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THREE META-LESSONS GOVERNMENT AND INDUSTRY SHOULD LEARN FROM THE BP DEEPWATER HORIZON DISASTER AND WHY THEY WILL NOT

ALYSON C. FLOURNOY*

Abstract: There are many law and policy lessons to be learned from the BP Deepwater Horizon disaster and its aftermath. Some are lessons specific to the BP oil well blowout. Regrettably, Congress has failed to enact even these critical reforms, although some important regulatory reforms have been adopted. This Article focuses on three broader lessons that this disaster should also teach, but that are very unlikely to be learned; lessons that could help to reduce the risk of future disasters. These meta-lessons suggest the need to: (1) learn from the next disaster—not the last one; (2) learn from the blueprint of the disaster; and (3) learn from the context of the disaster. However, both the limited scope of the reforms undertaken in the year since the disaster and the blueprint of the disaster highlight why government and industry are unlikely to learn these broader lessons.

INTRODUCTION

On April 20, 2010, BP and its contractors had drilled the Macondo oil well in the Gulf of Mexico to its final depth of over 18,000 feet, and were cementing the well's steel casing.¹ A dangerous buildup of methane gas in the well rose to the surface, causing an explosion and fire that destroyed the Deepwater Horizon drilling rig, leading it to collapse and sink.² Eleven workers from the rig were never found.³ The rest were evacuated, with seventeen suffering injuries.⁴ Oil began to leak into the Gulf. Repeated efforts to trigger the blowout preventer failed,

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¹ See NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL & OFFSHORE DRILL-ING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING 1 (2011) [hereinafter BP COMMISSION REPORT], available at http://www.oilspillcommission. gov/sites/default/files/documents/DEEPWATER_ReporttothePresident_FINAL.pdf.

² See id. at vi, 1-18.

³ See id. at vi.

⁴ Campbell Robertson, Search Continues After Oil Rig Blast, N.Y. TIMES, Apr. 22, 2010, at A13.

leaving the well to gush oil, uncontrolled.⁵ Measures to collect some of the flow were ultimately successful.⁶ However, according to best estimates, by the time the well was sealed roughly three months later, close to five million barrels of oil had flowed into the Gulf.⁷

This Article focuses on this series of events as a disaster. The term disaster is a useful descriptor and lens through which to view the events for several reasons. First, the term seems more apt than the terms "oil spill" and "blowout" that have frequently been used to describe the events and their aftermath.⁸ Neither of these terms captures the scale of the damage, nor provides any insight into the causes. If anything, both seem to suggest a technical failure and direct us to view the events through a technological lens. In contrast, the ordinary meaning of disaster is an occurrence inflicting widespread destruction and distress.⁹ The term disaster invites consideration of events broadly, through the lens of systems theory and other social science approaches that analyze disasters and the role that organizational learning plays in creating disasters and their preconditions.¹⁰ This allows us to see that disasters caused by humans result not just from technical problems, but from a significant disruption or collapse of a community's or organization's cultural beliefs and norms about hazards.¹¹ Rigid human and organizational beliefs and norms frequently collide with technical systems dur-

¹¹ Pidgeon & O'Leary, *supra* note 10, at 16, 18; Brian Toft & Simon Reynolds, Learning from Disasters: A Management Approach 24–25 (3d ed. 2005).

⁵ BP COMMISSION REPORT, supra note 1, at 114–15.

⁶ Id. at 159.

⁷ The Amount and Fate of the Oil 18 (Nat'l Comm'n on the BP Deepwater Horizon Oil Spill & Offshore Drilling, Working Paper No. 3, 2011), available at http://www. oilspillcommission.gov/sites/default/files/documents/Updated%20Amount%20and%20Fate%20of%20th e%20Oil%20Working%20Paper.pdf.

⁸ See, e.g., William J. Broad, Taking Lessons from What Went Wrong, N.Y. TIMES, July 20, 2010, at D1 (calling the incident the "worst offshore oil spill in United States history"); John M. Broder, Panel Points to Errors in Gulf Spill: Fatal Oil Well Explosion Was Avoidable, Report Says, N.Y. TIMES, Jan. 6, 2011, at A14 (referring to the event as a "blowout and oil spill").

⁹ See WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 643 (1986) (defining disaster as "a sudden calamitous event producing great material damage, loss, or distress").

¹⁰ See Louise K. Comfort, Risk, Security, and Disaster Management, 8 ANN. REV. POL. SCI. 335, 338 (2005); N. Pidgeon & M. O'Leary, Man-made Disasters: Why Technology and Organizations (Sometimes) Fail, 34 SAFETY SCI. 15, 15–16 (2000). Of course, the meaning of the term disaster is contested among social scientists. See G.A. Kreps, Sociological Inquiry and Disaster Research, 10 ANN. REV. Soc. 309, 311 (1984). Kreps suggests that even when disasters are defined by their harm to people and the physical environment, both the causes and consequences must be viewed as related to the social structures and processes of societies or communities involved in the disasters. Id. at 312.

ing unfolding disasters.¹² Additionally, as one historian of engineering grimly noted, "'[n]obody wants failures. But you also don't want to let a good crisis go to waste.'"¹⁹ In that spirit, this Article sketches how we might learn from this disaster, and suggests some of the obstacles to this process.

There are many law and policy lessons to be learned from the BP Deepwater Horizon disaster and its aftermath.¹⁴ Part I briefly summarizes the most specific law and policy lessons from the disaster, and suggests that these are the lessons we are most likely to identify.¹⁵ However, the extent to which this learning will affect regulatory decision making is still not certain. Part II focuses on three meta-lessons that are perhaps even more important than narrow, specific lessons from the BP disaster.¹⁶ Meta-lessons are lessons about how to learn: in this case, how to learn from any disaster. They require a look beyond the confines of the facts unique to a specific event to identify pervasive patterns in the law and policy framework that increase the risk of disaster. The Article identifies some major obstacles to learning these broader lessons, and concludes that despite their importance, it is unlikely such lessons will inform future decisions.¹⁷

These meta-lessons can be summarized as follows. First, it is crucial to anticipate the next possible disaster, not merely seek to avoid repeating the most recent one. This Article suggests how such an approach would differ from the current path of reactive reform, the value of a new approach, and why the United States is unlikely to pursue this path.¹⁸ Second, it is necessary to identify not just specific types of disasters that may occur in the future, but the blueprint or architecture for this and other similar disasters—the economic, political, and regulatory context that facilitated the cascading errors that produced the disaster. I draw on a concept that Professor Rena Steinzor has elaborated in her work—the idea of hollow government—to describe the blueprint for

¹² See Pidgeon & O'Leary, supra note 10, at 16.

¹³ See Broad, supra note 8 (quoting Duke University Professor Henry Petroski, a historian of engineering and author of the 2006 book Success Through Failure).

¹⁴ This Article focuses on the events leading up to the blowout and the efforts to contain the gushing well, but not on the other failures that occurred in the spill response and clean up effort. Thus, I use the term disaster to refer to the causes and consequences of the blowout and the inability to staunch the gushing oil for three months.

¹⁵ See infra Part I.

¹⁶ See infra Part II.A-.C.

¹⁷ See infra Parts II.A-.C, Conclusion.

¹⁸ See infra Part II.A.

these disasters and the remedy.¹⁹ Although hollow government represents a pervasive and fundamental source of risk to health, safety, and the environment, Part II.B describes powerful forces that make it unlikely that the government will address this fundamental problem.²⁰ Finally, the Article suggests that the broader policy context of the national energy policy is a third important focus for learning. ²¹ The Article concludes with some suggestions why it is unlikely that this disaster will serve as an impetus for government and industry to learn these meta-lessons.

I. NARROW LESSONS FROM THE BP DISASTER

Many of the lessons specific to the BP oil well blowout are lessons about technological and regulatory failures that contributed directly to the BP disaster and are largely uncontested. In the wake of the blowout, certain technical failures became rapidly apparent: the blowout preventer (BOP), a critical safety component designed to shut off the well in the event of an imminent blowout, failed to operate properly.²² The numerous investigations undertaken in the wake of the spill²³ have confirmed this and have provided ever greater detail on the inadequacies in the design of the specific BOP used, the possible causes of its failure,²⁴

¹⁹ Rena I. Steinzor, Mother Earth and Uncle Sam: How Pollution and Hollow Government Hurt Our Kids 44 (2008).

²⁰ See infra Part II.B.

²¹ See infra Part II.C.

²² See BP COMMISSION REPORT, supra note 1, at 114–15.

²³ Numerous hearings were held by congressional committees throughout the summer of 2010. See Energy and Commerce Committee Investigates Deepwater Horizon Rig Oil Spill, COMM. ON ENERGY & COMMERCE DEMOCRATS (July 15, 2010), http://democrats.energycommerce. house.gov/index.php?q=news/energy-commerce-committee-investigates-deepwater-horizonrig-oil-spill. In addition, the executive branch initiated several investigations. See, e.g., BP COMMISSION REPORT, supra note 1, at vi; OUTER CONT'L SHELF SAFETY OVERSIGHT BD., U.S. DEP'T OF THE INTERIOR, REPORT TO SECRETARY OF THE INTERIOR KEN SALAZAR 1 (2010) [hereinafter INTERIOR OCS SAFETY REPORT], available at http://www.doi.gov/news/press releases/loader.cfm?csModule=security/getfile&PageID=43677. A report of the Minerals Management Service (MMS) and Coast Guard joint investigation is also anticipated in 2011. Deepwater Horizon Joint Investigation Official Site FAQ, DEEPwater HORIZON JOINT INVESTIGA-TTON, http://www.deepwaterinvestigation.com/go/page/3043/47459/ (last visited Apr. 15, 2011). In addition to these investigations, ongoing tort litigation will likely reveal additional facts regarding the specific causes of the blowout. See John Schwartz, First the Spill, Then the Law Suits, N.Y. TIMES, June 11, 2010, at A14.

²⁴ For example, the BOP lacked a second blind shear ram as a backup, something that could have been installed on the Deepwater Horizon's BOP, but was not. David Barstow et. al., *Regulators Failed to Address Risk in Oil Rig Fail-Safe Device*, N.Y. TIMES, June 21, 2010, at A1. The BOP also did not have a remote or acoustic trigger—devices that would have permitted the crew to trigger the device even after the explosion and evacuation of the rig.

and the role of the casing and cementing practices in the failure.²⁵ In addition, a series of operational decisions by BP and its contractors that compromised safety have come under increasing scrutiny.²⁶

Although this Article's primary focus is on law and policy lessons, it is important to note that these highly visible and concrete failures will likely lead industry to respond voluntarily by adopting some practices and procedures to avoid similar failures.²⁷ From a law and governance perspective, however, simply allowing industry to learn voluntarily and police itself is widely viewed as inadequate for several reasons.²⁸ Indeed, the regulatory environment that existed at the time of the blowout re-

²⁵ Sæ Ben Casselman & Russell Gold, *Unusual Decisions Set Stage for BP Disaster*, WALL ST. J., May 27, 2010, at A1; Letter from Fred H. Bartlit, Jr. et al., to Nat'l Comm'n on the BP Deepwater Horizon Oil Spill & Offshore Drilling (Oct. 28, 2010), *available at* http:// graphics8.nytimes.com/packages/pdf/science/spilldoc.PDF; Letter from Henry A. Waxman & Bart Stupak, House of Representatives Comm. on Energy & Commerce, to Tony Hayward, CEO, BP 1–2 (June 14, 2010), *available at* http://democrats.energycommerce.house.gov/ documents/20100614/Hayward.BP.2010.6.14.pdf.

²⁶ The National Commission on the BP Deepwater Oil Spill and Offshore Drilling's ("the Oil Spill Commission") preliminary discussion of whether BP cut corners to save time and money sparked debate on that issue. *Compare* John M. Broder, *Investigator Finds No Evidence That BP Took Shortcuts to Save Money*, N.Y. TIMES, Nov. 9, 2010, at A16 (noting conclusions of Commission investigator Fred H. Bartlit, Jr.), *with* Ayesha Rascoe, *Serious Errors, Complacency Preceded U.S. Spill—Panel,* REUTERS, Nov. 9, 2010, *available at* http://www.reuters.com/article/idUSN0928572720101109 (noting comments by the Oil Spill Commission's co-chairs that "the panel's investigators did not find evidence that individual workers sacrificed safety over monetary concerns, but that does not mean that the companies involved placed enough emphasis on safety"). The Oil Spill Commission's Final Report notes that many decisions made by BP and its contractors that saved the companies significant time and money also increased the risk of a blowout. BP COMMISSION REPORT, *supra* note 1, at 125.

²⁷ See Clifford Krauss, Shell Presses for Drilling in Arctic, N.Y. TIMES, Nov. 6, 2010, at B1. Shell's vice president for Alaska, in explaining why Shell believes it should be allowed to drill in the Arctic and that its response plan is adequate, said, "[w]e're not a tone-deaf company.... We've really got to be compelling in what we are doing." Id. Shell's response includes an upgrade of its rig's blowout preventer, a subsea containment system, and a rig at the ready to drill a relief well. Id.; see also Press Release, Chevron, New Oil Spill Containment System to Protect Gulf of Mexico Planned by Major Oil Companies (July 21, 2010), available at http://www.chevron.com/chevron/pressreleases/article/07212010_new oil spillcontainmentsystemtoprotectgulfofmexicoplannedbymajoroilcompanies.news.

²⁸ See BP Commission Report, supra note 1, at 234–35; Alyson Flournoy et al., Ctr. For Progressive Reform, White Paper No. 1007, Regulatory Blowout: How Regulatory Failures Made the BP Disaster Possible, and How the System Can be Fixed to Avoid a Recurrence 1–3, 13 (2010).

These acoustic triggers are required in Brazil and Norway and used by some oil companies even when not required by state authorities. *See* Russell Gold, Ben Casselman & Guy Chazan, *Leaking Oil Well Lacked Safeguard Device*, WALL ST. J., Apr. 29, 2010, at A1. When U.S. regulators considered requiring acoustic triggers, industry opposed them citing their unreliability. *Id.* Officials in Norway suggest they have been effective. *Id.* Ultimately MMS declined to require them, citing their expense. *Id.*

lied heavily on industry self-regulation.²⁹ Investigation in the wake of the blowout has revealed that the Outer Continental Shelf Lands Act (OCSLA)—the law governing development of federally owned oil and gas resources on the Outer Continental Shelf—included few standards to assure protection of health, safety, and the environment.³⁰ Additionally, the Minerals Management Service's (MMS) approach to regulation under the OCSLA relied heavily on standards developed by and voluntarily agreed to by industry.³¹ Of course, even with this weak regulatory regime, the threat of tort liability should have provided industry with an incentive to take steps to avoid catastrophic risk.³² However, it seems clear from most accounts that BP and its contractors failed to accurately assess the severity of the risks they faced.³³ Thus, relying on industry, market forces, and the tort liability system to deter similar conduct seems unwarranted and an abdication of government's role in protecting health, safety, and the environment.

Both Congress and the Obama Administration showed initial interest in and took action to promote relevant reforms. Congress held extensive hearings and considered reforms to the OCSLA that would have: imposed more rigorous standards for BOPs; tightened standards for review of the risks associated with exploration plans and drilling permits; improved technical capacity for the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), the successor agency to MMS; enabled better monitoring and enforcement of existing law; and provided greater consideration of environmental im-

²⁹ FLOURNOY ET AL., *supra* note 28, at 1–3, 13.

³⁰ Id.

³¹ Id. at 12–20.

³² See generally ALYSON FLOURNOY, ET. AL., CTR. FOR PROGRESSIVE REFORM, WHITE PA-PER NO. 1101, THE BP CATASTROPHE: WHEN HOBBLED LAW AND HOLLOW REGULATION LEAVE AMERICANS UNPROTECTED (2011), available at http://www.progressivereform.org/ articles/BP_Catastrophe_1101.pdf (pointing to other factors that have blunted the effects of tort law and regulatory disincentives for risky or reckless behavior). Moreover, the use of dispersants may literally and figuratively dilute the force of potential tort and statutory liability by making natural resource damages extremely difficult, if not impossible, to assess. See generally Mark Schleifstein, Dispersant Was in Deepwater Oil Plume for 2 Months After BP's Gulf Well Was Capped, Study Shows, TIMES-PICYAUNE, Jan. 27, 2011, http://www.nola.com/ news/gulf-oil-spill/index.ssf/2011/01/study_shows_dispersant_in_deep.html.

³³ See Broder, supra note 26 (noting the numerous flaws and errors that contributed to the disaster). "The interesting question is why these experienced men out on that rig talked themselves into believing that this was a good test that indicated well integrity,' said Sean Grimsley, one of Mr. Bartlit's deputies. 'None of them wanted to die or jeopardize their safety. The question is why.'" *Id.* Possible explanations for this type of misperception of risk are discussed at *infra* Part II.A.

pacts.³⁴ A bill known as the Consolidated Land Energy and Aquatic Resources (CLEAR) Act that incorporated these reforms passed the House of Representatives; however, it stalled in the Senate and will certainly not be revived in the current Congress.³⁵

Within the executive branch, BOEMRE has undertaken regulatory reform initiatives.³⁶ The agency has promulgated regulations, including one designed to address drilling safety, and a workplace safety rule requiring development of a Safety and Environmental Management System, and has created an Ocean Energy Safety Advisory Committee.³⁷ These regulatory reforms, like the proposed legislative reforms, are closely connected to the events that led to the blowout, and rather narrowly focused.³⁸ They illustrate that the executive branch, at least, is attempting to actively learn some of the obvious lessons that emerge from the specific facts leading up to the disaster.³⁹

In addition to reforms to regulatory standards, early administrative and legislative proposals also focused on institutional flaws in the structure and culture of MMS that produced lax agency oversight of BP. A series of reports and accounts has documented a relationship in which MMS was dependent on industry, invested in promotion of drilling, and a reluctant regulator.⁴⁰ In response, the Department of the Interior

³⁶ See Interior OCS SAFETY Report, supra note 23, at 1-2.

³⁷ See BUREAU OF OCEAN ENERGY MGMT., REGULATION & ENFORCEMENT (BOEMRE), FACT SHEET: THE DRILLING SAFETY RULE 1–2 [hereinafter DRILLING SAFETY], available at http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=457 92; BOEMRE, FACT SHEET: WORKPLACE SAFETY RULE 1–2 [hereinafter WORKPLACE SAFETY], available at http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/ getfile&PageID=45791; BOEMRE, REGULATION & ENFORCEMENT, OCEAN ENERGY SAFETY ADVISORY COMMITTEE CHARTER 1, available at http://www.boemre.gov/mmab/PDF/CommitteeCharter.pdf.

38 See DRILLING SAFETY, supra note 37, at 2; WORKPLACE SAFETY, supra note 37, at 1.

³⁹ See DRILLING SAFETY, supra note 37, at 1; WORKPLACE SAFETY, supra note 37, at 1. I use the term active learning as it is employed by Brian Toft and Simon Reynolds in *Learning from Disasters: A Management Approach*, to refer to learning where lessons are put into practice, as distinguished from passive learning, where knowledge is gained but no remedial action occurs. TOFT & REYNOLDS, supra note 11, at 66.

⁴⁰ See INTERIOR OCS SAFETY REPORT, *supra* note 23, at 11, 68; OFFICE OF THE INSPECTOR GEN., U.S. DEP'T OF INTERIOR, INVESTIGATIVE REPORT: ISLAND OPERATING COMPANY ET AL. 3 (2010), *available at* http://www.doioig.gov/images/stories/reports/pdf/IslandOper-

³⁴ Consolidated Land, Energy, and Aquatic Resources Act of 2010, H.R. 3534, 111th Cong. \$102(e)(4)-(5), 205(a)(8), 208(b)-(e), 212 (2010).

³⁵ Id.; Bill Summary & Status 111th Congress (2009–2010) H.R. 3534, LIBR. OF CONGRESS, THOMAS, http://thomas.loc.gov/cgi-bin/bdquery/z?d111:h.r.03534: (last visited Apr. 15, 2011) (noting last major action was placement on Senate Legislative Calendar on August 4, 2010); Matthew Jaffe and John R. Parkinson, BP Gulf Oil Spill 1-Year Anniversary; Congress Yet to Pass Any Major Laws on Oil and Gas Dnilling, ABC News, April 20, 2011, http://abcnews. go.com/Politics/bp-gulf-oil-spill-year-anniversary-congressional-inaction/story?id=13419389.

has changed the leadership, structure, and name of MMS, and reinforced ethical standards for its employees.⁴¹ These steps were designed to change the culture within the agency and to eliminate conflicts of interest that had permeated MMS. The conflicts were the inevitable result of the agency's role in promoting oil and gas leasing and collecting revenues on the one hand, while acting as regulator and enforcer, on the other. By separating these functions, assigning new leadership, and re-branding the agency, Secretary Salazar has clearly sought to change the agency's relationship with industry.⁴² Interior has the power, and appears to have the will, to address the most basic conflicts and ethical lapses, making it likely these narrow lessons will be learned.

All of these lessons are important and the Administration's responses are a positive sign. However, they are specific lessons of the Deepwater Horizon disaster, just as double hulls and the need for statutory liability were lessons specific to the Exxon Valdez.⁴³ Reforms based on these lessons made a repeat of the Exxon Valdez disaster less likely, but did little to avoid the BP disaster. Moreover, in light of Congress's inaction and its apparent loss of interest in reform, it is not certain that even the specific lessons of the BP disaster will be learned. The CLEAR Act languished in the Senate after criticism by the oil industry and its supporters in Congress that it was overly broad.⁴⁴ And the National Commission on the BP Deepwater Oil Spill and Offshore Drilling's (the "Oil Spill Commission") detailed recommendations in its final re-

⁴³ Gail Counsell, Heading for Rougher Water: Unlimited Liability for Accidents in the US Will Worsen the Plight of the World's Tanker Operators, Writes Gail Counsell, INDEPENDENT (London), Jan. 10, 1993, http://www.independent.co.uk/arts-entertainment/heading-for-rougher-waterunlimited-liability-for-accidents-in-the-us-will-worsen-the-plight-of-the-worlds-tanker-operatorswrites-gail-counsell-1477738.html; John H. Chusman Jr., Oil Spill Compromise Calls for Double Hulls, N.Y. TIMES, July 13, 1990, available at http://query.nytimes.com/gst/fullpage.html? res=9C0CE7DC1338F930A25754C0A966958260&scp=1&sq=double%20hulls&st=cse.

⁴⁴ See e.g., Press Release, Cathy Landry, American Petroleum Institute, House Resources Bill Threatens American Jobs, Economy (July 15, 2010), *available at* http://new. api.org/Newsroom/hrbilljobseconomy.cfm.

atingCo.pdf; U.S. Gov't Accountability Office, GAO-10-313, Oil and Gas Manage-MENT: Interior's Oil and Gas Production Verification Efforts Do Not Provide Reasonable Assurance of Accurate Measurement of Production Volumes 1–3 (2010), *available at* http://www.gao.gov/new.items/d10313.pdf.

⁴¹ INTERIOR OCS SAFETY REPORT, *supra* note 23, at 1–2.

⁴² See U.S. Sec'y of the Interior, Order No. 3299, Establishment of the Bureau of Ocean Energy Management, the Bureau of Safety and Environmental Enforcement, and the Office of Natural Resources Revenue (May 19, 2010), available at http://www.eenews.net/public/25/ 15769/features/documents/2010/05/19/document_pm_03.pdf; Noelle Straub, Interior Unveils Plans to Split MMS into 3 Agencies, N.Y. TIMES, May 20, 2010, http://www.nytimes. com/gwire/2010/05/20/20greenwire-interior-unveils-plan-to-split-mms-into-3-agen-72654. html.

port have failed to generate any significant response by Congress or industry.

II. META-LESSONS: LESSONS TO LEARN BEYOND THE BP DISASTER

Even if government and industry were to learn all they could from the specifics of this disaster, this Article suggests three important broader lessons that this disaster should teach that are likely to remain unlearned. I call these meta-lessons because they are lessons about *how* we need to learn from this and other disasters, not just *what* we need to learn. This learning would require a look beyond the specific facts that proximately caused the disaster. The three meta-lessons are to endeavor to: (1) learn from the next disaster; (2) learn from the blueprint of the disaster; and (3) learn from the context of the disaster.

A. How to Learn from the Next Disaster: Law and Regulatory Reform to Prevent a Future Disaster

The first lesson is not simply to react to the current disaster, but to think about the next one. Legislative reform in the wake of disaster inevitably and appropriately must begin from the contours of the immediate problem. Indeed, it is hard enough to determine how to prevent identical mistakes from happening in the future, and virtually impossible to predict the precise contours of the next tragedy that may occur. Yet, reactive reform that focuses only on the facts of the BP disaster leaves us vulnerable to future incidents that result from similar cracks, foundational and otherwise, in the U.S. law and policy structure. This Article suggests that adaptive learning can help spot relevant patterns and more likely avoid a series of painful and costly mistakes.⁴⁵

As noted above, in the wake of the BP disaster, it took little time for officials, industry, and the public to conclude that the risks inherent in the lax regulation of BOPs created an obvious and unacceptable catastrophic risk.⁴⁶ However, an exclusive focus on the specific facts and technical dimensions of the BP disaster may overlook underlying pre-

⁴⁵ There is debate among social scientists on the value of organizational learning. Those who adopt High Reliability Theory believe that organizations can contribute significantly to preventing accidents, whereas those who propound Normal Accident Theory which posits that accidents are inevitable in complex, tightly coupled systems—see less value in learning. See Jos A. Rijpma, Complexity, Tight-Coupling and Reliability: Connecting Normal Accidents Theory and High Reliability Theory, 5 J. CONTINGENCIES & CRISIS MGMT. 15, 15 (1997) (suggesting the two theories are not always in conflict and both posit some role for learning).

⁴⁶ See BP COMMISSION REPORT, supra note 1, at 114–15.

conditions that made the series of errors, bad judgments, and technical failures more likely. Social scientists who study human-caused disasters emphasize that disasters cannot be understood purely in technical terms.⁴⁷ Rather, disasters arise from an interaction between technological and organizational system failings.⁴⁸

There is much to learn about preventing disasters from the work of social scientists who study the causes of disaster and how organizations can learn from disasters. There are various theoretical approaches and lessons, but many common threads. Much of this work builds on Barry Turner's "man-made disasters" model, which posits that disasters result from "an interaction between the human and organizational arrangements of the socio-technical systems set up to manage complex and ill-structured risk problems."⁴⁹ This disaster model highlights the role played by "a discrepancy between some deteriorating but ill-structured state of affairs and the culturally 'taken for granted': or more specifically the cultural norms, assumptions and beliefs adopted by an organization or industry for dealing with hazard and danger."⁵⁰

In the aftermath of the BP disaster, this suggests a line of inquiry well beyond reforms to mandate better BOPs and offers lessons both for industry and governance learning. The facts revealed to date suggest that both MMS and industry routinely underestimated risks and failed to heed warning signals.⁵¹ Turner and his successors emphasize this as a common feature of disasters. Turner coined the term disaster "incubation period" to describe "the accumulation of an unnoticed set of events which are at odds with the accepted beliefs about hazards and the norms for their avoidance."⁵² During this period, a "build-up of latent errors and events, at odds with the culturally taken for granted, is accompanied by a collective failure of organizational cognition and 'intelligence.'"⁵³ This account seems consistent with the conclusions of the Oil Spill Commission and suggests the value of understanding how these failures occur.⁵⁴

⁴⁷ See Pidgeon & O'Leary, supra note 10, at 16.

⁴⁸ See id.; see also Diane Vaughan, Autonomy, Interdependence, and Social Control: NASA and the Space Shuttle Challenger, 35 ADMIN. SCI. Q. 225, 225–26 (1990) (analyzing the role of organizational failures in the Challenger disaster).

⁴⁹ Pidgeon & O'Leary, supra note 10, at 16.

⁵⁰ Id. at 18 (describing Turner's model).

⁵¹ See BP COMMISSION REPORT, supra note 1, at 89–127.

⁵² BARRY TURNER, MAN-MADE DISASTERS, 85 tbl.5.1 (1978).

⁵³ Pidgeon & O'Leary, supra note 10, at 17; see Broder, supra note 26.

⁵⁴ See BP COMMISSION REPORT, supra note 1, at 115-27, 223-24.

In their book, *Learning from Disasters*, Brian Toft and Simon Reynolds describe a variety of "socio-psychological pathologies that can affect one's ability to perceive the world appropriately."⁵⁵ First, contrary to popular assumptions, risk is a subjective and not an objective concept.⁵⁶ It is defined by social and individual reference schemes.⁵⁷ Therefore, judgment and values affect individual perception of risk.⁵⁸ Decision makers may also be overconfident because they expunge potentially dangerous events from their minds and thus fail to anticipate them accurately.⁵⁹

Socio-psychological phenomena can similarly prevent learning from mistakes after a disaster. There is some evidence that people prefer to learn from the potential confirmation of their own hypothesis, rather than by eliminating hypotheses.⁶⁰ The desire to seek out evidence confirming one's own hypothesis, while failing to accept challenges to it, can make it difficult for people and organizations to learn from their mistakes.⁶¹ Additionally, the concept of hindsight bias may incline those seeking to learn from others' mistakes to be overly confident that they could have avoided the same error.⁶² And the groupthink phenomenon, described by Professor Irving Janis, leads to the "development of group norms that bolster morale at the expense of critical thinking."⁶³ This can impair the ability of individuals within an organization to make sound judgments by creating a sense of compulsion to avoid questioning the view of the majority.⁶⁴

Foresight is inevitably limited. Hence, to address some of these human and organizational patterns, Pidgeon and O'Leary suggest that organizations should engage in "safety imagination."⁶⁵ Safety imagination is essential to ensure that "understanding and analysis of events... not become overly fixed within prescribed patterns of thinking"⁶⁶ To develop a critical and self-reflective process, these authors suggest that organizations must: extend the scope of potential scenarios that

⁵⁷ Id.

- ⁶² Id. at 5–6.
- 63 Id. at 6.
- ⁶⁴ Id. at 7-8.
- ⁶⁵ Pidgeon & O'Leary, supra note 10, at 22.
- ⁶⁶ Id.

⁵⁵ TOFT & REYNOLDS, supra note 11, 1-9.

⁵⁶ See id. at 2.

⁵⁸ See id.

⁵⁹ Id. at 4.

⁶⁰ Id. at 4–5.

⁶¹ TOFT & REYNOLDS, supra note 11, at 4.

are considered relevant; counter complacency; recognize that illstructured hazards are, by definition, accompanied by uncertainty; and step beyond institutional or cultural assumptions about hazards and their consequences.⁶⁷

A common recommendation for organizational reform is to enhance institutional resilience.⁶⁸ Building resilience demands that an organization develop a process of continual inquiry and adaptive learning,⁶⁹ and a culture of effective communications.⁷⁰ A number of scholars emphasize the importance of a safety culture and point to organizational learning as a key to developing a safety culture, themes also developed in the Oil Spill Commission's final report.⁷¹

The report of the Outer Continental Shelf Safety Oversight Board shows signs of recognizing the importance of an agency "culture of safety in which protecting human life and preventing environmental disasters are the highest priority, with the goal of making leasing and production safer and more sustainable."72 However, this description of a "culture of safety" suggests a more limited undertaking than does the term safety culture. A "culture of safety" may simply mean prioritizing safety, rather than a more fundamental transformation of agency culture and procedures to incorporate adaptive learning. Scholars caution against trying to create administrative control as the sole response to disaster.73 In other words, while better standards and enforcement for BOPs and cement casings are needed,⁷⁴ relying on improved standards alone will not help prevent future disasters most effectively. A culture that promotes imaginative thinking and adaptive responses is also needed. Whether BOEMRE will create this type of safety culture remains to be seen. The challenge of developing policies to promote such

⁶⁷ Id. at 23; see also TOFT & REYNOLDS, supra note 11, at 9.

⁶⁸ See Pidgeon & O'Leary, supra note 10, at 17; Nick Pidgeon, The Limits to Safety? Culture, Politics, Learning and Man-Made Disasters, 5 J. CONTINGENCIES & CRISIS MGMT. 1, 1 (1997).

⁶⁹ See Comfort, supra note 10, at 344-47; Pidgeon & O'Leary, supra note 10, at 18.

⁷⁰ See Pidgeon & O'Leary, supra note 10, at 18.

⁷¹ See TOFT & REYNOLDS, supra note 11, at 25–26; Barry A. Turner, The Development of A Safety Culture, 7 CHEMISTRY & INDUSTRY 241, 241–44 (1991); Pidgeon & O'Leary, supra note 10, at 27; BP COMMISSION REPORT, supra note 1, at 224–29.

⁷² INTERIOR OCS SAFETY REPORT, *supra* note 23, at 7 (describing the purpose of a broad safety culture program: "to create and maintain industry, worker, and regulator awareness of, and commitment to, measures that will achieve human safety and environmental protection, and to make sure that where industry fails, BOEMRE will respond with strong enforcement authorities").

⁷⁹ See Comfort, supra note 10, at 344.

⁷⁴ See BP COMMISSION REPORT, supra note 1, at 152.

a culture within industry is significant. Creating such a culture requires a commitment to a long-term process of organizational learning.⁷⁵

Another important dimension of learning from disasters is the need for learning to extend beyond the organizations directly involved. Toft and Reynolds emphasize that organizations need to engage not just in organization-specific learning, but also in isomorphic learning—that is, learning from "occasions on which organizations or their subunits, whether engaged in disparate enterprises or not, exhibit similar patterns of behavior."⁷⁶

Building networks of organizations and paying careful attention to the flow of information among them is also important.⁷⁷ Because the ability to learn from mistakes depends on organizational ability to engage in meaningful critique of past performance, eliminating disincentives to sharing key information is a central focus for improving organizations' response to disasters.⁷⁸ Pidgeon and O'Leary suggest strategies for overcoming these barriers, drawing on the experience of aviation incident and event monitoring in Great Britain. Their analysis highlights the importance of identifying "how a reporting or monitoring system can be successfully embedded within the local social and political contexts."79 Designing these systems to create strong incentives for reporting, while still providing for accountability and responsibility, is a critical goal. Key decisions include: who has access to the information, whether reporting will be anonymous or confidential, what categories of errors are covered, the standards of error that may trigger disciplinary or other sanctions, when confidentiality can be overridden, and

⁷⁵ TOFT & REYNOLDS, *supra* note 11, at 29. The Commission called for "the oil and gas industry's internal reinvention: sweeping reforms that accomplish no less than a fundamental transformation of its safety culture." BP COMMISSION REPORT, *supra* note 1, at 217. The Commission provided valuable information to enable such a transformation, drawing on the experiences of the nuclear energy and aviation industries and the Navy's nuclear submarine program. *Id.* at 229–39. However, there is no sign to date that industry has taken meaningful action in this direction.

⁷⁶ See TOFT & REYNOLDS, *supra* note 11, at 68, 72–75.

⁷⁷ See BP COMMISSION REPORT, supra note 1, at 123–24; Comfort, supra note 10, at 344, 348–49.

⁷⁸ See Pidgeon & O'Leary, supra note 10, at 19–24; see also Mary Jane Angelo, Stumbling Toward Success: A Story of Adaptive Law and Ecological Resilience, 87 NEB. L. REV. 950 (2009). Angelo's case study of the massive pesticide release caused by an agency's restoration project at Lake Apopka, Florida, provides a positive example where various factors led the agency to admit mistakes and pursue an adaptive strategy. *Id.* at 966–70, 994–96. However, the case study also highlights challenges, and the pressures on agencies not to admit failure. *Id.*

⁷⁹ See BP COMMISSION REPORT, supra note 1, at 254; Pidgeon & O'Leary, supra note 10, at 24.

what steps will be taken to correct deficiencies that are identified.⁸⁰ Pidgeon and O'Leary emphasize the importance of trust relationships in designing information sharing and reporting systems.⁸¹

Secretary Salazar has suggested creating an Ocean Energy Safety Institute in the Department of the Interior, drawing on expertise from the Department of Energy and the Coast Guard, as well as academic experts.⁸² Additionally, the Commission and Outer Continental Shelf Safety Oversight Board have conducted wide-ranging interviews with experts and agency personnel. These efforts could help to identify the existing structures, patterns, and norms in federal oversight agencies and industry, and help to inform a more systematic effort to create a safety culture. Unfortunately, all the reform efforts to date appear to remain fairly tightly focused on the BP disaster itself. The Oil Spill Commission makes important broader recommendations to promote ongoing learning, including creation of an independent industry-wide safety organization to supplement government regulation and broader administrative and legislative reforms.⁸³ However, as noted above, neither Congress nor industry seems engaged by these overtures.

Reform that is focused on how to learn better from disasters in the future is needed. This task is in many ways more challenging than thinking about specific reforms, and lacks the urgency and salience of the narrower responses. Such learning demands more nuanced study and analysis of how communication occurs among the relevant agencies and industry, the incentives for individuals to report accidents and near misses, and how decisions are made through the chain of command. Acting on this broader challenge also requires more fundamental changes in agency behavior and procedures than do narrower reforms. Its benefits are more diffuse and less likely to attract public notice and reinforcement, not to mention funding from Congress. Thus, it seems very possible that this disaster will pass without learning of this sort. However, as the country reels from a sequence of events including 9/11, Hurricane Katrina, the financial crisis, and the BP dis-

⁸⁰ Pidgeon & O'Leary, *supra* note 10, at 25. The authors note that when the Federal Aviation Administration gave pilots immunity from prosecution for voluntary reporting of air-miss reports in 1968, the number of reports almost tripled. *Id.* When the immunity guarantee was subsequently revoked in 1971, reportings dropped back below pre-1968 levels. *Id.*

⁸¹ Id. at 24-25.

⁸² Press Release, U.S. Dep't of the Interior, Salazar Proposes Ocean Energy Safety Institute (Nov. 2, 2010), http://www.doi.gov/news/pressreleases/Salazar-Proposes-Ocean-Energy-Safety-Institute.cfm.

⁸³ BP COMMISSION REPORT, supra note 1, at 215-65.

aster in the space of a decade, we would be wise to develop better capacity within agencies to reduce the risk of disasters by learning about how to learn from them.

B. How To Learn from the Blueprint of the Disaster: Hollow Government

Beyond building agency and industry capacity to avoid and learn from disasters, a second way to learn from the BP disaster is to step back and look at its political, regulatory, and economic context. With a step back, one can see a blueprint not only for this disaster, but other crises as well.

This blueprint for disaster is what Professor Rena Steinzor has called "hollow government" —government that has been stripped of the resources, authority, and respect it needs in order to effectively protect public health, safety, and the environment.⁸⁴ Think of a pumpkin that has been hollowed out, the flesh and seeds cut out, leaving only an empty shell. Too many of the agencies that the public relies on to protect it have been similarly gutted—the result of two decades of deregulatory policies and an ideology that prizes small government over good government.⁸⁵ This ideology has held sway only by maintaining the illusion that the country can always cut taxes more and still have adequate services.⁸⁶ The 2010 elections and extension of the Bush tax cuts suggest that this ideology and illusion continue to dominate, perhaps with greater force than ever.⁸⁷

In their paper, Regulatory Dysfunction: How Insufficient Resources, Outdated Laws, and Political Interference Cripple the Protector Agencies, the authors identify the causes of hollow government and the steps needed to remedy it.⁸⁸ Their analysis highlights outdated authorizing statutes, severe shortfalls in funding, and political interference as three major factors in hollow government;⁸⁹ all conditions that characterized the regulation of oil drilling on the Outer Continental Shelf (OCS).

⁸⁴ See Steinzor, supra note 19, at 21–23, 44; see also Sidney Shapiro, Rena Steinzor & Matthew Shudtz, Ctr. for Progressive Reform, White Paper No. 906, Regulatory Dysfunction: How Insufficient Resources, Outdated Laws, and Political Interference Cripple the 'Protector Agencies' 5 (2009).

⁸⁵ See SHAPIRO, STEINZOR & SHUDZ, supra note 84, at 3–5 (documenting this phenomenon in numerous federal agencies, including FDA and EPA, among others); BP COMMISSION REPORT, supra note 1, at 72–76.

⁸⁶ See SHAPIRO ET AL., supra note 84, at 5-7.

⁸⁷ See Peter Baker, With New Tax Bill, a Turning Point for the President, N.Y. TIMES, Dec. 18, 2010, at A13.

⁸⁸ See Shapiro, Steinzor & Shudz, supra note 84, at 5, 17–19.

⁸⁹ Id. at 6, 9, 12.

1. Outdated Authorizing Statutes

Following the Macondo well blowout, the OCSLA came under close public scrutiny for the first time in decades. The lack of meaningful mandates to protect human health, safety, and the environment were glaringly apparent in the wake of the disaster. The OCSLA was enacted to promote and provide a framework for exploitation of the federal oil and gas resources on the OCS.⁹⁰ Although its section on policies mentions environment and safety,⁹¹ the statute contains few mandates for meaningful protection of these values.⁹² Similarly, the procedures for environmental review fail to provide an effective framework for analyzing the risks of OCS oil exploration and drilling.⁹³ The statute's penalty provisions are extremely modest and, despite statutorily mandated adjustments for inflation, remain at a level unlikely to deter risky conduct.94 In 1995, Congress passed amendments to the OCSLA to provide greater incentives for deepwater drilling.⁹⁵ Yet, it failed at that time to revisit the safety and environmental protections of the OCSLA to take account of the dramatic shift from shallow to deepwater drilling, and the ongoing move towards ultra-deepwater drilling.96 The result is an agency whose mandate is out of date and fails to take adequate account of public safety, health, and the environment.

⁹⁵ Outer Continental Shelf Lands Act, Pub. L. No. 104-58, §§ 301-306, 109 Stat. 557 (1995) (enacted as amended 43 U.S.C. § 1337).

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⁹⁰ Outer Continental Shelf Lands Act, ch. 345, 67 Stat. 462 (1953) (codified as amended at 43 U.S.C. §§ 1331–1356a (2006)) (stating that the purpose of the Act is "to provide for the jurisdiction of the United States over the submerged lands of the outer Continental Shelf, and to authorize the Secretary of the Interior to lease such lands for certain purposes.")

⁹¹ See 43 U.S.C. § 1332(5)-(6).

⁹² See FLOURNOY ET AL., supra note 28, at 12–20 (discussing the provisions in the OCSLA, their shortcomings, and recommendations for reform).

⁹³ See id. at 16-19.

⁹⁴ See INTERIOR OCS SAFETY REPORT, supra note 23, at 18. The current maximum penalty for violations is \$35,000 per day. See 43 U.S.C. § 1350; 30 CFR § 250.1403 (2010). Fortyone percent of BOEMRE employees responding to a survey by the Outer Continental Shelf Safety Oversight Board believed these sanctions were not an effective deterrent in an environment where operators pay between \$500,000 and \$1,000,000 per day to operate a facility. INTERIOR OCS SAFETY REPORT, supra note 23, at 18.

⁹⁶ See A Brief History of Offshore Oil Drilling 7-12 (Nat'l Comm'n. on the BP Deepwater Horizon Oil Spill & Offshore Drilling, Working Paper No. 1, 2010), available at http://www. oilspillcommission.gov/document/brief-history-offshore-oil-drilling (documenting the rapid and ongoing shift towards deeper water); Edmund L. Andrews, U.S. Royalty Plan to Give Windfall to Oil Companies, N.Y. TIMES, Feb. 14, 2006, at A1. Between 1985 and 2009, the number of deepwater wells increased from sixty-five to more than 600. The Role of the Interior Department in the Deepwater Horizon Disaster: Before the Subcomm. on Oversight and Investigations of the H. Comm. on Energy and Commerce, 111th Cong. (2010) (opening statement of Rep. Bart Stupak), avail-

2. Inadequate Funding

Repeated reports have documented how inadequate resources prevented MMS from effectively regulating offshore oil exploration and drilling. First, MMS, and now BOEMRE, have lacked adequate staff to perform meaningful inspections. Although OCS leasing increased by 200% between 1982 and 2007, during the same time MMS staffing resources decreased by 36%.97 Inspections are infrequent, rarely unannounced, and can consist almost entirely of verifying paperwork.98 Inspectors are hampered in issuing citations by the lack of such basic equipment as laptops.99 The Department of the Interior Inspector General and the Outer Continental Shelf Safety Oversight Board documented how lack of funding prevented MMS, and now BOEMRE, from hiring, training, and retaining staff.¹⁰⁰ In addition, reports have consistently found that MMS lacked the technical expertise and capacity to develop regulations adequate to protect public health and safety and the environment. Reports by the Government Accountability Office and the Department of the Interior's Acting Inspector General characterized MMS as dependent on industry's greater expertise with the technology of deepwater and ultra-deepwater drilling, and thus reliant on industry's judgment of appropriate safeguards to incorporate in regulations.¹⁰¹ Although MMS was charged with regulating an extremely sophisticated industry, in which technology has increased the level and complexity of the monitoring and knowledge needed for effective regulation, its budget remained relatively flat.¹⁰²

⁹⁹ Id. at 15.

¹⁰⁰ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-852T, OIL AND GAS MANAGEMENT: KEY ELEMENTS TO CONSIDER FOR PROVIDING ASSURANCE OF EFFECTIVE INDEPENDENT OVERSIGHT 3 (2010) [hereinafter GAO KEY ELEMENTS], available at http://www.gao.gov/ new. items/d10852t.pdf; Hearing on The Deepwater Horizon Incident: Are the Minerals Management Service Regulations Doing The Job?, Before the Subcomm. on Energy and Mineral Resources of the H. Comm. on Natural Resources 111th Cong. 3 (2010) [hereinafter Kendall Statement] (Statement of Mary L. Kendall, Acting Inspector General, U.S. Dep't of the Interior), available at http://resourcescommittee.house.gov/images/Documents/20100617/2010_06_17 _ energy/testimony_kendall.pdf.

¹⁰¹ GAO KEY ELEMENTS, supra note 100; Kendall Statement, supra note 100 (indicating that MMS relied on industry to self report violations).

¹⁰² See FLOURNOY, supra note 28, at 21–23; Role of the Interior Department in the Deepwater Horizon Disaster, Panel I of a Joint Hearing of the Subcomm. on Oversight and Investigations and the

able at http://democrats.energycommerce.house.gov/documents/20100720/Stupak.Statement.07.20.2010.pdf.

⁹⁷ INTERIOR OCS SAFETY REPORT, *supra* note 23, at 13.

⁹⁸ See id. at 8–9 (reporting that BOEMRE lacks a comprehensive handbook on inspections, inspectors were not required to witness operations, unannounced inspections were lacking, and some operators closed down parts of operations when inspectors arrive).

Adequate funding for research and investigation is essential to permit the agency to stay ahead of changing technology—instead of relying on industry representations regarding whether technology is safe or reliable. Although critically important, the odds are low that this long-term investment will emerge from the current budget process.¹⁰³

3. Political Interference

Political interference is both the third hallmark of hollow government and the force that makes it unlikely that political leaders will focus on the hollow government blueprint. The wealth of the large oil companies is almost impossible to conceive. The big five oil companies—BP, Chevron, Conoco Phillips, ExxonMobil, and Shell—made a combined profit of \$100 billion in 2008, despite the collapse of oil prices in the fourth quarter at the onset of the global financial crisis.¹⁰⁴ Even with the recent estimates that BP's liability from the disaster will reach \$40 billion, BP reported a \$1.785 billion profit for the third quarter of 2010.¹⁰⁵

This wealth is a powerful force that industry deploys to influence both the composition of the legislature and the legislation that emerges from Congress. Campaign contributions from the oil and gas industry in 2010 were reported by the Center for Responsive Politics as exceeding \$23 million, down from the 2008 levels of over \$35 million.¹⁰⁶ The Center's website also reports that the big five oil companies spent over \$92 million on lobbying efforts in 2009, and the industry as a whole

Subcomm. on Energy and Env't of the H. Energy and Commerce Comm. 111th Cong. (2010) (statement of Rep. Bart Stupak, Chairman, H. Energy and Commerce Comm.) (discussing MMS's failure to increase the number inspectors to correspond with the increase in the number of wells).

¹⁰³ Jaffe & Parkinson, supra note 35.

¹⁰⁴ Daniel J. Weiss & Alexandra Kougentakis, *Big Oil Misers*, CTR. FOR AM. PROGRESS (Mar. 31, 2009), http://www.americanprogress.org/issues/2009/03/big_oil_misers.html/#2.

¹⁰⁵ BP, GROUP RESULTS: THIRD QUARTER AND NINE MONTHS 2010, at 1, available at http://www.bp.com/liveassets/bp_internet/globalbp/STAGING/global_assets/downloads/ B/bp_third_quarter_2010_results.pdf; Julia Werdigier, BP Forms Partnership to Explore in Russia, N.Y. TIMES, Jan. 14, 2011, at B1.

¹⁰⁶ Ctr. for Responsive Politics, Oil & Gas: Top Contributors to Federal Candidates, Parties, and Outside Groups, OPENSECRETS, http://www.opensecrets.org/industries/contrib.php?cycle=2010&ind=E01 (last visited Apr. 15, 2011) (showing total contributions for various election cycles, including 2008 and 2010); see also Weiss & Kougentakis, supra note 104. The Center for Responsive Politics is a non-partisan, non-profit research group dedicated to tracking the influence of money in Washington. See Ctr. for Responsive Politics, Mission, OPENSECRETS, http://www.opensecrets.org/about/ index.php (last visited Apr. 15, 2011).

spent over \$175 million.¹⁰⁷ According to the Center, there were a total of 781 lobbyists employed by the oil and gas industry in 2009, and 744 in 2010.¹⁰⁸ Almost two-thirds of these lobbyists had previously worked for the federal government.¹⁰⁹ Both the oil and gas industries have opposed, and will continue to oppose, efforts at meaningful reform, including attempts to strengthen statutes, agency rules, or the regulating agencies themselves.¹¹⁰ Absent meaningful campaign finance reform, it is unlikely that Congress or agencies will do more than respond to the most direct and concrete causes of the disaster.

The Supreme Court's decision in *Citizens United v. Federal Election Commission*, which held that corporations are entitled to the same political speech rights as individuals, and invalidated campaign contribution restrictions in the Bipartisan Campaign Reform Act of 2002, has increased the power of corporate interests.¹¹¹ The huge increase in groups with anonymous contributors funding political advertisements in the most recent election cycle is likely a harbinger of the future.¹¹²

An incessant drumbeat for less regulation and smaller government has dominated political discourse for the last thirty years and remains stronger than ever with the push for drastic federal spending cuts.¹¹³ Regulation and government are denigrated; deregulation, small government, and the market are praised. Hollow government is a result of this ideology, and the BP oil spill can be seen as a fruit of that anti-

¹⁰⁷ Ctr. for Responsive Politics, *Lobbying: Oil & Gas Industry Profile 2010*, OPENSECRETS, http://www.opensecrets.org/lobby/indusclient.php?lname=E01&year=2010 (last visited Apr. 15, 2011).

¹⁰⁸ Id.; Ctr. for Responsive Politics, Lobbying: Oil & Gas Industry Profile 2009, OPEN SECRETS, http://www.opensecrets.org/lobby/indusclient.php?year=2009&Iname=E01&id (last visited Apr. 15, 2011).

¹⁰⁹ Id. The Center refers to these lobbyists as "revolvers." See id.

¹¹⁰ Mike Soraghan, BP, Other Oil Companies Opposed Effort to Stiffen Environmental, Safety Rules for Offshore Drilling, NY Times, April 27, 2010, http://www.nytimes.com/gwire/2010/ 04/27/27greenwire-bp-other-oil-companies-opposed-effort-to-stiff-38887.html.

¹¹¹ See 130 S.Ct. 876, 886 (2010).

¹¹² See Alex Kingsbury & Danielle Kurtzleben, Outside Spending Makes 2010 Elections Look Like Presidential Races, U.S. NEWS & WORLD REP. (Oct. 29, 2010), http://politics.usnews.com/ news/articles/2010/10/29/outside-spending-makes-2010-elections-look-like-presidentialraces.html?PageNr=1 (noting that new rules make it more difficult to track who is contributing).

¹¹³ See Carl Hulse, House Approves Republican Budget Plan to Cut Trillions, N.Y. TIMES, Apr. 16, 2011, at A1 (reporting that Republicans "muscled through a budget plan that pares federal spending by an estimated \$5.8 trillion over the next decade" with an overall plan to "aggressively rein in spending and shrink government," while one Democrat complained that "[t]he House Republicans have let Tea Party zeal get the better of them, and this vote will reverberate for a long time'" (quoting Sen. Charles Shumer)).

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government ideology.¹¹⁴ This ideology conveniently focuses on government as the threat to the public, and ignores the power and political influence that economic interests wield, often to the detriment of public health and safety, and the environment. This in turn shields the tremendous power of corporate interests from public view and makes it unlikely that the public will uncover the reality of and threat posed by hollow government.

C. How to Learn from the Context of the Disaster: United States' Energy Policy

A third meta-lesson from the BP Deepwater Horizon disaster is that the drilling of that particular offshore well is the result not just of private choice, but of a broader national policy on energy. MMS's oil leasing and permitting decisions reflect executive branch decisions about the disposition of publicly owned oil and gas resources.¹¹⁵ BP's decisions about exploration in that area were not made in a vacuum, but in the context of a set of laws and appropriations that create a variety of incentives that affect industry's behavior. Thus, to understand why the disaster occurred, it would be wise to look at the policy context that has produced the increasing rush to develop oil resources in deepwater, and increasingly in ultra-deepwater-areas that increase the complexity, risks, and uncertainty of drilling operations and potential accidents.¹¹⁶ The most visible leadership on this issue comes from statements of the Oil Spill Commission and its Co-Chair Bob Graham, who has repeatedly noted that the lack of an energy policy is an important issue related to the work of the Oil Spill Commission and one that must be addressed by the legislative and executive branches.¹¹⁷

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¹¹⁴ See Greg Hitt & Stephen Power, The Gulf Oil Spill: Lawmakers Eager to Take Action, WALL ST. J., June 5, 2010, at A4; Frank Rich, Editorial, Clean the Gulf, Clean House, Clean Their Clock, N.Y. TIMES, June 19, 2010, at WK8.

¹¹⁵ See Frequently Asked Questions, BUREAU OCEAN ENERGY MGMT., REG. & ENFORCEMENT, http://www.boemre.gov/ooc/newweb/frequentlyaskedquestions/frequentlyaskedquestions. htm (last visited Apr. 15, 2011) (indicating that BOEMRE manages leases with regard to the Department of the Interior's wishes).

¹¹⁶ See Jad Mouawad & Barry Meier, Risk-taking Rises as Oil Rigs in Gulf Drill Deeper, N.Y. TIMES, Aug. 30, 2010, at A1.

¹¹⁷ Sæ William K. Reilly & Sen. Bob Graham, Co-Chairmen, Nat'l Comm'n on the BP Deepwater Horizon Oil Spill & Offshore Drilling, Opening Remarks: Dec. 3 Deliberative Meeting (Dec. 3, 2010), available at http://www.oilspillcommission.gov/page/opening-remarks-co-chairmen-william-k-reilly-and-senator-bob-graham-dec-3-deliberative-meeting; William K. Reilly & Sen. Bob Graham, Co-Chairmen, Nat'l Comm'n on the BP Deepwater Horizon Oil Spill & Offshore Drilling, Opening Remarks: Dec. 2 Deliberative Meeting (Dec. 2, 2010), available at http://www.oilspillcommission.gov/page/opening-remarks-co-chairmen-william-k-reilly-and-senator-bob-graham-dec-2-deliberative Meeting (Dec. 2, 2010), available at http://www.oilspillcommission.gov/page/opening-remarks-co-chairmen-william-k-reilly-and-senator-bob-graham-dec-2-deliberative-meeting.

The current energy policy provides hefty subsidies for the highly profitable oil and gas industries to continue with their unwavering focus on producing more oil and gas.¹¹⁸ Although some say that the United States lacks an energy policy, it is more accurate to say that our leaders don't clearly articulate the operative energy policy. Perhaps this is because it is not a coherent one or because on close inspection it is difficult to justify in light of other stated priorities.

A primary and often overlooked component of energy policy is the national policy on the privatization of public natural resources. U.S. policy is to give away its natural resources at bargain prices presumably to promote exploitation and development.¹¹⁹ A 2008 report by the Government Accountability Office compared U.S. royalty rates to those of 103 other jurisdictions, and only eleven had royalty rates lower than those of the United States.¹²⁰ Moreover, the Government Accountability Office has made repeated reports of problems with uncollected royalties and with MMS's royalty-in-kind program that has led to underestimation of the royalties owed.¹²¹

Another significant component of the national energy policy is tax policy that directly affects investment in oil extraction. A 2005 Congressional Budget Office Report showed that many capital investments for oil extraction are taxed at a rate of nine percent, which ranks among

¹²⁰ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-691, OIL AND GAS ROYALTIES: THE FEDERAL SYSTEM FOR COLLECTING OIL AND GAS REVENUES NEEDS COMPREHENSIVE REAS-SESSMENT 11 (2008), *available at* http://www.gao.gov/new.items/d08691.pdf.

¹¹⁸ See Anne C. Mulkern, Oil Industry, Green Groups Launch Ducling Ad Campaigns, N.Y. TIMES, July 9, 2010, http://www.nytimes.com/gwire/2010/07/09/09greenwire-oil-industry-green-groups-launch-dueling-ad-ca-68425.html. The investments in renewable energy by the big five oil companies ranged from as little as 1% of 2008 profits for ExxonMobil a high of 7.1% of 2008 profits for BP. Weiss & Kougentakis, *supra* note 104.

¹¹⁹ See, e.g., Debra L. Donahue, Trampling the Public Trust, 37 B.C. ENVTL. AFF. L. REV. 257, 296 (2010). Not all resources are made available for development. Some resources are protected to preserve the environment that surrounds them, but these decisions are the subject of frequent challenge and reconsideration, as illustrated by the repeated debates in Congress over protection of the Arctic National Wildlife Refuge. See Bonnie Docherty, Challenging Boundaries: The Arctic National Wildlife Refuge and International Environmental Law Protection, 10 N.Y.U. ENVTL. L.J. 70, 70 (2001).

¹²¹ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-556T, OIL AND GAS MANAGEMENT: FEDERAL OIL AND GAS RESOURCE MANAGEMENT AND REVENUE COLLECTION IN NEED OF STRONGER OVERSIGHT AND COMPREHENSIVE REASSESSMENT 2 (2009), *available at* http:// www.gao.gov/new.items/d09556t.pdf; U.S. Gov'T ACCOUNTABILITY OFFICE, GAO-09-744, ROYALTY-IN-KIND-PROGRAM: MMS DOES NOT PROVIDE REASONABLE ASSURANCE IT RECEIVES ITS SHARE OF GAS, RESULTING IN MILLIONS IN FORGONE REVENUE 6 (2009), *available at* http://www.gao.gov/new.items/d09744.pdf.

the lowest rates for any industry.¹²² Tax deductions and credits for the oil extraction industry amount to roughly \$4 billion per year.¹²³

Looked at as a whole, the current energy policy strongly encourages all-out exploitation of remaining domestic fossil fuel resources, and deepwater oil reserves in particular. If the public and elected officials believe that the risks that produced the Macondo Well blowout are unacceptable, an energy policy that will move us towards a clean energy path is a logical response. This could include increased government support for lower carbon, lower-risk energy paths.

Despite the clear political opportunity provided by the Deepwater Horizon disaster for the President and Congress to focus attention on a broad clean energy policy, there have been few signs of any significant movement in that direction.¹²⁴ The CLEAR Act included provisions that would eliminate some of the royalty relief for deepwater drilling, eliminate the disastrous royalty-in-kind program, and require BOEMRE to study global royalty payments to inform U.S. royalty policy.¹²⁵ These are very positive steps that would reduce the mindless incentives for deepwater drilling and the unintended windfalls to oil companies. However, that Act has languished in the Senate. Moreover, even those proposed changes fail to address the broader question of whether policy should create incentives towards a cleaner energy path. In the wake of the November 2010 election, it seems highly unlikely that the Administration or Congress will have interest in this topic.¹²⁶

CONCLUSION

There is much that can be learned from the BP Deepwater Horizon disaster. Unfortunately, even learning the most specific lessons has proved a contentious and uncertain process. This Article suggests first that both industry and government must fundamentally rethink their approaches to safety and develop a culture that encourages and facilitates learning from mistakes. Second, it identifies the phenomenon of

¹²² CONG. BUDGET OFFICE, TAXING CAPITAL INCOME: EFFECTIVE RATES AND APPROACHES TO REFORM 7–8, 11 tbl.2 (2005), *available at* http://www.cbo.gov/ftpdocs/67xx/doc6792/10–18-Tax.pdf.

¹²³ Mulkern, *supra* note 118.

¹²⁴ See Hitt & Power, supra note 114; see also BP COMMISSION REPORT, supra note 1, at 305 (recommending a national oil policy that will "direct the nation toward a ... more sustainable environment").

¹²⁵ See Consolidated Land, Energy, and Aquatic Resources Act of 2010, H.R. 3534, 111th Cong. §§ 217, 206, 219 (2010).

¹²⁶ See John M. Broder, Tougher Rules Urged for Offshore Drilling, N.Y. TIMES, Jan. 12, 2011, A12.

hollow government, characterized by government lacking the resources and authority to protect the public interest and a policy process dominated by powerful economic interests, as a root cause of the BP disaster and a contributing factor to other recent national disasters, including the financial crisis. Hollow government also makes it unlikely that we will learn the third meta-lesson and address the longstanding need for a coherent energy policy. These lessons could help to avert future disasters and better enable government to protect public health, safety, and the environment. However, absent changes to address the underlying obstacles to learning, there seems little likelihood that the lessons will be learned.