon disaster and of the steps taken by the Department of the Interior and the industry to reduce environmental and human safety risks in response to recommendations by the Oil Spill Commission and other investigative bodies.

The Department of the Interior has taken a number of substantive executive actions in response to recommendations of the Commission and these other investigative bodies. These include:

¹ See: D.F. Boesch and N.N. Rabalais (eds.). 1987. *Long-Term Environmental Effects of Offshore Oil and Gas Development*. Elsevier Applied Science, London and New York.

² National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. 2011. *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*. U.S. Government Printing Office, Washington, DC.

³ *Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Assessment*. February 2016.

- The former Minerals Management Service was reorganized to separate the development, revenue, and safety and enforcement functions, thus reducing inherent conflicts of interest. The Bureau of Ocean Energy Management (BOEM) and the Bureau of Safety and Environmental Enforcement (BSEE) were established.
- The Department of the Interior required that offshore operators demonstrate the ability to contain deepsea blowouts if they occur. Despite the fact that deepwater exploration and production had gone on in the Gulf of Mexico for over 20 years, no operator in the Gulf previously had this capability. The lack of containment capability is the principal reason the Deepwater Horizon blowout continued for 87 days.
- BSEE added more technically trained risk-compliance officers and inspectors, however the educational pipeline, competitive salaries, and working conditions continue to limit the bureau's technical capacity. However, earlier this year the Government Accountability Office (GAO) found that BSEE has made limited progress in enhancing the bureau's investigative capabilities, has restructured in a way that weakens environmental compliance oversight, and made limited progress in enhancing its enforcement capabilities.⁴
- In 2013 BSEE required the use of the Safety and Environmental Management Systems II (SEMS II) performance-focused tool for integrating and managing offshore operations. SEMS II third-party audits had to be in compliance by June 4, 2015. While this represents an improvement, it falls short of proactive, risk-based performance approach included in the "safety case" approach used in the North Sea.
- Although the Oil Spill Commission completed its report before the Deepwater Horizon's blowout preventer (BOP) could be forensically examined, subsequent investigations revealed significant deficiencies in its design, maintenance and operation. Just last month, six years after the Deepwater Horizon blowout, BSEE issued its final Well Control Rule⁵ for requirements for the design, manufacture, repair and maintenance of BOPs. The American Petroleum Institute has strenuously criticized the new rule as too costly and too prescriptive.
- BOEM raised the limit of liability for oil spills from offshore facilities from \$75 million to \$134 million, but this was only an adjustment for inflation over the 24 years from when the limit was originally set in the 1990 Oil Pollution Act.

The Congress, on the other hand, has taken only limited actions in response to the Oil Spill Commission recommendations, specifically:

- On the plus side, the Congress has appropriated additional funds to bolster the BOEM's environmental reviews and BSEE's regulation and inspection functions and passed the Resources and Ecosystems Sustainability, Touristic Opportunities and Revived Economies of the Gulf Coast States (RESORE) Act that dedicates 80 percent of the Clean Water Act penalties to long-term environmental and economic restoration of the Gulf of

⁴ General Accounting Office. 2016. *Oil and Gas Management: Interior's Bureau of Safety and Environmental Enforcement Restructuring Has Not Addressed Long-Standing Oversight Deficiencies*. GAO-16-245.

⁵ Bureau of Safety and Environmental Enforcement. 2016. *Oil and Gas and Sulfur Operations in the Outer Continental Shelf—Blowout Preventer Systems and Well Control*.

Mexico. However, the Congress has not passed legislation to codify the reorganization of MMS to create BOEM and BSEE.

- The Congress has not raised the oil spill liability limits to a more realistic level. The new limit of liability of \$134 million set by BOEM within its executive authority falls far short of the scale of responsibility for a major spill. BP expended over \$55 billion as a result of the Deepwater Horizon oil spill. Some other company with fewer resources and less responsible management could walk away and leave it to the government to control an oil spill.
- The Congress has not enacted legislation that requires the oil and gas industry to pay fees that support appropriate environmental science and regulatory review. At least in part due to the lack of funding, the BOEM has yet to implement a comprehensive environmental monitoring program in the Gulf of Mexico as envisioned by the Outer Continental Shelf Lands Act (OSCLA).
- The Congress has not passed legislation to provide whistleblower protections to workers regarding OCS oil and gas exploration, drilling, production or cleanup.

The oil and gas industry also has undertaken many steps to reduce the risks of offshore oil and gas exploration and production. The shutdown of deepwater operations in 2010 was a bitter lesson for many companies beyond BP and Anadarko. In general, most companies have since improved their safety culture and procedures. In response to the Department of the Interior requirement for deepwater well containment, companies worked together to form the Marine Well Containment Company and Helix Well Containment Group. These two rapid deepwater containment response systems are now deployed in the Gulf of Mexico, similar systems are now also deployed around the world wherever deepwater drilling occurs.

The oil and gas industry also established the Center for Offshore Safety that is playing a key role in setting third-party auditor qualifications and training requirements and SEMS certification. However, the Center for Offshore Safety falls short of the Commission's recommendation of an independent organization to develop, adopt, and enforce standards of excellence to ensure continuous improvement in safety and operational integrity offshore that was derived from the Commission's evaluation of safety accountability in the nuclear power industry. First, the Center's scope is much narrower than envisioned by the Commission. Second, the Center is an arm of the American Petroleum Institute, whereas the Commission recommended that it be a completely independent organization in order to avoid real or apparent conflicts of interest.

Is oil and gas drilling safer than it was in early 2010, prior to the Deepwater Horizon blowout? Yes, but I and my fellow Commissioners believe there is still significant room for improvement. There continue to be explosions, loss of well control events, and oil spills from offshore oil operations. Just last week, for instance, a Shell Oil Company production facility in 2,300 feet of water 90 miles south of Timbalier Island, discharged almost 90,000 gallons from a seabed flow line.⁶ Many of the new safety requirements are just now coming into force.

⁶ Ken Stickney. UPDATE: Shell oil spill recovery continues, *The Advertiser*, May 16, 2016.

Furthermore, I have concerns about how the fall in the price of oil has resulted in industry cutbacks in personnel and other expenditures. Offshore operations in the United Kingdom, for instance, have increasingly deferred the maintenance of critical safety equipment.⁷ The lower prices are particularly creating problems for the smaller companies that operate most of the wells on the Gulf continental shelf and many of those in deep water. Unlike the major companies familiar to most Americans, these smaller companies have generally less technical and financial capacity to deal with safety and oil spill response.

Through the National Science Foundation's Rapid Response Research, the BP-funded Gulf of Mexico Research Initiative, the Natural Resource Damage Assessment (NRDA) pursuant to the Oil Pollution Act, and other programs there has been an unprecedented level of research and assessment on the fate and effects of the Deepwater Horizon blowout. Extensive research results have been published and the recently completed Final Programmatic Damage Assessment provides a comprehensive assessment. However, these scientific results have yet to be synthesized from the perspective of drawing lessons that can be applied to leasing decisions, operational regulations, containment, and oil spill response. There is work yet to be done and the Congress should stand ready to act with appropriate legislation and appropriations.

As I mentioned earlier, the Oil Spill Commission recommended dedicating 80 percent of Clean Water Act fines for long-term environmental restoration. It also recommended a transparent and accountable process for natural resource damage assessment and restoration. Happily, with the Court's approval of the consent decree encompassing CWA penalties and NRDA payments, together with previous settlements and criminal plea agreements, there will be significant resources for environmental restoration in the Gulf from the National Fish and Wildlife Foundation's Gulf Environmental Benefit Fund, the RESTORE Act, and Natural Resources Trustee Council. It is important that these parallel programs be coordinated, scientifically directed and held accountable to achieve the maximum sustained restoration from long-term degradation, as well as the effects of the 2010 blowout. Again, I would urge the Congress to provide periodic oversight of these rare opportunities for environmental improvements.

The Oil Spill Commission's report only touched on leasing and development in frontier areas outside of the Gulf of Mexico. Mainly, we suggested that great caution be taken in the Alaskan Arctic, where the occurrence of sea ice and sensitive biological communities and the paucity of spill response capabilities greatly complicate the risks and responses to those challenges. Since that time, the Shell well drilled in the Chukchi Sea produced results that call into serious question oil resource estimates for the region and, just recently, Shell and other companies relinquished leases in the Beaufort and Chukchi seas. In addition, BOEM deferred any lease sales in the Atlantic OCS Region in its proposed five-year Program, citing growing opposition by coastal communities that are concerned about risks of Deepwater Horizon-like events to economies largely dependent on recreation and vacationing, as well as Department of Defense space use conflicts.

Another policy driver that will become ever more prominent is the national need to greatly reduce greenhouse gas emissions and, consequently, transition from our dependence on fossil

⁷ Mike Neill, The future of offshore risk management. *Offshore*, May 4, 2016.

fuels. Climate change is becoming ever more evident and science has now prescribed the lane-width on the pathways to limit global warming below 2° C. That is the basis for the Paris Agreement and the initial commitments of the United States and 176 other countries to reduce greenhouse gas emissions. Put simply, the United States will have to reduce its emissions by at least 80 percent over the next 30 to 40 years. If that is the case, then the question must be asked if we should seek to develop hydrocarbon resources in new, risky places when it will take 20 years or more to produce significant new resources from them.

Based on the immediate decisions by the Department of the Interior as well by the industry, it seems likely to me that the Gulf of Mexico will continue to produce virtually all of the nation's oil and gas resources. Ironically, the Gulf Coast is a region particularly susceptible to sea-level rise and more intense hurricanes. If we and the other nations in the world are able to achieve the dramatic reductions in greenhouse gas emissions needed to limit warming to 2° C, emerging science indicates that we can avoid a collapse of the West Antarctic ice shelves. This would avoid an additional three feet of sea level rise by the end of the century that would inundate the lower fourth of my native state of Louisiana, the very region that supports most of the nation's offshore oil and gas production. I urge Congress to provide some of the revenues produced from leasing and production in the region that shoulders this burden to assist the Gulf Coast in adapting to the changes that will confront it, both as result of climate and sea-level rise and the eventual phase-out of offshore oil and gas extraction industry.